ENVIRONMENTAL EFFECTS REPORT

FOR TIMBERLINK AUSTRALIA PTY LIMITED

Wood Plastics Composites Facility at 331 Old Bell Bay Road, Bell Bay

3rd December 2021

Engineers & Planners

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Executive Summary

The following Environmental Effects Report (EER) has been prepared for Timberlink Australia for the site at 331 Old Bell Bay Road, Bell Bay. The EER covers the likely environmental impacts of the proposed activity, which is for a 2,160 sqm new facility to produce Wood Plastics Composite (WPC). The facility will manufacture a variety WPC products and the first product range will be decking and screening. Over time Timberlink will manufacture a range of wood plastic composite products.

The EER has assessed the likely impacts associated with air quality, water quality (surface, discharge and groundwater), noise emissions, solid wastes, environmentally hazardous substances, natural values, marine areas and coastal zones, weeds, pests and pathogens, greenhouse gas emissions and climate change management, site contamination (historic), and other off-site impacts.

The EER has identified all the likely impacts and has found that it is unlikely that there will be significant environmental impacts. This is considering the mitigation measures proposed, which are outlined under each section below. In addition, the EER identifies the monitoring activities that will be undertaken in association with the proposed activity.

1. Part A – Proponent information

Proponent details

Name: Timberlink Australia Pty Limited

Trading Name: Timberlink Australia Pty Limited

Address: 331 Old Bell Bay Road, Bell Bay, TAS 7253

ABN: 12 161 713 015

ACN: 161 713 015

Proponent Contact

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Consultant Contact

Consultant name: Matthew Clark (Principal) (JMG)

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Email: mclark@jmg.net.au

2. Part B – Proposal description

1. Description of proposed activity

Overview

The proposal is for a 2,160 sqm new facility that will be housed in a new building with a proposed building envelope of approximately 72m x 30m x 8m. The proposal will be located within the existing 73.9 ha Timberlink Australia site at 331 Old Bell Bay Road, Bell Bay.

The proposed industrial shed would house machinery and equipment to produce Wood Plastic Composite (WPC). Wood pellets produced on site from sustainable plantation timber residue (55%) will be dried on site and combined with HDPE (35%) and dyes and lubricants (10%) to create a molten material mix. The molten mix is then passed through the main core extruder to create the WPC product in the desired shape. The product is immediately drawn through the cooling tanks which cool the product to a stable level. The product is then embossed to impress the pattern into the surface of the product, and then brushed with metal or plastic brushes to remove shine from the surface. The product is then cut to standard lengths and packaged for transportation and sale. Waste WPC will be ground up and fed back into the extrusion process. Figure 1 below demonstrates the WPC process.

The proposed activity will require some bulk earthworks for building slab foundations. Materials to be removed include the road base gravel and old equipment concrete foundations. It is expected that only 650 m^3 of the existing site will be excavated. All spoil from these works will remain on site.

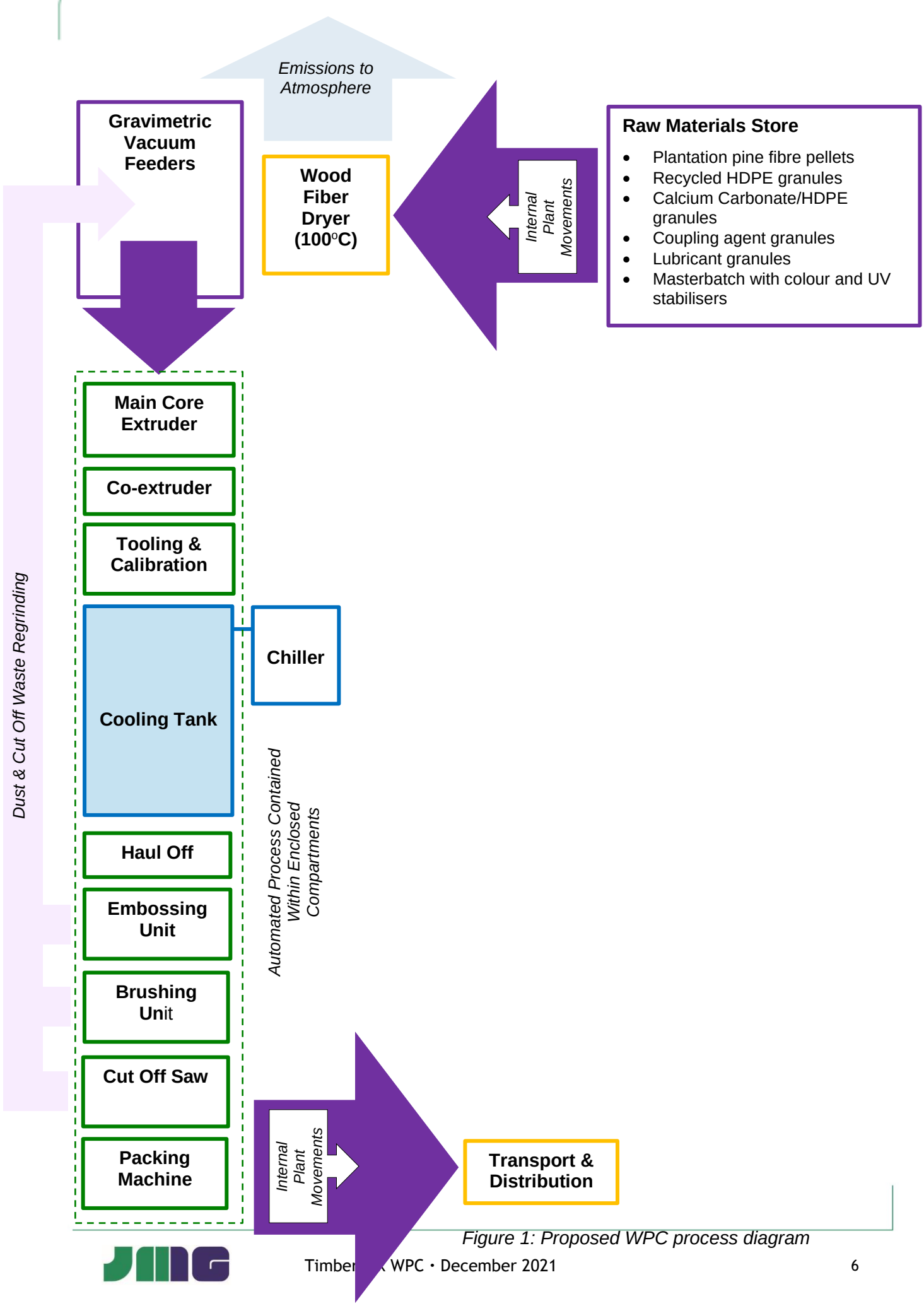

Figure 1: Proposed WPC process diagram

Classification under EMPC Act

The proponents submitted a Notice of Intent to the EPA on the 14 July 2021. The EPA provided a determination on the class of assessment as:

> "In accordance with section 27C of the EMPC Act, I have determined the class of assessment will be 2A.
>
> The activity encompassed within the Proposal, being wood processing works ("the Activity"), will be assessed as class 2A because it is a small scale proposal, with impacts that are local in extent and may be readily avoided or mitigated through appropriate management."

The proposed activity is being assessed as the following classification from the EMPC Act (1994):

> "(g) Wood Processing Works: the conduct of works (other than works at a builders supply yard, home improvement centre or firewood depot) at which timber is sawn, cut, compressed, milled, machined or kiln-dried, being works with a total production of 1 000 cubic metres or more per year."

The EPA provided further guidance in the form of an Environmental Effects Report Guidelines for Timberlink Australia Pty Ltd Wood and Plastics Composite Plant, Bell Bay dated August 2021. This has been used as the basis for the production of this Environmental Effects Report (EER).

The following proposed quantities of materials will be held on site:

- Plantation pine fibre pellets - 25,000 kg
- Recycled HDPE granules - 29,000 kg
- Calcium Carbonate/HDPE granules - 9,000 kg
- Coupling agent granules - 6,000 kg
- Lubricant granules - 12,000 kg
- Masterbatch with colour and UV stabilisers - 45,000 kg

Further details of these materials are provided in the section below, and in Appendix F.

Industry standards and guidelines

In the absence of a directly relevant Australian Standard, the proposed product will be manufactured equivalent to "EN 15534-1 01. 2014 Composites made from cellulose-based materials and thermo plastics (Usually called wood polymer composites (WPC) or Natural Fibre Composites (NFC)) – Part 1: Test methods for characterisation of compounds and products".

The supply and installation of the equipment will be carried out in accordance with all relevant regulations, standards, and codes. Unless otherwise noted Australian Standards shall take precedence over international standards. These include, but are not limited to, the latest version of the following regulations, standards, and codes:

- AS3000 Wiring Rules
- AS4024 Guarding of Machine
- AS/NZS 60072 Power Transformers (various parts)
- AS 1657 Fixed platforms, walkways, stairways, and ladders – Design, construction, and installation

- AS/NZS 61000 Electromagnetic compatibility (EMC) various parts
- AS/NZS 3439 Low-Voltage Switchgear and control gear assemblies (various parts)
- AS 1345 Identification of the contents of Pipe, Conduits and Ducts
- AS/NZS 61439.2 Low-voltage switchgear and control assemblies
- AS/NZS 61439.6 Low-Voltage switchgear and control assemblies Busbar trunking
- AS/NZS 60947 Low-Voltage Switchgear and control gear (various parts)
- Comply with WH&S Act & Safety Regulations 2012 Tasmania
- Meet performance standards in Item 20 Appendix B
- Any Equipment manufacturer guidelines, specifications or requirements
- EN and ISO Standards EN1090-1:2009/EC 1 :2009 Execution of steel structures
- ISO 3834 Quality requirements for fusion welding of metallic materials
- GMP (Good manufacturing practice) including Quality, risk management, Environmental systems, FSC® Chain of Custody and Controlled Wood

Method of operation and equipment

The new building will house all the required equipment that will be used in the operation of the new facility. The building will be constructed of a steel frame with colorbond and plexiglass cladding, insulation, and electric roller doors of the same material. A description of each component is provided below.

Gravimetric feeders and materials handling equipment

The gravimetric feeders and materials handling equipment comprises the vacuum feeding of materials and accurate measurement of materials to the extruders. The raw materials will be fed into the extruder via the vacuum feed systems from small and large bulk bags stored on site within the warehouse. The pellets produced on site are transported internally to the proposed site from the pellet processing unit on site that is adjacent to the proposed activity site.

Wood Fibre Drier

The drier is designed to reduce the moisture content of the wood fibre to the desired level prior to processing. The drier operates at a relatively low temperature of 100ºC.

The drier emissions will be vented to atmosphere via a stack located on the roof, 3 to 5 metres above the roof height (roof height is 8 – 10 metres).

Main Core Extruder and polymer pump

The main core extruder combines both wood residue (in the form of pellets) produced on site, combined with HDPE sourced from off site, for extrusion of the WPC core.

Gasses from the extruder barrel are removed by vacuum and flow through a condenser via wet ring vacuum pumps solidifying any gases and collecting the solids which are recycled within the process.

Solid waste from the process will be re-ground and re-used wherever possible. The process has the ability to reuse waste products by adding ground waste product at a low percentage to the raw material feed.

Some waste that cannot be re-used will be subject to land fill. This is primarily packaging from the raw materials supplied by third parties, such as bags and sacks (estimated at 120 m^3 per annum).

Co-extruders

The co-extruders are designed for the extrusion of capping masterbatch over the main WPC core.

Tooling and calibration unit

The tooling and calibration unit produces the profile shape on the product.

Cooling tanks and chiller

The cooling tanks (approx. 5,000 L) are designed to cool the extruded product using water. Water for this process will be sourced from rainwater harvested off the roof using rainwater tanks, topped up as required by mains water. The water for the cooling tanks and extruders passes through a chiller that regulates the water temperature.

The water in the cooling tanks will be changed approximately twice yearly.

Haul off

The haul off pulls the profile and balances the speed of the profile through the tooling unit.

Embossing unit

The embossing unit is deigned to impress the pattern into the surface of the product (top and bottom).

Brushing unit

The brushing unit is deigned to remove the shine from the surface by brushing with plastic or steel brushes.

Small amounts of the surface are removed and captured by dust extraction equipment. This waste material will be reground and recycled back into the process as part of the raw material feed.

Cutting saw

The cutting saw will cut the product to the desired size prior to packaging.

Small amounts of dust will be produced that will be captured by dust extraction and material will be recycled back into the process.

Packaging machine

The packaging machine (semi-automatic) bundles and packs the final product prior to being dispatched offsite via trucks to market.

Any waste material will be reground and recycled back into the process as part of the raw material feed.

Transport movements

There will be an increase of up to a maximum of 4 daily truck movements (with an average of 2 truck movements per day) from the site. Existing access and circulation routes will be used by these additional B-doubles heavy goods vehicle movements. Movements from site are expected to increase as a result of deliveries of incoming materials (HDPE every second day plus additives) and removal of finished products. Existing onsite car parking facilities will be utilised by the new 9 full time employees.

Raw materials

The process proposes to utilise upcycled plastics from off-site sources and sustainable wood residues (radiata pine) from on-site sources. The facility utilises the following main inputs (approximate percentages):

- 55% sustainable plantation timber residue (Radiata pine)
- 35% recycled high-density polyethylene (HDPE) – primarily agricultural and aquaculture waste and domestic milk bottles
- 10% colours and lubricants

Plantation pine fibre pellets

Pellets are comprised of pine wood shavings and sawdust. The pellets are produced onsite from shavings and sawdust from existing activities.

The pellets will have an expected holding stock on site of 25,000 kg.

Recycled HDPE granules

The source of recycled HDPE will be Tasmanian post-consumer waste and industrial sources that is supplied by a commercial third party in the form of recycled HDPE pellets/granules.

The granules will have an expected holding stock on site of 29,000 kg.

Calcium Carbonate/HDPE granules

The blended granules are used as a filler lubricant. These are supplied by a commercial third party.

The granules will have an expected holding stock on site of 9,000 kg.

Coupling agent granules

The coupling agent is used to remove moisture and improve fibre distribution. These are supplied by a commercial third party.

The granules will have an expected holding stock on site of 6,000 kg.

Lubricant granules

The lubricant improves the process flow within the extruder. These are supplied by a commercial third party.

The granules will have an expected holding stock on site of 12,000 kg.

Masterbatch with colour and UV stabilisers

The HDPE master batch includes colour and stabilisers for capping. These are supplied by a commercial third party.

The masterbatch will have an expected holding stock on site of 45,000 kg.

Storm water

The roof catchment is proposed to increase by 1,095 sqm and rainwater tanks will be installed to enable water recycling into the process. Any excessive rainwater will be directed from the tank outflow into the existing stormwater management network on site including a large detention pond system, which is licenced under EPN 8563/3. The existing stormwater management system has the capacity to process this small increase in loading.

Process water

Rainwater will be captured off the roof and reused in the cooling process (rainwater will be stored in two 24,000 L tanks). Potable water supplied to site under existing infrastructure from TasWater will only be relied upon during dry periods when the rainwater tanks run low.

The cooling tanks will operate in a closed loop system and will be only emptied during schedule maintenance conducted approximately twice a year.

Waste and emissions

Solid waste

Solid waste products include product cut off, sawdust, and packaging waste. These waste streams will be treated as follows:

- Off cuts and fragments from the manufacturing process will be collected and reground and returned into the extrusion process
- Dust from the brushing and cutting will be captured and returned into the extrusion process
- Waste from packaging will be transferred to external waste storage bins and disposed of off-site

Emission to air

The cutting and brushing of the product creates small amounts of sawdust. This waste stream will be treated by a dust collection system within the enclosed cutting and brushing units that will capture dust and return it into the extrusion process.

The drying of the timber prior to the WPC manufacturing process will cause discharge to the atmosphere. Since the timber residue is from previously dried and cut timber, the moisture content is already very low at around 10%. The additional drying process will slightly reduce this further to 6%.

Combustion emissions from vehicles and mobile plant will occur, as the new activity will result in an increase of up to a maximum of 4 daily truck movements (with an average of 2 truck movements per day) from the site for deliveries of raw material and removal of finished products. A small number of mobile plant (forklifts) will operate within the facility.

Liquid effluents

The water-cooling units will be emptied approximately twice a year which is anticipated to occur during maintenance activities.

Noise

Noise will be generated from the following activities:

- Main core extruder
- Embossing
- Cutting
- Truck and mobile plant movements

Noise from these activities is estimated to not exceed 100 dBA at source.

Traffic generation

The new activity will result in an increase of up to a maximum of 4 daily truck movements (with an average of 2 truck movements per day) from the site (B-double trucks).

The general location map (Figure 2) shows the routes proposed for use by vehicles on site. Vehicles will enter the site from Old Bell Bay Road, off the existing access route to the existing industrial uses on site. The tracking diagram shows that the vehicles will follow existing internal access ways to access the new activity location. Additional staff will access the site and park at the current staff car park.

Products

The facility will manufacture a variety WPC products and the first product range will be decking and screening. The WPC product comprises a surface layer (facing) and core (composite). The product is used for commercial and residential applications.

Production volumes

Production volume of the first line will be approximately 4,234 tonnes per year when the facility reaches full production. This is estimated to occur in 2027. There is a small seasonal variation as there is an increased use of decking in spring and summer

Timberlink intends to allow for infrastructure to enable expansion from a single line initially, to potentially two or three lines over time. Space will be provided in the proposed building to accommodate any expansion/intensification of the facility in the future.

Timeframes

The WPC facility proposed to be operational by 2023.

Construction timeframes

Building works are proposed to commence February 2022. The building works are proposed to be completed with hand over by July 2022.

Commissioning timeframes

The commissioning timeframe is proposing to have equipment installed by September 2022. Commissioning and training are proposed to occur from October to December 2022. This would meet projections for production to commence by 2023.

Proposed activity lifetime

WPC facility is intended to be an ongoing operation with no planned or forecasted shut down.

Proposed operational schedule

The site will operate 24 hours a day five days a week, 240 days per year. The hours of operation for the current site are 24/7 and there may be scope to increase the WPC operation to 24/7 in the future.

2. Proposal location

Title information

The land is held on title reference 168618/2 with property ID 3359262, by Timberlink Australia Pty Limited.

A general location map is provided below in Figure 2 which shows the boundary of the site, the location of the nearest residence and other sensitive uses nearby, and the route used by vehicles travelling to and from the activity. A site plan is provided in Figure 3 which shows the site boundary, the position of existing and proposed buildings, and the main water bodies and natural vegetation communities on site (the 'Natural Values Atlas Report' in Appendix A contains full details and maps that identify the location of all flora and fauna on site and watercourses). Figure 4 demonstrates the indicative positions of plant, machinery and storage within the proposed building, including the approximate

position of the emissions outlet. Figure 5 identifies the indicative location of emissions at roof level.

Site description

The land has a history of timber processing operations and has also been closely associated with other neighbouring operations in the Bell Bay area. Current operations at the facility include receipt of raw logs and their processing, preservation, treatment, and value adding before dispatch to buyers.

The existing timber sorting log yard is located in the north-west corner of the site. The existing main buildings contain the green and dry mills, timber preservation plant, hydrocarbon oil store and office. The existing kilns, boiler, baker re-saw, timber product storage areas, substation and hydrocarbon oil store are located along the southern side of the existing main building.

Existing stormwater treatment infrastructure, consisting of a settling pond and two wetland ponds, are situated along the southern boundary of the land. Existing wastewater ponds are located east of the stormwater settling pond. A rail line and railway siding (George Town Freight terminal) forms the north-western boundary of the site.

0m 100m 200m 300m 400m 500m

SITE AND SURROUNDINGS

SCALE 1 : 5000

NORTH

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REV	BY	DATE	APP	DESCRIPTION
B	JW	08/10/21		UPDATES AS REQUESTED
A	JW	10/09/21		PRELIMINARY ISSUE

TIMBER LINK AUSTRALIA
Plantation timber building Australia
TIMBERLINK AUSTRALIA PTY LTD
ABN: 12 161 713 015

DO NOT SCALE DRG TO AS1100
CONSULTANT

DRN	J.WILLIAMS
CHKD	
DATE	10/09/2021
CHKD DATE	
APPD	
ENG	
OLD DWG No	
SCALE	1 : 5,000

TITLE: BELL BAY SITE
FUSION SITE
SITE PLAN - 1:25,000

DRG # B11-001-G04 | SHEET 01 | REV. B | A1

Figure 2: General Location Map

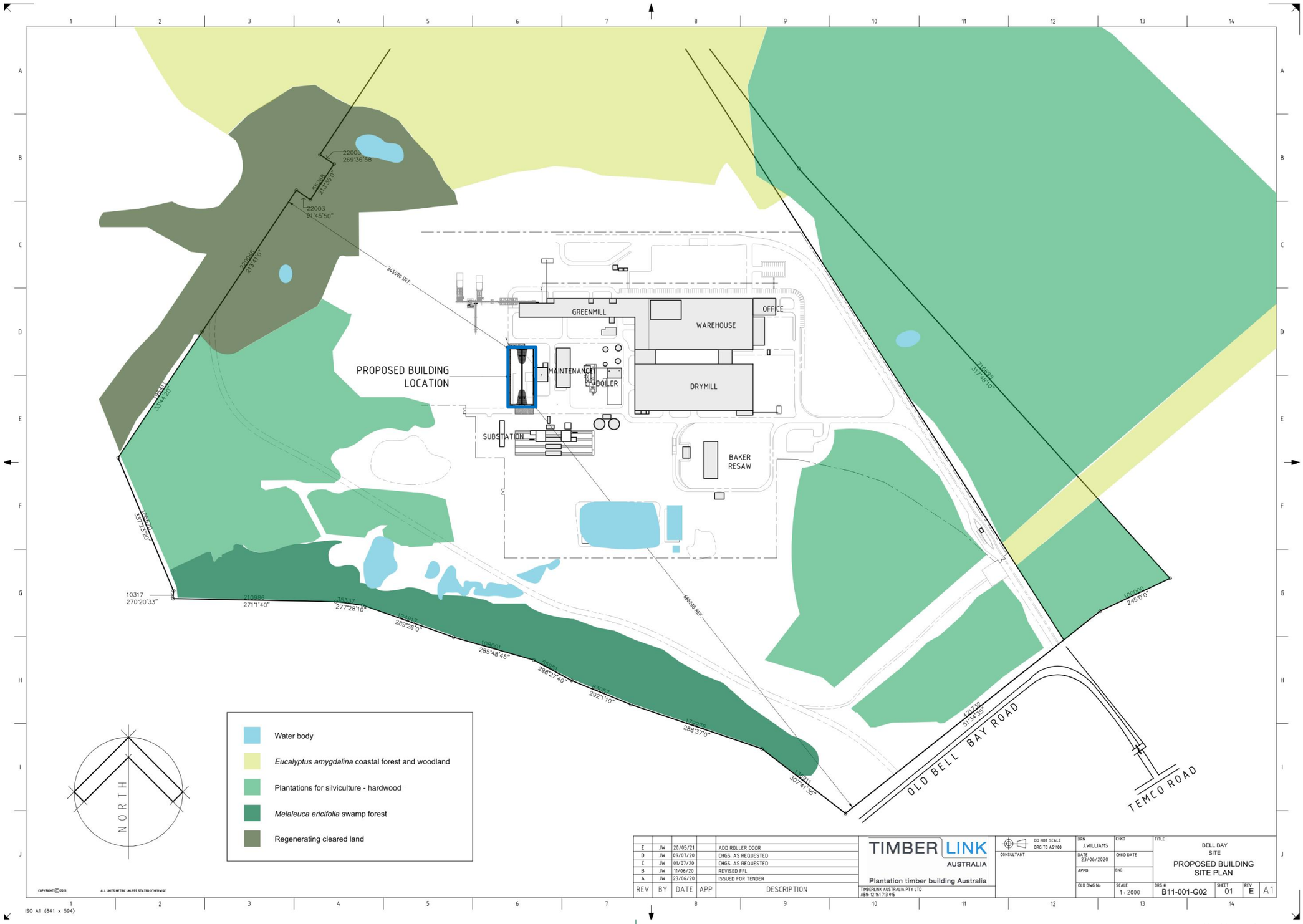
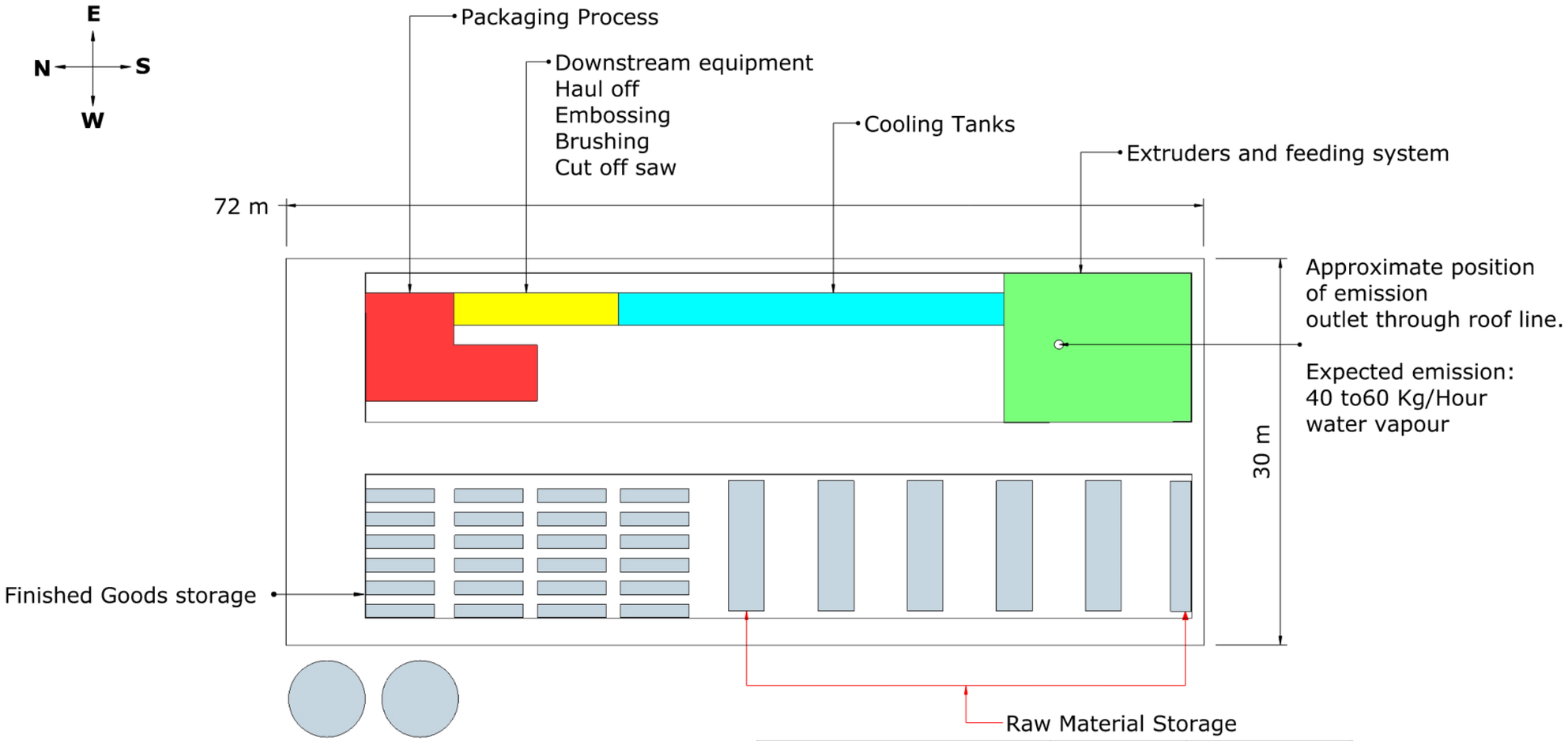


Figure 3: Site Plan

Generated using data from the Conservation Information System using <TASVEG 4.0 Communities within 1000 metres> applied by <JMG>, accessed 2 December 2021, © State of Tasmania.



Material	Material State	Stock Holding Kg
Wood Fibre	Pellets	25000
Lubricant	Granules	12000
Coupling Agent	Granules	6000
Capping HDPE Clear Master Batch	Granules	45000

Item: WPC Basic Layout
Drawn: LL
Drawn Date: 15-09-2021
Scale:
Sheet 1 0f 2

TIMBER LINK AUSTRALIA

Figure 4: Indicative positions of plant, machinery and storage

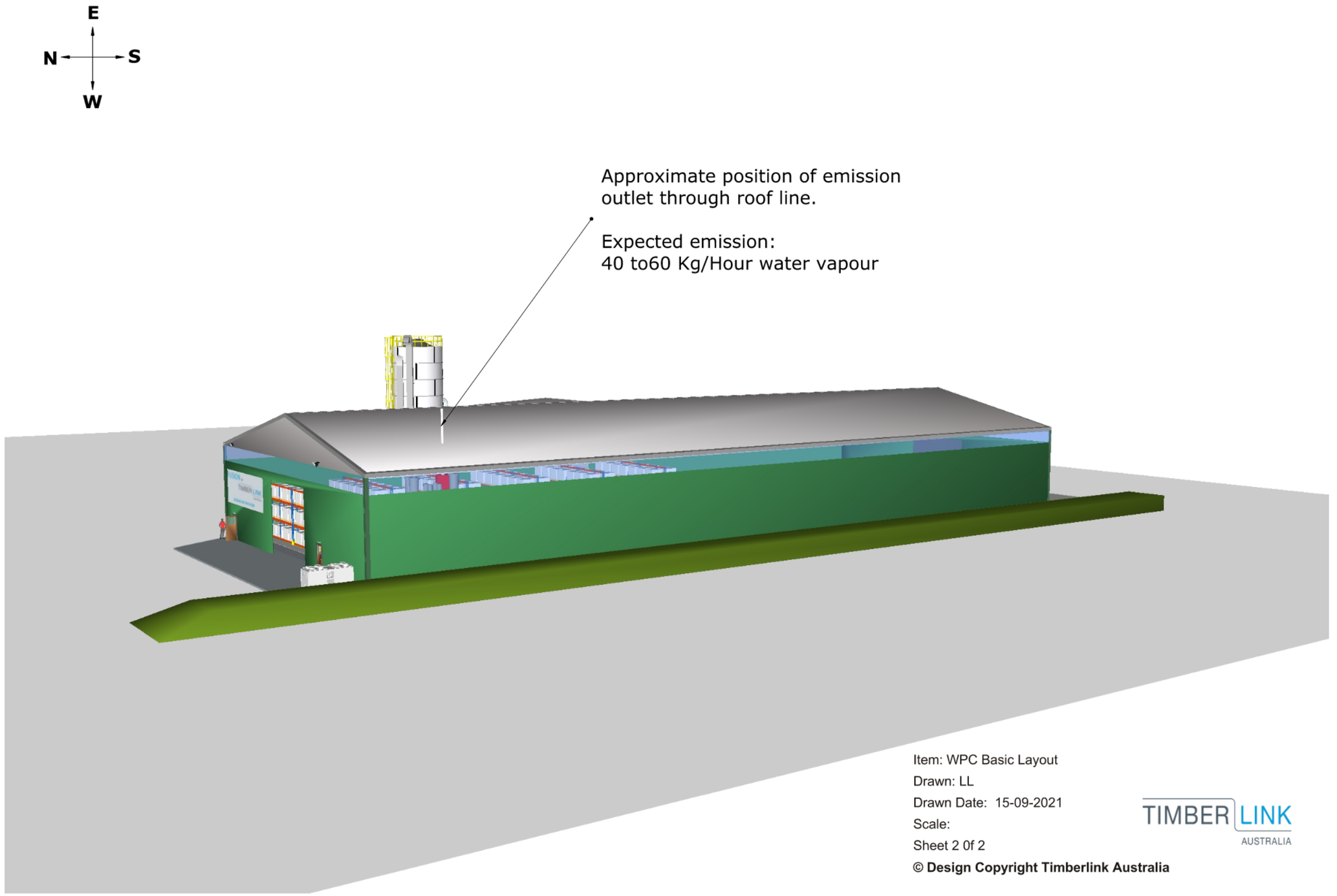


Figure 5: Indicative Location of Emissions Outlet at Roof Line

Landscape

The landscape has been heavily altered by existing industrial activity on the site, including the timber processing. Most of the site is cleared, with sparse areas of tree coverage to the north, southwest, and southeast.

The site is 1.3 km from the Tamar River, 6.5 km from the north coast/Bass Strait, and 1.0 km from the nearest designated public open space (to the north).

According to TASVEG 4.0 (2020) the landscape comprises the following key elements (see Appendix A for locations and further details):

- *Eucalyptus amygdalina* coastal forest and woodland (on the north of the site),
- Regenerated cleared land (on the west of the site),
- Plantations for silviculture – hardwood (on the southwest, southeast, and northeast of the site),
- Unverified plantations for silviculture (on the southeast of the site),
- *Melaleuca ericifolia* swamp forest (on the south of the site),
- Natural or dammed freshwater (on the south and northwest of the site), and
- Modified land (most of the site where existing activities occur).

Local climate

The closest weather observation is at Low Head (BOM site number: 091293). The BOM (2021) identify from this weather observation location that the area has a mean rainfall of 677 mm per year, with August being the wettest month with a mean rainfall of 77 mm.

The BOM (2021) identify from this weather observation location that the predominant wind direction throughout the year at 9:00 am is from the west and/or south with a mean speed of 25 km/h, and at 3:00 pm from the west and/or northwest, with a mean speed of 28 km/h.

The BOM (2021) identify from this weather observation location that the mean maximum temperature is 17ºC (the hottest month is February with a mean average of 21ºC), and the mean minimum temperature is 11ºC (the coldest month is July with a mean average of 7ºC).

Geology

The geology of as described in the Groundwater Management Plan (2020) the site is characterised by moderately weathered basalt rock at depths of about 5 mbgs, becoming slightly weathered to fresh below about 7 mbgs. These basalt flows are overlain by a relatively uniform silty/sandy clay soil. Topsoil consists of a fine silty sand / sandy material, typically 0.5 mbgs, but up to 0.8 mbgs in some locations.

Exposed outcrops of cemented sands and ironstone gravel are present on the north-eastern corner of the site. The basic geological structure of the site consists of a basalt profile with moderately weathered basalt rock at 5 m, becoming slightly weathered to fresh at 7 m. This is overlain by relatively uniform silty/sandy clay.

Current zoning and land use

The land is currently zoned as General Industrial within the George Town Interim Planning Scheme 2013. The site is subject to a Bushfire Prone Area overlay. The site is directly bounded to the north, east, and west by land zoned for General Industry, and to

the south by land zoned as Utilities. The site is not located within or adjacent to an existing reserved area or a site of high public interest. The nearest sensitive use is a single residence 1,200m to the north-east, with the majority of sensitive uses located 1,400 – 1,500 m to the north-west and west (see Figure 2 above).

Site history

The land has a history of timber processing operations and has also been closely associated with other neighbouring operations in the Bell Bay area. Current operations at the facility include receipt of raw logs and their processing, preservation, treatment, and value adding before dispatch to buyers.

The site was originally a eucalyptus plantation owned by the then Comalco (now Pacific Aluminium). Previous site ownership and operations include:

- 1997: a Medium Density Fibreboard (MDF) plant was established and operated by Starwood.
- 2002: Carter Holt Harvey (CHH) acquired the facility which was closed in 2006 as a result of fire.
- 2008: Forest Enterprises Australia (FEA) purchased the site and constructed a sawmill facility and timber preservation plant.
- 2011: Gunns Limited (Gunns) acquired the facility as FEA.
- 2013: Timberlink acquired the facility after Gunns went into voluntary administration in September 2012.

3. Rationale and alternatives

Wood Plastics Composites production offers an innovative and environmentally conscious method of repurposing waste materials and creating products with value. The project represents a significant investment in increasing waste recycling capacity and relieving pressure on domestic landfill in Tasmania. The facility's net environmental benefit will be maximised through the installation of solar panels and the harvesting of rainwater for use in the production process.

The facility will create 20 jobs in regional areas during construction and 9 jobs in total once in full production, and the project will entail a further $12 M invested at Bell Bay.

The proposed location of the new facility is directly linked to the onsite supply of sustainable plantation timber residue from Timberlink's existing activities on site. The proximity of the existing supply of this raw material provides considerable transport, processing, and cost advantages, and allows for direct re-use of residue material on site in a highly sustainable manner.

The Bell Bay site has been selected after an internal review that also included sites in Tarpeena and Melbourne. The current site was selected due to the availability of raw materials, specifically the production of onsite sustainable plantation wood fibre and the Tasmanian supply of HDPE. The options evaluation also considered minimising transport impacts, utilising renewable energy and electricity costs, site availability, and government support for the proposals.

4. Planning information

An application for the new facility has been lodged with George Town Council on the 14/07/2021. A copy of the application form is attached in Appendix B 'Application Form'.

The proposals would be classed as 'Manufacturing and Processing' under the George Town Interim Planning Scheme 2013. Manufacturing and Processing is a permitted use class within the General Industrial Zone under the scheme.

Figure 6 below identifies the site zoning and surrounding uses. Appendix D identifies the nearest sensitive uses from the proposed activity, which are also identified on Figure 2 above.

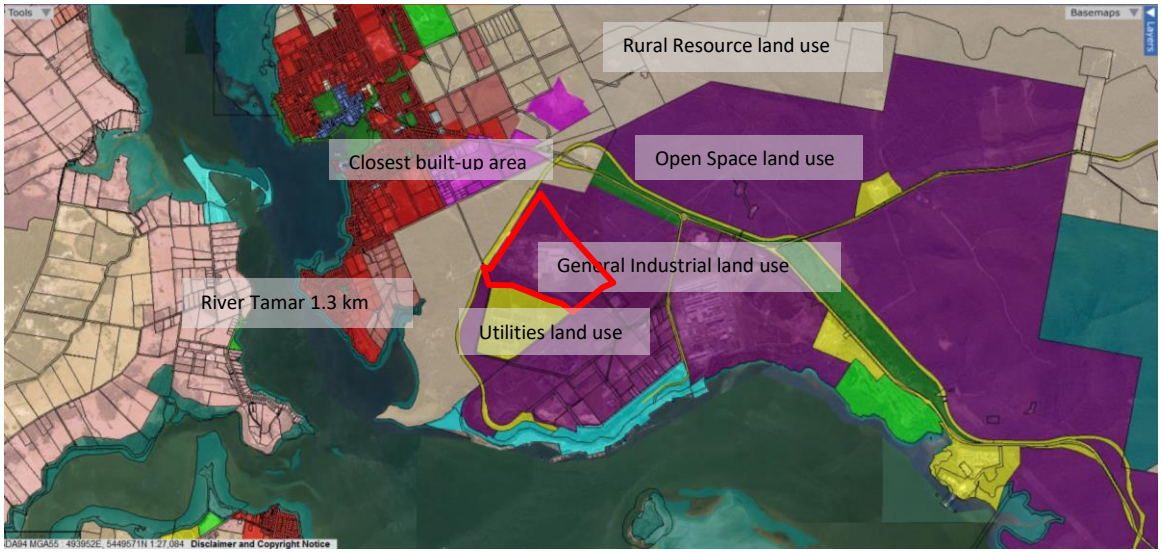


Figure 6: Site Zoning and Nearby Uses

Generated using data from the LISTmap - Land Information System Tasmania using <Tasmanian Interim Planning Scheme Zoning> applied by <JMG>, accessed 2 December 2021, © State of Tasmania.

The site is over 1,200 m from the closest sensitive use (as defined in the State Planning Provisions and referenced by the EPA's 'Environmental Effects Report Guideline', 2019). As shown on Figure 2 there is a single residence to the northeast at nominally 1,200 m, with the bulk of the sensitive receivers to the northwest and west at nominally 1,400 - 1,500 m.

The closest 'built-up' areas are the light industrial uses on Thompson Avenue, demonstrated on Figure 6.

5. Existing activity

The proposed activity is related to the existing activity on site only in so far as the new activity is supplied with raw materials from the onsite supply of sustainable plantation timber residue.

In all other respects the new activity will not impact on the existing operations, and will not result in any intensification, expansion, or modification of the existing activity on site.

Existing licensing details

Both the timber processing and the timber preservation operations, as defined under the Environmental Management and Pollution Control Act 1994 (EMPCA), are classified as Level 2 activities. The operations were initially licenced under Permit Conditions – Environmental (PCE) 7488 and 7508 as issued by the then Director of Environmental Management on 26 November 2008 and 4 April 2008, respectively.

PCE 7488 applied to the wood processing works at 331 Old Bell Bay Road, Bell Bay, and was associated with Council Permit Development Application (DA) 2007/088. PCE 7508 applied to the wood preservation works and was associated with Council Permit DA 2007/089.

An EPN was initially issued in draft (EPN 7851/1) for the entire operation, which consolidated and updated the two permits.

A revised EPN (EPN 8563/2) was subsequently issued on 7 January 2013.

A further revised EPN (EPN 8563/3) was issued and took effect on 25 July 2016. This third revision of the EPN is the current EPN. This is included in Appendix E.

Summary of environmental monitoring

Timberlink contacted the EPA during the reporting period 2020-2021 relating to:

- Use of chainsaw on one occasion powered by internal combustion engine outside of allocated hours,
- Baghouse emissions exceedances of the 100 mg/m^3 particulate emission limit for the boiler (EPN 8563/3 Condition A6) for the 120-minute in a 24-hour period, and
- Diesel spill at a mobile plant refuelling area.

Table 1 below outlines all reportable environmental incidents as detailed in the Annual Environmental Review: 2020-2021 (AER).

DATE OF INCIDENT	DESCRIPTION	SUMMARY OF ACTION
05/08/2020	Use of internal combustion chainsaw after hours	Continue to monitor log size in the Debarker
24/08/2020	Baghouse particulate emissions exceeded 100mg/m^3 for > 120 minutes during a 24-hour period	Bags cleaned offline
24/09/2020	Diesel spill at mobile plant refuelling station	Cleaned up spill and using maintenance utility vehicle for fuel pod

Table 1: Summary of reportable environmental incidents 2020-2021

Summary of Environmental Complaints

There were no public complaints during the 2020-2021 AER reporting period.

3. Part C – Potential Environmental Impacts

3.1 Air quality

The protection and improvement of air quality is legislated to reduce emissions of air pollutants, including through National Environment Protection Measures (NEPM). The Environment Protection Policy (Air Quality) 2004 (EPP) provides a framework to manage and regulate point and diffuse sources of emissions to air for pollutants that may potentially cause environmental harm. The environmental values to be protected under the Air Quality EPP are (Part 3 S 6(2)):

(a) the life, health and well-being of humans at present and in the future;
(b) the life, health and wellbeing of other forms of life, including the present and future health, wellbeing and integrity of ecosystems and ecological processes;
(c) visual amenity; and
(d) the useful life and aesthetic appearance of buildings, property and materials.

Key legislation relevant to the assessment of air quality includes the following:

- Environmental Management and Pollution Control Act 1994
- Environment Protection Policy (Air Quality) 2004
- Land Use Planning and Approvals Act 1993

Potential Impacts

A full assessment of air quality is contained within Appendix F 'Air Quality Review'. The objectives of the air quality review work are to identify the potential air emissions from the WPC facility and carry out a qualitative assessment of the potential for air emissions by the WPC facility to cause air quality impacts in the local area. The focus of the review is the change to current air quality emissions and potential air quality impact attributable to the proposed WPC facility.

The review identifies the main pollutants of interest for the proposed activity are particulate matter i.e. PM_{10} and $PM_{2.5}$, also hydrocarbons or volatile organic compounds (VOCs). The review identifies the potential for air emissions during operations, which are summarised below.

Drier

The drier will produce predominantly water vapour emissions, which will be vented to atmosphere via a stack located on the roof, the height of this stack will 3 to 5 metres above the roof height (roof height is 8 – 10 metres). The rate of moisture release will be approximately 40 - 60 kg/hr. This is very small compared to that for the existing kilns which is approximately 8,500 kg/hr. The total exhaust gas flow rate to atmosphere will be approximately 2,000 m^3/hr. For a typical stack velocity of 10 - 12 m/s, the dryer stack diameter would be approximately 250 mm internal diameter.

It is anticipated that there may be small levels of dust (PM_{10} and $PM_{2.5}$) and volatile organic compounds (VOCs) which are released from the wood pellets during the drying phase. Based on typical kiln dryer emissions, VOCs which may occur are aldehydes (e.g. formaldehyde, acetaldehyde), turpenes (e.g. pinene, camphene), formic acid, acetic acid and others. The quantity of the dust and VOC emissions is expected to be low, based on:

- The low exhaust rate from dryer, i.e. predominantly water vapour at 40 – 60 kg/hr, which is less than 1% of the water vapour rate from the existing kilns on site, and
- The wood has already been dried at similar or higher temperatures in the upstream kiln dryers, at either 140 deg.C for the high temperature kilns or at 90 deg.C in the medium temperature batch kilns. The majority of the volatile material, including moisture, is expected to be removed at this step.
- Lignin degradation at the dryer temperature of pre-dried pine is expected to be very low and significantly below that of the current kilns. From review of a study by Shen et al (2020), the release rate of total VOCs decreased to low levels in the final stages of drying of plantation grown pine wood using a conventional drying process (at 90 degrees C). The study showed a continual reduction of total VOC emission rate from around 28 mg/m^3.hr at 13.7% moisture content, down to less than 1 mg/m^3.hr at 8.8% moisture content.

The dryer is electrically powered and therefore there will be no combustion emissions.

Main core extruder

Emission from the main core extruder will be subject to vacuum extraction of moisture and gasses to wet ring vacuum pumps and all gasses will be solidified. There will be no air emissions to atmosphere from the extruder.

Some air emissions are expected at the downstream end of the extruder where the extruded WPC product is discharged. As outlined in a study of volatile emissions from polymer processing (Patel, 2000), the extrusion process operation has the potential to release either particulate matter and/or volatiles. Types and amounts of VOCs emitted would depend on a variety of material-related factors such as the material composition (purity, additives, etc.), degree of thermal stabilization, choice of processing conditions (in particular residence time and temperature), and the design of the equipment. The study reports that principal volatiles from air collected above the die under extrusion conditions when processing polyethylene were carbon monoxide, formaldehyde and acrolein.

Although the presence and potential emission rate of particulate matter and volatiles are not known for the proposed WPC extruder, it is noted that the extruder operation temperature of 160 – 180 degrees C is well below the decomposition temperature range for HDPE of 335 – 450 degrees C (PSLC, 2021).

Brushing unit

Small amounts of the surface are removed and captured by integral dust extraction equipment. This waste material will be reground and recycled back into the process as part of the raw material feed. The captured dust will not be released to atmosphere and the clean treated air exiting the dust extractor will enter the general building space.

Cutting saw

Small amounts of dust will be produced that will be captured by local dust extraction at the saw and the material would be recycled back into the process. It is expected that the quantity of dust generated at the saw will be very small (estimated at 0.01 m^3 per day) due to the very thin cuts required. As for the brushing unit, the clean treated air from the dust extractor will enter the general building space.

Other

In regard to the other process units including the cooling tanks, embossing unit, and packaging machine, there are no air emissions expected from these unit operations.

Transport movements

There will be a small increase of approximately four additional truck movements per day from the site, from the current operation of 113 trucks per day, i.e. an increase of 3.5%. Existing access and circulation routes will be used by these additional heavy goods vehicle movements. Existing onsite carparking facilities will be utilised by the new employees. All new vehicle movements will be on sealed roads, therefore changes to dust generation due to transport movements are not anticipated.

The Air Quality Review (Appendix F) also identifies a number of expected air emissions during construction. These are summarised below:

- Demolition of existing infrastructure and site establishment
- Earth movement for installation of foundations, e.g. excavations, truck loading and unloading operations
- Wind erosion of any stockpiles on site
- Wheel generated dust from:
    - Movement of heavy vehicles and plant – for civil works and delivery of materials/equipment
    - Movement of utility and light vehicles

Mitigation measures and monitoring commitments

The Air Quality Review identifies that it is recommended that stack testing of the drier emissions at the stack be undertaken following commissioning of the WPC facility. This should include measurement of:

- Individual VOCs including but not limited to aldehydes (e.g. formaldehyde, acetaldehyde, propanal, hexanal, valeraldehyde, acraldehyde), turpenes (e.g. pinene, camphene, limonene), formic acid, acetic acid, alkanes and alkenes
- Total VOCs
- Particulate matter – total particulate matter, PM_{10} and $PM_{2.5}$
- Gas flow rate, gas temperature, and moisture content

Timberlink have discussed with air quality testers who have indicated that stack sampling of small diameter stacks as expected for the dryer exhaust will be possible. The design of the dryer exhaust stack should incorporate sample points, in accordance with Australian Standards (AS 4323.1 – 1995) where practicable. To establish a suitable baseline in the absence of relevant published data on similar WPC facilities and emissions, stack sampling will be undertaken within the first three months of operation by a suitably qualified air quality expert to model results and confirm that the emissions meet relevant legislation (including the EPPP (Air Quality) 2004), with recommendations to bring the facility within standards if necessary.

In relation to emissions during construction the Air Quality Review identifies that these emissions will be of short duration, i.e. with the excavation and slab construction of approximately 1 month, and sources will be confined to the site boundary. It is anticipated that the dust emissions can be adequately controlled using dust mitigation measures as typically applied for construction sites.

The Air Quality Review identifies that the emissions associated with operation of the proposed WPC facility are not anticipated to have a material impact on local ambient air quality (would not be detectable in the existing background levels). There will be no forced ventilation of the general building space. The only point source emission associated with the building will be the drier emissions. As outlined above, where there is dust generated, the specific unit operation will be equipped with a dedicated dust

collection system. As a result, fugitive dust emissions from the building are not anticipated.

Emissions from the proposed WPC facility are expected to represent a small fraction of the total existing emissions from the sawmill, likely to be less than approximately 1% of existing emissions, based on throughput estimates. The emissions from the dryer stack are not anticipated to impact the nearest sensitive receptor site which is located approximately 1.2 km from the proposed WPC facility. In addition, the dominant wind direction at the site is from the north-west or from the west; i.e., not in the direction of the sensitive receptor sites. This reduces the likelihood for any adverse air quality impact at the receptor sites.

3.2 Water quality (Surface, Discharge and Groundwater)

The management of water quality is legislated to protect and maintain protected environmental values, including through the State Policy on Water Quality Management 1997. This policy provides a framework for the protection of water quality, with the objective of achieve the sustainable management of both surface water and groundwater resources by protecting or enhancing their quality. Key legislation relevant to the assessment of water quality includes the following:

- State Policy on Water Quality Management 1997
- Environmental Management and Pollution Control Act 1994

Potential Impacts

There are no water bodies within 200 m of the site. The direction of groundwater flow is to the south-west. There are wetlands and water bodies on the south and east of the site, with the southern areas forming part of the existing detention pond system.

The new activity does not produce any liquid effluent apart from the emptying of the water cooling units, and no abstraction from groundwater is proposed. As discussed in Section 2 the water cooling units will be emptied approximately twice a year. This water may potentially contain small particles (principally timber and/or plastic) that may enter the cooling water as the product passes through. This wastewater will be dealt with as follows:

1. At the commencement of production any water in the cooling tanks requiring removal shall be sent to liquid hazardous waste disposal through an accredited/licenced waste disposal contactor.
2. Wastewater from the process located in the cooling tanks shall be tested independently for contaminates during production conditions.
3. From the results of testing, a plan of disposal will be developed, and where it will be decided whether to apply for a Trade Waste Agreement with TasWater including the required mitigation measures to meet environmental standards (Timberlink have been in discussions with TasWater regarding the potential disposal of this water as trade waste through a new Trade Waste Agreement, which would require approved plumbing plans for the facility that demonstrate any required mitigation measures).

The water for the cooling units will be mainly sourced from rainwater harvested from the roof of the new building. Storage capacity is proposed in two 24,000 L tanks, with any additional storm water being piped to the existing stormwater management network on

site including a large detention pond system, which is licenced under EPN 8563/3. The existing stormwater management system has capacity to process this small increase in loading. The supply of rainwater will be supplemented by Tas Water mains as required during dry periods. Appendix C 'Drainage Plan' identifies the proposed building drainage plan.

Since the activity is entirely contained within the new building there will be limited risk that any harmful materials if spilled on the site could enter the ground water. Such materials include dyes and lubricants (stored in granular form), sawdust, and other product residues.

Mitigation Measures and Monitoring Commitments

As outlined in Appendix C stormwater discharge will be collected and treated via the existing Stormwater Management System, prior to discharge to the receiving environment from existing discharge points DP1 or DP2.

Section 2 describes the key raw materials and volumes held on site. In addition to these raw materials a small quantity of potentially hazardous materials will likely be required on an ongoing basis to enable operational, maintenance, and cleaning functions to be undertaken, such as small quantities of fuels, oils, solvents, and other cleaning chemicals.

All materials used in the activity will be stored within the building compound in an appropriate secured location as indicated in Figure 4. The storage of forklift fuel (LPG) will comply with the Dangerous Goods Regulation.

As indicated in Figure 4 all operational areas are hard surfaced areas within the building envelope, which will be cleaned regularly as part of operational and maintenance procedures to prevent the accumulation of potential contaminants that could enter the groundwater/stormwater system. In addition, spill kits will be accessible throughout the site to prevent potential spills from entering the groundwater/stormwater systems, and when a spill occurs, drains will be isolated.

All sources of dust emissions within the specific unit operation are equipped with a dedicated dust collection system local to the unit operation (cutting and brushing units), and there is no forced ventilation of the general building space. This will prevent dust from collecting and entering the sewer.

As discussed above, water cooling tanks requiring removal shall be sent to liquid hazardous waste disposal through an accredited/licenced waste disposal contactor, which will prevent any material entering the environment.

If in the long-term a Trade Waste Agreement is undertaken this will include approved plumbing plans from TasWater (as discussed above) to manage the disposal of trade waste considering the testing results undertaken during commissioning to limit the discharge of particle matter to the water system.

Existing monitoring is undertaken of the settling ponds, wetlands ponds, and groundwater, including to control of the concentration of total petroleum hydrocarbons in stormwater discharged to the receiving environment (which under the current EPN will not exceed 10 mg/L).

The site currently has twelve groundwater wells that are monitored on site. In addition to these groundwater wells, two monitoring points exist within the existing treatment plant to provide early warning of any treatment plant leakage. The site is currently monitored for contaminants of potential concern, including a combination of:

- Physical parameters – pH, electrical conductivity (EC), total dissolved solids (TDS), five-day biochemical oxygen demand (BOD5) and chemical oxygen demand (COD)
- Nutrients – ammonia (NH_3), total nitrogen (TN) and total phosphorus (TP)
- Hydrocarbons – total petroleum hydrocarbons (TPH)
- Heavy metals – arsenic (As), chromium (Cr), copper (Cu), manganese (Mn) and boron (B)
- Formaldehyde (HCHO)
- Permethrin
- Biological parameters – *Escherichia coli* (*E. coli*)

It is noted that several parameters, including nutrients (NH_3, TN and TP) and HCHO, were originally included in the site monitoring activities due to previous activities on the land. Timberlink's ongoing operation do not utilise chemicals that would contribute to these contaminants, however it is possible that residual chemicals such as those listed above may exist in the local environment that could affect groundwater. As such these legacy parameters will continue to be monitored.

Due to the mitigation measures proposed, water quality impacts will be minimised and as such no changes are proposed to the existing site groundwater program. Having regard to the site location, topography, local climatic condition, surrounding land uses, and the location of water bodies, significant water quality impacts are considered unlikely to occur, and the water quality impacts of the activity are not considered to be significant. This includes from the discharge of surface water and stormwater, as well as the removal of wastewater, and impacts on groundwater.

3.3 Noise emissions

The management of noise emissions is legislated to reduce the health risks and unreasonable interference with human enjoyment of the environment by the emission of noise, including through the Environment Protection Policy (Noise) 2009. This policy provides a strategic framework that identifies the key principles (including the environmental values to be protected) and objectives, with S53 specifically dealing with environmental nuisances. Key legislation relevant to the assessment of noise emissions includes the following:

- Environmental Management and Pollution Control Act 1994
- Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2016
- Environment Protection Policy (Noise) 2009

Potential Impacts

A full assessment of noise is contained within Appendix D 'Noise Assessment' which covers the operations of the proposed activity 24 hours a day five days a week, 240 days per year (the hours of operation for the current site are 24 hours a day / 7 days a week). The assessment demonstrates that the noise from the proposed activity (102 dBA at source, and 22-25 dBA at the nearest sensitive uses) will be significantly below the current background levels (35 dBA at the nearest sensitive use), and the WPC is not expected to affect the current acoustic environment at the nearest sensitive receivers. Figure 2 identifies the nearest sensitive use being a single residence 1,200 m away to

the north, with the bulk of the other sensitive uses 1,400 m - 1,500 m away to the west and northwest of the proposed activity. As the noise will be inaudible (approximately ≥10 dB below current background), it by default has no character requiring adjustment in the noise levels.

The assessment identifies potential noise emissions that arise from the following activities listed in Table 2:

Process	Item	Sound Power Level dBA
Wood drier	Fan and electric motor	90
Main core extruder	Hydraulic power pack	96
	Co-extruder, 2 off	91
Finishing	Electric motors, 13 off	97
Cooling	Chiller, 2 off	100

Table 2: Summary of noise sources

The proposed activity will not result in substantial transportation of goods or materials to or from the site, and additional transport movements are limited to an increase of up to a maximum of 4 daily truck movements (with an average of 2 truck movements per day) from the site, and forklift mobile plant. These vehicle movements will follow the existing access arrangements. As such, effects on ambient noise will not be substantially impacted above current levels (the site currently experiences approximately 113 truck movements a day), with all truck movements to the east of the site on the East Tamar Highway, where there are no sensitive uses in the near vicinity.

As stated in the full assessment the modelling has allowed for a mild temperature inversion or downwind propagation.

Mitigation Measures and Monitoring Commitments

As part of the mitigation measures the following monitoring will be undertaken. A noise survey will be conducted once the facility is operational, with the intent of the survey being to:

- Conduct measurements in and around the WPC facility sufficient to define its sound power level, and
- Conduct measurements at the nearest sensitive receivers during the day and night time to confirm site noise emissions continue to meet the site EPN noise criteria.

The current site operates under EPN 8563/3, which states the following regarding noise emissions (Condition N1):

1. Noise emissions from the activity when measured at any noise sensitive premises in other ownership and expressed as the continuous equivalent A-weighted sound pressure level must not exceed:

1.1. 45 dB(A) between the hours of 0700 and 1800 (Daytime); and

1.2. 40 dB(A) between the hours of 1800 and 2200 (Evening time); and

1.3. 35 dB(A) between the hours of 2200 and 0700 (Night time); and

2. Where the combined level of noise from the activity and the normal ambient noise exceeds the noise level stated above, this condition will not be considered to be breached unless the noise emissions from the activity are audible and exceed the ambient noise levels by at least 5 dB(A).

3. The time interval over which noise levels are averaged must be between 10 and 20 minutes.

4. Measured noise levels must be adjusted for tonality and impulsiveness in accordance with the Tasmanian Noise Measurements Procedure Manual.

5. All methods of measurement must be in accordance with the Tasmanian Noise Measurements Procedure Manual, issued by the Director

These are taken to apply for the future noise emissions from the existing and WPC operations at the site.

To establish a suitable baseline in the absence of relevant published data on similar WPC facilities and noise emissions, within the first three months of operation a noise survey will be undertaken by a suitably qualified noise expert, at the nearest sensitive receptors during the day and night, to model results and confirm that the noise emissions meet relevant legislation (including the Tasmanian Noise Measurement Procedure Manual and EMPCA), with recommendations to bring the facility within standards where noise exceedances are found and these can be attributed to the WPC.

Although no attenuation for the proposed shed has been allowed for, the building will be constructed of a steel frame with colorbond and plexiglass cladding, and electric roller doors of the same material, and as such the shed may be expected to provide 10 to 15 dB attenuation.

As such the assessment has identified that the WPC is not expected to affect the current acoustic environment at the nearest sensitive receivers.

3.4 Solid wastes

The management of solid waste is legislated to avoid waste, improve resource recovery, and increase the use of recycled material and better manage material flows, including through the National Waste Policy (2018). This policy provides a framework for collective action by businesses, governments, communities and individuals. Key legislation relevant to the assessment of solid wastes includes the following:

- Environmental Management and Pollution Control Act 1994
- Environmental Management and Pollution Control (Waste Management) Regulations 2010
- National Waste Policy 2018
- 2019 National Waste Policy Action Plan

Potential Impacts

The proposed activity has the potential to generate solid wastes as described in Section 2, that include product cut off, sawdust, and packaging waste. These waste streams will be treated as follows:

- Off cuts and fragments from the manufacturing process will be collected, reground and returned into the extrusion process
- Dust from the brushing and cutting units will be captured and returned into the extrusion process
- Waste from packaging will be transferred to skips and disposed of off-site

Likely waste volumes will be minimised by the onsite reuse of the majority of potential waste from the production process itself. It is likely that approximately 40 empty bags from the materials storage will be disposed of in land fill each day.

Mitigation measures and monitoring commitments

The proposed activity complies with best practice in relation to the hierarchy of waste management by minimising the creation of waste through a fully automated production process that uses recycled products (HDPE from a third party of Tasmanian origins) and sustainable plantation timber residue (from the mill operations on site) to produce a value-added product.

The proposed activity has the capacity to reuse any offcuts, dust, and waste product from the manufacturing process by regrinding the waste into suitable material and returning it in small proportions to the raw materials feed.

The only waste that cannot be reused or recycled are the material bags that are supplied by third parties. Timberlink Australia are committed to reducing the quantity of waste as far as is practical, and during operation will investigate opportunities to minimise the use of these supply bags through the review of opportunities for further automation of the raw material supply chain.

Due to the mitigation measures proposed, solid waste impacts will be minimised, and the solid waste impacts of the activity are not considered to be significant.

3.5 Environmentally hazardous substances

The management of environmentally hazardous substances is legislated to ensure that reasonable precautions and care are taken when handling and transporting dangerous substances and goods, to manage levels of risk. Key legislation relevant to the assessment of environmentally hazardous substances includes the following:

- Dangerous Goods (Road and Rail Transport) Act 2010
- Dangerous Goods (Road and Rail Transport) Regulations 2010
- Dangerous Substances (Safe Handling) Act 2005
- Dangerous Substances (Safe Handling) Regulation 2009
- Workplace Health and Safety Act 2012
- Workplace Health and Safety Regulations 2012

Potential Impacts

Section 2 describes the key raw materials and volumes held on site. In addition to these raw materials a small quantity of potentially hazardous materials will likely be required on an ongoing basis to enable operational, maintenance, and cleaning functions to be undertaken, such as small quantities of fuels, oils, solvents, and other cleaning chemicals.

The main potential impact identified is for the release of plastic granules to the water system. As discussed in Section 2 granule control methods including containment and removal will limit the risk of release of this material into the environment.

All materials used in the activity will be stored within the building compound in an appropriate secured and hard surfaced location, as indicated in Figure 4. The storage of forklift fuel (LPG) will comply with the Dangerous Goods Regulation. There will be no

classified controlled waste, except for maintenance oils for equipment, which will be stored as described below.

Mitigation measures and monitoring commitments

Apart from the potential use of LPG for forklifts, there will not be any substances that are classified as Dangerous Good. The storage, handling, and transport of any dangerous goods and hazardous substances will comply with all relevant legislative requirements. All materials used in the activity will be stored within the building compound in an appropriate secured location as indicated in Figure 4. Within the proposed activity none of the manufacturing materials are classified as dangerous goods, and no waste chemicals are generated from the proposed activity. Procedures are in place on site to deal with spillage and escape of substances, including spill kits, containment, and removal. As part of the existing procedures on site any environmentally hazardous materials stored and handled on site will be kept on an inventory that specifies its storage location and maximum quantities, including material safety sheets where applicable.

Due to the mitigation measures proposed, environmentally hazardous substances impacts will be minimised, and the environmentally hazardous substances impacts of the activity are not considered to be significant.

3.6 Natural values

The management of natural values is legislated to protect and enhance biological and geodiversity values of conservation significance, including through the Threatened Species Protection Act 1995 (TSPA) and the Nature Conservation Act 2002 (NCA). These acts provide a framework for the protection, management, and conservation of flora, fauna, and wildlife. Key legislation relevant to the assessment of natural values includes the following:

- Threatened Species Protection Act 1995
- Nature Conservation Act 2002
- Weed Management Act 1999
- Weed Management Regulations 2017

Potential Impacts

Section 2 broadly describes the natural values of the site. In addition the Natural Values Atlas (accessed September 2021) identifies the following on or near the site:

- No threatened fauna on site
- No threatened flora on site
- No geoconservation values on site including karsts
- State Schedule rare *Dasyurus maculatus subsp. Maculatus* – spotted-tail quoll within 500m of the northern boundary of the site (last recorded June 1996) (National Schedule vulnerable)
- State Schedule rare *Stylidium despectum* – small triggerplant within 500m of the eastern boundary of the site (last recorded November 2020)
- State Schedule rare *Aphelia gracilis* - slender fanwort within 500m of the eastern boundary of the site (last recorded November 2020)
- Threatened Communities of *Melaleuca ericifolia* swamp forest on site

- Threatened Communities of *Eucalyptus ovata* forest and woodland within 1,000m of the site to the south
- Threatened Communities of *Allocasuarina littoralis* forest within 1,000m of the site to the north
- Wetlands of low conservation value on site to the south and east

The relevant sections of the Natural Values Atlas (2021) are contained in Appendix A.

Section 2 describes the geological environment on site, and no geoconservation values are present on or near the site. The activity will require some bulk earthworks for the building slab and foundations. Materials to be removed include the road base gravel and old equipment concrete foundations. It is expected that only 650 m^3 of the existing site will be excavated. All spoil from these works will remain on site.

The proposal will not involve any clearing or disturbance of any native vegetation or potential habitat for native fauna as part of the proposal (including any of the natural values listed above), as the proposed activity will occur on previously developed and currently cleared land. The location of the proposed activity is currently used as a wood storage yard with road base and concrete foundations, as part of the industrial activities on site.

The proposal has the potential to affect natural values by causing roadkill, however this is unlikely having regard to the minor quantity of traffic generation by the proposed activity (an increase of up to a maximum of 4 daily additional truck movements, with an average of 2 truck movements per day from the site), and the proposed use of existing access arrangements which comprise heavy altered and cleared land (as identified in Figure 2 and 3). In addition, the assessment of the natural values of the site has identified that the access routes and proposed location of the activity are not identified as quality habitat for native species.

The proposal will not likely affect avifauna in relation to movement, noise, and light associated with the activity since the shed design and proposed enclosure of all activities would not significantly alter the existing environment considering its location within an existing heavily used industrial zone with neighbouring units undertaking 24-hour operations.

Mitigation measures and monitoring commitments

The project is unlikely to impact any natural values and as such no mitigation measures are considered necessary.

3.7 Marine areas and coastal zone

As described in Section 2, the site is 1.3 km from the Tamar River and 6.5 km from the north coast/Bass Strait. As such the project is unlikely to impact any marine areas and /or coastal zone, or any areas extensively used for recreational or commercial fishing activities. As such no mitigation measures and monitoring are considered necessary.

3.8 Weeds, pests and pathogens

The management of weeds is legislated aiming to achieve the control and eradication of declared weeds, including through the Weed Management Act 1999 and the Weed Management Regulations 2017. These provide a framework for the control and eradication of weeds, and to minimise the effects of weeds and promote sustainable

weed management approaches. Key legislation relevant to the assessment of weeds includes the following:

- Weed Management Act 1999
- Weed Management Regulations 2017

The Natural Values Atlas (2021) identifies the following weeds on or near the site:

- *Cirsium arvense var. arvense* - creeping thistle within the site to the north of the access road (last recorded November 2012)
- *Chrysanthemoides monilifera subsp. Monilifera* – boneseed within the site to the west (last recorded November 2012)
- *Rubus fruticosus* – blackberry within the site to the west (last recorded November 2012)
- *Rubus fruticosus* – blackberry within 500m of the site along site access road of Old Bell Bay Road and East Tamar Highway
- *Ulex europaeus* – gorse within 500m of the site to the west (last recorded November 2012)
- *Erica lusitanica* - spanish heath within 500m of the site to the west (last recorded November 2012)
- *Cirsium arvense var. arvense* - creeping thistle within 500m of the site to the west (last recorded November 2012)

The delivery of raw material for the proposed activity comprises principally HDPE, and colours and lubricants in granular form. All these materials are from existing commercial sources, and as such would not present a significant risk of introducing additional weeds, pests, or diseases onto the site, or in spreading existing weeds.

The plantation timber residue (Radiata pine) is currently sourced from the existing on-site activities (waste material from the existing activities on site) and from material imports associated with existing activities, and as such no additional risk exists from this source.

The proposed activity will be located on currently cleared land. The area of the proposed activity will not be located close to any of the existing weed locations on the site identified in Appendix A, and as such the activity would not present a significant risk of introducing or spreading existing weeds.

As such the project is unlikely to impact any weeds, pests, or pathogens, and as such no mitigation measures and monitoring are considered necessary.

3.9 Greenhouse gas emissions and climate change management

The management of greenhouse gas emissions and climate change management is legislated to promote the reduction of greenhouse gas emissions (including towards net zero emission), to manage the response and adaptation to the varied challenges of climate change, and to promote energy efficiency and conservation, including through the Climate Change (State Action) Act 2008. The details of the plan to reduce emissions and respond to climate change are contained within the Climate Action 21: Tasmania's Climate Change Action Plan 2017-2021. Key legislation relevant to the assessment of greenhouse gas emissions and climate change includes the following:

- Climate Change (State Action) Act 2008 (as amended by the Climate Change (State Action) Amendment Bill 2014)
- Climate Action 21: Tasmania's Climate Change Action Plan 2017-2021
- National Greenhouse and Energy Reporting Act 2007 (including Regulations 2008, and Measurement Determination 2008)

Potential Impacts

As discussed in Section 2 the WPC proposal offers an innovative and environmentally conscious method of repurposing waste materials and creating products with value and represents a significant investment in increasing waste recycling capacity and relieving pressure on domestic landfill in Tasmania. Whilst the proposed activity has the potential to result in the emission of greenhouse gases (including through the operation of machinery, transport movements, and mobile plant), the site selection process has considered the impact of the proposal on a range of environmental factors, including minimising transport movements (due to the close proximity of the site to an existing supply of sustainable plantation timber residue), and the ability to utilise renewable sources of energy (predominantly hydro sourced electricity).

Due to the location of the site, it is not in a flood risk or coastal inundation zone and is therefore not susceptible to the impacts of sea level change.

Mitigation measures and monitoring commitments

In addition to the benefits of the site's location on minimising climate change impacts and greenhouse gas emissions, on site solar panels will be installed with 100Kw of capacity to generate electricity for use onsite, with energy use minimised through energy efficient plant design, process automation, and regular equipment and vehicle maintenance. In addition, vehicle scheduling will be aligned with existing operations to minimise truck movements.

The activity has been designed to reduced embodied energy in building construction through the development of the activity within a lightweight metal clad industrial shed, which will be designed to comply with the Council's bushfire risk requirements to minimise impacts related to severe fire weather. In addition, all plant and equipment will also be operated and maintained in accordance with the manufacturer's specification.

As detailed in Section 2, rainwater will be harvested and stored on site for use in the proposed activity, minimising the draw on mains water.

In accordance with the Paris Agreement, Timberlink is committed to reducing scope 1 and 2 emissions by 53% by 2030 with verified science-based targets. As such, significant greenhouse gas emissions and climate change management impacts are considered unlikely to occur, and the greenhouse gas emissions and climate change management impacts of the activity are not considered to be significant.

3.10 Site contamination (historic)

The management of site contamination is legislated to manage the exposure, escape, discharge, emission, or release of pollutants in areas of contaminated land, principally through the Environmental Management and Pollution Control Act 1994. Key legislation relevant to the assessment of site contamination includes the following:

- Environmental Management and Pollution Control Act 1994
- National Environment Protection (Assessment of Site Contamination) Measure

The known history of the site is detailed in Section 2 and includes previous industrial and mill activities. This demonstrates the potential for activities which may have caused soil or groundwater contamination. As discussed in previously the site currently monitors for contaminants of potential concern, including a combination of:

- Physical parameters – pH, electrical conductivity (EC), total dissolved solids (TDS), five-day biochemical oxygen demand (BOD5) and chemical oxygen demand (COD).
- Nutrients – ammonia (NH_3), total nitrogen (TN) and total phosphorus (TP).
- Hydrocarbons – total petroleum hydrocarbons (TPH).
- Heavy metals – arsenic (As), chromium (Cr), copper (Cu), manganese (Mn) and boron (B).
- Formaldehyde (HCHO).
- Permethrin.
- Biological parameters – *Escherichia coli* (*E. coli*)

A summary of the groundwater monitoring is provided below from the Groundwater Management Plan (2020):

> "Most of the December 2018 groundwater monitoring results showed concentrations within the ranges of historical results. Elevated NH_3, TN and total Mn concentrations were reported in well CS2 (in December 2018) and elevated total Mn concentrations (in December 2018) in SP7. Both NH_3 and Mn concentrations in CS2 are showing an upward trend since around 2013. Mn is a legacy issue on site and within the Bell Bay area and is not due to timber treatment or processing operations. NH_3 could be sourced from historical fibre and formaldehyde dumps around the Facility. Again, these are not due to the current operations. The only changes that have occurred near SP7 and CS2 are the construction of a road south of SP7 and construction of a railway siding west of CS2. Both are understood to have been constructed with crushed silico-manganese slag. It is possible that these linear infrastructure features have impacted on shallow groundwater movement and groundwater quality intersected by both wells."

Monitoring of site contamination will continue to be undertaken in accordance with EPN No. 8563/3 which includes monitoring of stormwater and groundwater to manage any risks identified in relation to historic site contamination. As such the project is unlikely to have any significant impact related to historic contamination, and as such no further mitigation measures and monitoring are considered necessary.

3.11 Other Off-site Impacts

The proposed activity is not considered to have the potential to generate any other off-site impacts that may affect the amenity of residences or other sensitive uses.

3.12 Monitoring

Timberlink are proposing to undertake the following monitoring associated with the proposed activity:

- To establish a suitable baseline in the absence of relevant published data on similar WPC facilities and noise emissions, within the first three months of operation a noise survey will be undertaken by a suitably qualified noise expert, at the nearest sensitive receptors during the day and night, to model results and confirm that the noise emissions meet relevant legislation (including the Tasmanian Noise Measurement Procedure Manual and EMPCA), with recommendations to bring the facility within standards where noise exceedances are found and these can be attributed to the WPC.
- To establish a suitable baseline in the absence of relevant published data on similar WPC facilities and emissions, stack sampling will be undertaken within the first three months of operation by a suitably qualified air quality expert to model results and confirm that the emissions meet relevant legislation (including the EPPP (Air Quality) 2004), with recommendations to bring the facility within standards if necessary.

In addition, Timberlink will continue to undertake all monitoring associated with EPN No. 8563/3 that includes monitoring of settling ponds, wetlands, and groundwater.

3.13 Decommissioning and rehabilitation

Decommissioning and rehabilitation measures in the event of cessation of the activity include removal of equipment and materials, and the retention of the building as a storage shed.

4. Part D – Summary of proposed management measures

Impacts from construction activities will be managed using a range of mitigation measures in accordance with the EPA Standard Conditions and Definitions. Based on the location of the site in a large industrial precinct over 1.0km from the nearest sensitive use, the risk of construction impacts from the development of the industrial shed and associated works is low.

Examples of measures to be undertaken during construction include:

- Spraying of water on roads and open areas which are dust generating surfaces e.g. unsealed areas
- Locating stockpiles where they will be least susceptible to wind erosion
- Minimising stockpile size and length of time exposed
- Dust suppression from concrete cutting and construction and demolition activities
- Minimising vehicle routes along unsealed roads/access ways and minimising speeds
- Regular monitoring of any dust emissions and the effectiveness of dust control measures and maintaining a community complaints database

In addition, the following management measures are proposed that align to the current measures under EPN No. 8563/3 (contained in Appendix E 'Environment Protection Notice') and existing on site environmental and operational procedures. These include:

- Stormwater discharged from the WPC Facility (e.g. when the rain water tanks overflow) will be collected through the existing site stormwater system and discharged through DP2
- All reasonable measures will be implemented to ensure that solids entrained in stormwater are retained on site
- Spill kits appropriate for the types and volumes of material handled will be kept in appropriate locations
- An inventory will be kept of all environmentally hazardous materials stored and handled on site specifying the storage location, maximum quantities, and safety data sheets
- All plant and equipment will be operated and maintained in accordance with the manufacturer's specification
- The sawdust collection systems will be designed and maintained so that fugitive dust emissions are controlled
- Wastewater generated from the WPC facility will not be discharged to stormwater
- Wastewater generated from the WPC facility will not be discharged to the sewerage network without a Trade Waste Agreement in place with TasWater
- All vehicles carrying raw materials loads will be managed during transport with effective control measures to prevent the escape of material
- Noise monitoring will be completed within the first 60 days of commissioning at the nearest sensitive receptors
- Air monitoring (e.g. stack testing) will be completed on the drier exhaust within 90 days of commissioning

5. Part E – Public and stakeholder consultation

A media release regarding the WPC facility was released on 2nd July 2021. Stakeholder consultation will be undertaken through the Public Advertisement of the Development Application.

References

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Nature Conservation Act 2002.

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PSLC (2021): Polymer Science Learning Center, Selected Thermal Properties, website: https://pslc.ws/fire/howwhy/thermalp.htm, accessed November 2021

Shen et al (2020): Shen et al, Study of VOCs release during drying of plantation-grown Pinus sylvestris and naturally grown Russian Pinus sylvestris, Journal of Wood Science, 2020

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The Environment Protection Policy (Air Quality) 2004.

Threatened Species Protection Act 1995.

Weed Management Act 1999.

Weed Management Regulations 2017.

APPENDIX A

Natural Values Atlas Report

Natural Values Atlas Report

Authoritative, comprehensive information on Tasmania's natural values.

Reference:	331 old bell bay
Requested For:	sz
Report Type:	Summary Report
Timestamp:	09:27:04 AM Friday 03 September 2021
Threatened Flora:	buffers Min: 500m Max: 5000m
Threatened Flora FRB attributes:	buffers Min: 500m Max: 5000m
Threatened Fauna:	buffers Min: 500m Max: 5000m
Threatened Fauna FRB attributes:	buffers Min: 500m Max: 5000m
Raptors:	buffers Min: 500m Max: 5000m
Conservation Significance Flora:	buffers Min: 500m Max: 5000m
Conservation Significance Fauna:	buffers Min: 500m Max: 5000m
Conservation Significance filtered by:	
	Biogeographic Origin
	Scientific Significance
	RFA Priority
	Native Watch List
	Introduced Watch List
	Reservation Status
	Primitive Status
	Uncommon Species
	Species Sensitivity
	Cultural Significance
Tasmanian Weed Management Act Weeds:	buffers Min: 500m Max: 5000m
Priority Weeds:	buffers Min: 500m Max: 5000m
Geoconservation:	buffer 1000m
Acid Sulfate Soils:	buffer 1000m
TASVEG:	buffer 1000m
Threatened Communities:	buffer 1000m
Fire History:	buffer 1000m
Freshwater Ecosystem Values:	buffer 1000m
Freshwater Ecosystem Values displayed:	
	Rivers
	Lakes
	Wetlands
	Saltmarshes
	Estuaries
	Karst
	Other freshwater ecosystem values
Tasmanian Reserve Estate:	buffer 1000m
Biosecurity Risks:	buffer 1000m

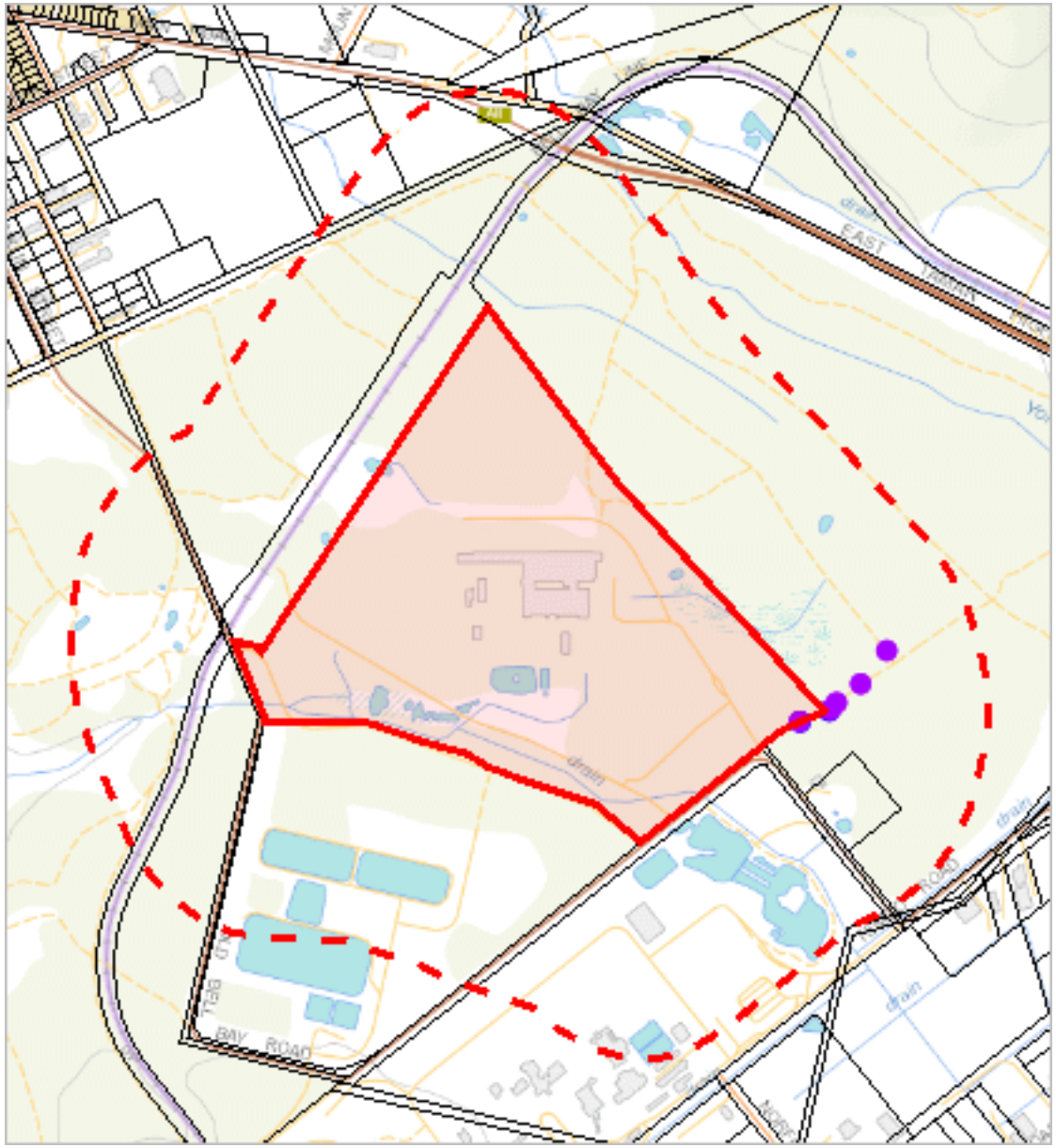
The centroid for this query GDA94: 487404.0, 5447779.0 falls within:

Property: 3359262


BASS STRAIT
BURNIE
DEVONPORT
LAUNCESTON
Tasmania
HOBART
SOUTHERN OCEAN

Threatened flora within 500 metres

488623, 5449184



486198, 5446551

Please note that some layers may not display at all requested map scales

Threatened flora within 500 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Threatened flora within 500 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Aphelia gracilis	slender fanwort	r		n	1	09-Nov-2020
Stylidium despectum	small triggerplant	r		n	1	09-Nov-2020

Unverified Records

Species	Common Name	SS	NS	Bio	Observation Count
Aphelia gracilis	slender fanwort	r		n	1
Stylidium despectum	small triggerplant	r		n	4

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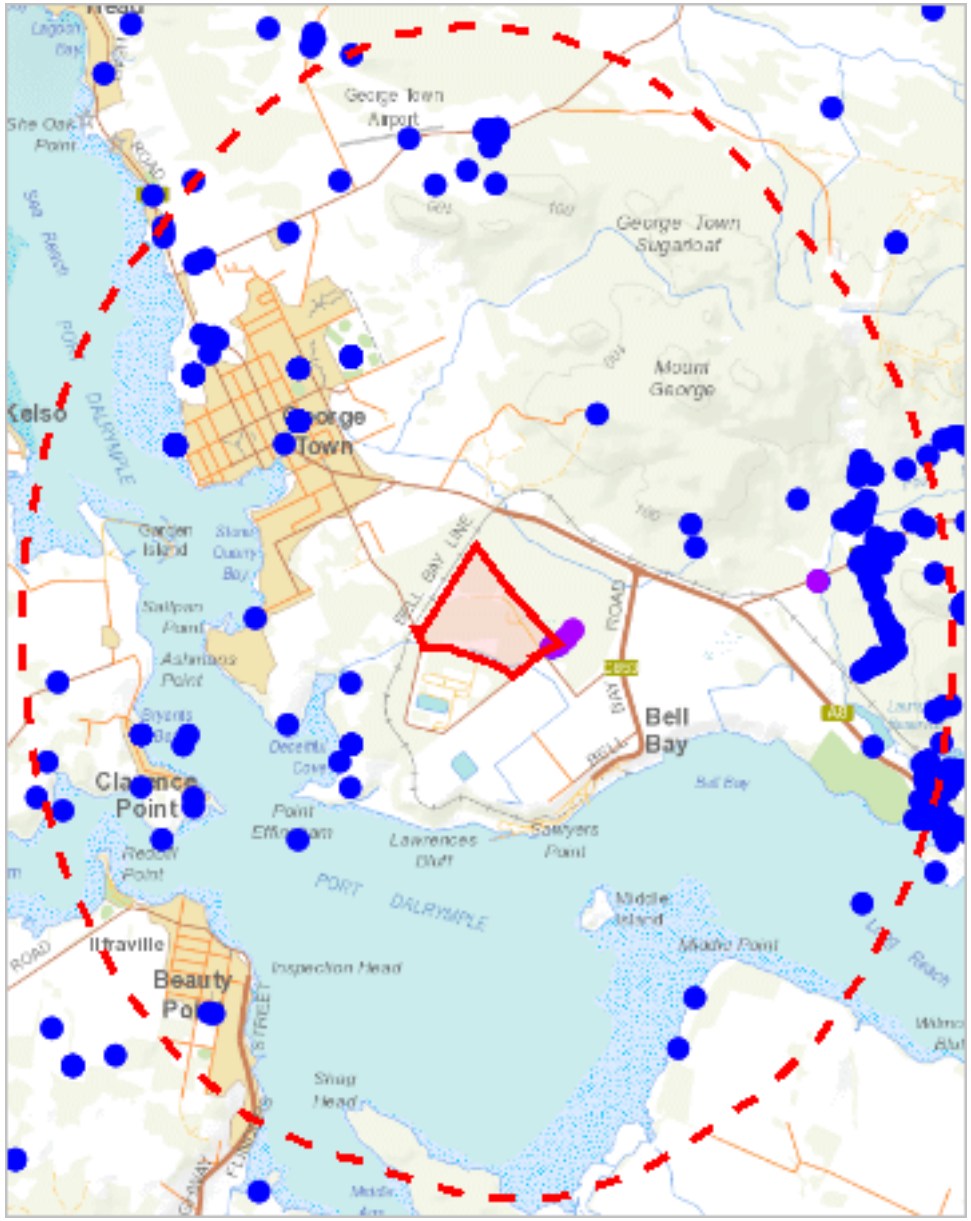
Telephone: 1300 368 550
Email: ThreatenedSpecies.Enquiries@dpipwe.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Threatened flora within 5000 metres

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Threatened flora within 5000 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Threatened flora within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Acacia ulicifolia	juniper wattle	r		n	8	18-Jan-2004
Aphelia gracilis	slender fanwort	r		n	12	10-Dec-2020
Aphelia pumilio	dwarf fanwort	r		n	1	16-Oct-2020
Asperula minima	mossy woodruff	r		n	3	01-Jan-1962
Bolboschoenus caldwellii	sea clubsedge	r		n	1	01-Jan-1911
Brunonia australis	blue pincushion	r		n	3	07-Mar-2003
Caladenia caudata	tailed spider-orchid	v	VU	e	1	27-Sep-1982
Caladenia congesta	blacktongue finger-orchid	e		n	1	01-Jan-1804
Caladenia lindleyana	lindleys spider-orchid	e	CR	e	1	01-Oct-1842
Caladenia patersonii	patersons spider-orchid	v		n	6	24-Oct-1959
Calocephalus lacteus	milky beautyheads	r		n	1	26-Apr-2007
Carex longebrachiata	drooping sedge	r		n	1	25-Feb-2008
Chorizandra enodis	black bristlesedge	e		n	26	23-Nov-2016
Coopernookia barbata	purple native-primrose	x		n	1	01-Jan-1810
Deyeuxia minor	small bentgrass	r		n	1	25-Dec-1970
Epacris exserta	south esk heath	e	PEN	e	1	01-Jan-1804
Epacris virgata (Beaconsfield)	twiggy heath	pv	EN	e	2	01-Nov-1951
Euphrasia scabra	yellow eyebright	e		n	1	01-Jan-1837
Glycine microphylla	small-leaf glycine	v		n	3	09-Dec-2020
Lepidosperma viscidum	sticky swordsedge	r		n	23	11-Nov-2013
Limonium australe var. australe	yellow sea-lavender	r		n	42	07-Sep-2020
Lotus australis	australian trefoil	r		n	1	01-Jan-1804
Lythrum salicaria	purple loosestrife	v		n	1	01-Jan-1911
Microtidium atratum	yellow onion-orchid	r		n	3	12-Nov-1961
Phyllangium distylis	tiny mitrewort	r		n	11	11-Nov-2013
Phyllangium divergens	wiry mitrewort	v		n	3	23-Nov-2016
Pimelea flava subsp. flava	yellow riceflower	r		n	456	01-Jul-2021
Pomaderris paniculosa subsp. paralia	shining dogwood	r		n	1	26-Feb-2007
Pterostylis cucullata subsp. cucullata	leafy greenhood	e	VU	n	2	23-Oct-1844
Pultenaea mollis	soft bushpea	v		n	3	21-Oct-1842
Scutellaria humilis	dwarf skullcap	r		n	24	10-Dec-2020
Senecio squarrosus	leafy fireweed	r		n	1	24-Feb-2017
Siloxerus multiflorus	small wrinklewort	r		n	1	01-Dec-1897
Solanum opacum	greenberry nightshade	e		n	3	01-Jan-1861
Spyridium parvifolium var. parvifolium	coast dustymiller	r		n	28	26-Oct-2015
Stylidium beaugleholei	blushing triggerplant	r		n	3	27-Sep-2005
Stylidium despectum	small triggerplant	r		n	37	09-Nov-2020
Stylidium perpusillum	tiny triggerplant	r		n	2	01-Jan-1896
Tetratheca ciliata	northern pinkbells	r		n	1	20-Oct-1844
Thelymitra antennifera	rabbit ears	e		n	6	01-Jan-1912
Thelymitra bracteata	leafy sun-orchid	e		n	1	01-Nov-1987
Veronica plebeia	trailing speedwell	r		n	2	20-Sep-2007
Xanthorrhoea arenaria	sand grasstree	v	VU	e	1	26-Nov-1982
Xanthorrhoea bracteata	shiny grasstree	v	EN	e	3	07-May-2007

Unverified Records

Species	Common Name	SS	NS	Bio	Observation Count
Aphelia gracilis	slender fanwort	r		n	2
Stylidium despectum	small triggerplant	r		n	4

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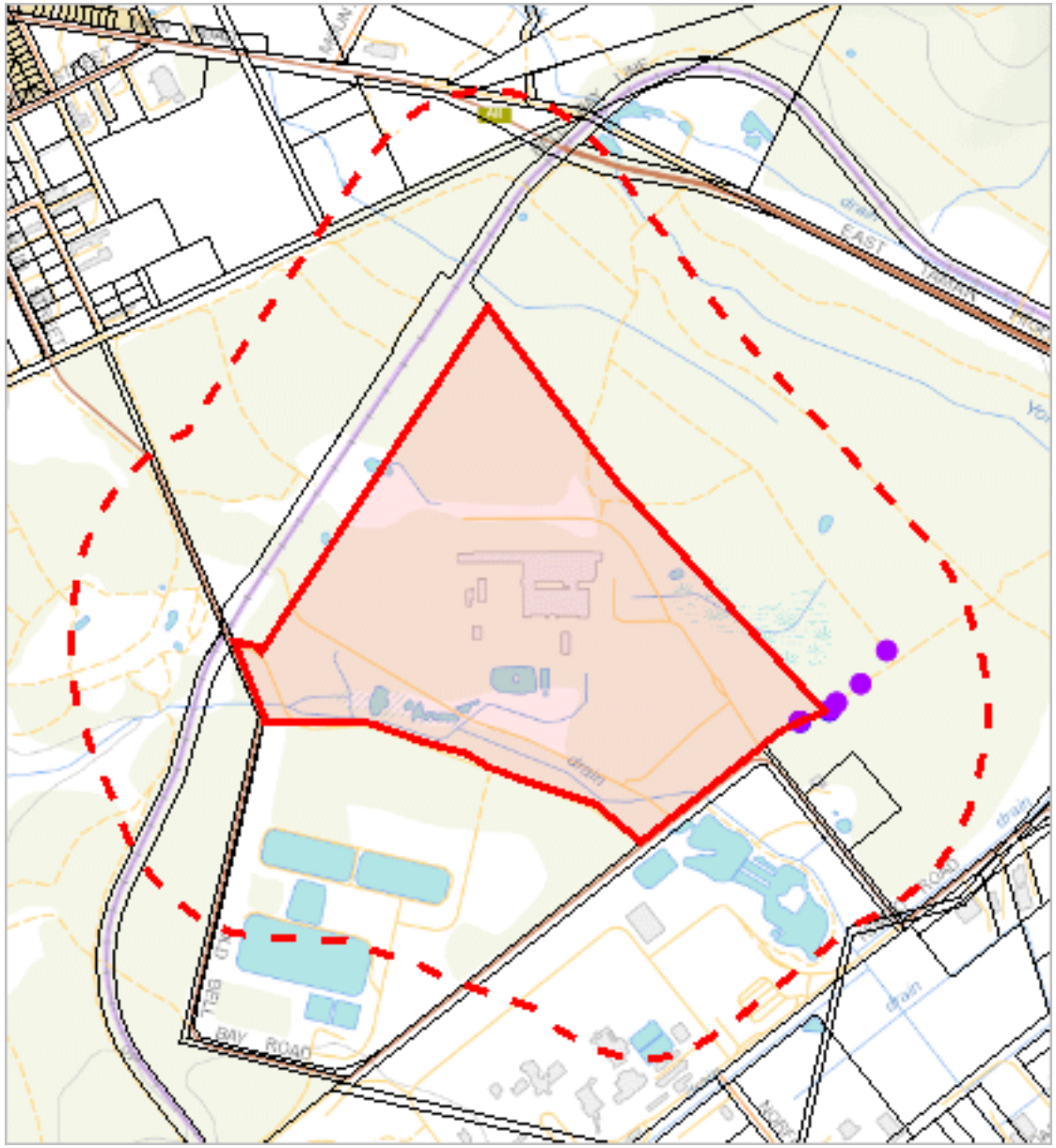
Threatened flora with fuel reduction burning attributes within 500 metres

488623, 5449184



486198, 5446551

Please note that some layers may not display at all requested map scales

Threatened flora with fuel reduction burning attributes within 500 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Threatened flora with fuel reduction burning attributes within 500 metres

Verified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation	Category
Aphelia gracilis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Stylidium despectum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1

Unverified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation	Category
Aphelia gracilis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Stylidium despectum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1

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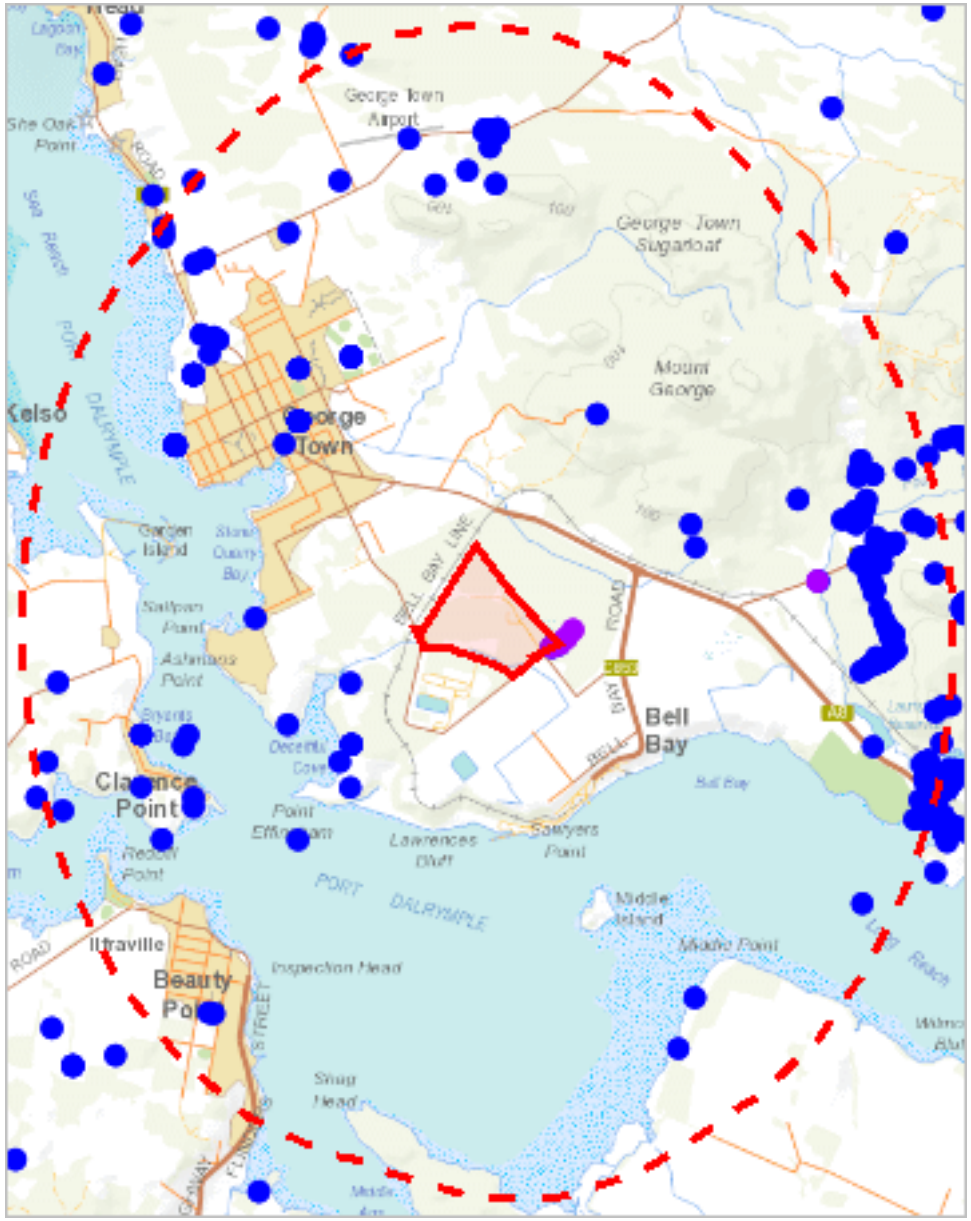
Threatened flora with fuel reduction burning attributes within 5000 metres

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Threatened flora with fuel reduction burning attributes within 5000 metres

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Line Verified
- Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Cadastral Parcels

Threatened flora with fuel reduction burning attributes within 5000 metres

Verified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation	Category
Bolboschoenus caldwellii	Not applicable sites and/or potential habitat not suitable for FRB.	Not applicable sites and/or potential habitat not suitable for FRB.	0
Coopernookia barbata	Not possible to apply meaningful management prescriptions to this species as it is presumed extinct in Tasmania, with few known (all imprecise) sites.	Not possible to apply meaningful management prescriptions to this species as it is presumed extinct in Tasmania, with few known (all imprecise) sites.	0
Limonium australe var. australe	Not applicable sites and/or potential habitat not suitable for FRB.	Not applicable sites and/or potential habitat not suitable for FRB.	0
Pomaderris paniculosa subsp. paralia	Not applicable sites and/or potential habitat not suitable for FRB.	Not applicable sites and/or potential habitat not suitable for FRB.	0
Acacia ulicifolia	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Aphelia gracilis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Aphelia pumilio	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Asperula minima	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Brunonia australis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Caladenia congesta	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Caladenia lindleyana	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Caladenia patersonii	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Calocephalus lacteus	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Carex longebrachiata	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Chorizandra enodis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Deyeuxia minor	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Glycine microphylla	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Lepidosperma viscidum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Lotus australis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Lythrum salicaria	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Microtidium atratum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Phyllangium distylis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Phyllangium divergens	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Pimelea flava subsp. flava	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Scutellaria humilis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Senecio squarrosus	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Siloxerus multiflorus	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1

Threatened flora with fuel reduction burning attributes within 5000 metres

Species	Fuel reduction potential impact	Fuel reduction management recommendation	Category
Solanum opacum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Stylidium beaugleholei	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Stylidium despectum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Stylidium perpusillum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Veronica plebeia	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Caladenia caudata	While this species is unlikely to be deleteriously impacted by fire in the longer-term, due to the localised nature of known populations, fuel reduction burning may have a short-term impact if conduct...	Key recommendations for burning include: confirming the precise location of reported locations through specialist consultation to minimise the risk of inadvertent disturbance from peripheral activitie...	2
Epacris exserta	This species is not likely to be significantly impacted by fuel reduction burning provided that the riparian vegetation supporting the species is protected from the impacts of adjacent fire.	Key recommendations for burning include: Minimise the risk of the fuel reduction burn impacting riparian vegetation supporting the species (e.g., implement buffers if required).	2
Pultenaea mollis	This species is dependent on an appropriate fire regime that promotes allowing plants to reach reproductive maturity and set seed but also allowing regeneration from soil-stored seed after fire.	Key recommendations for planned burning include: a burn interval of 5-10 years; application of machinery, vehicle, equipment and personnel hygiene protocols to minimise risk of introducing and/or spre...	2
Spyridium parvifolium var. parvifolium	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works assuming appropriate fire interval.	Key recommendation for planned burning includes a burn interval of no less than 5 years.	2
Thelymitra antennifera	While this species is unlikely to be deleteriously impacted by fire in the longer-term, due to the localised nature of known populations, fuel reduction burning may have a short-term impact if conduct...	Key recommendations for planned burning include: confirming the precise location of reported locations through specialist consultation to minimise the risk of inadvertent disturbance from peripheral a...	2
Thelymitra bracteata	While this species is unlikely to be deleteriously impacted by fire in the longer-term, due to the localised nature of known populations, fuel reduction burning may have a short-term impact if conduct...	Key recommendations for planned burning include: confirming the precise location of reported locations through specialist consultation to minimise the risk of inadvertent disturbance from peripheral a...	2
Xanthorrhoea arenaria	While this species is unlikely to be deleteriously impacted by fire in the longer-term, fuel reduction burning has the potential to introduce Phytophthora cinnamomi to sites supporting the species.	Key recommendations for planned burning include: application of machinery, vehicle, equipment and personnel hygiene protocols to minimise risk of introducing and/or spreading Phytophthora cinnamomi.	2
Xanthorrhoea bracteata	While this species is unlikely to be deleteriously impacted by fire in the longer-term, fuel reduction burning has the potential to introduce Phytophthora cinnamomi to sites supporting the species.	Key recommendations for planned burning include: application of machinery, vehicle, equipment and personnel hygiene protocols to minimise risk of introducing and/or spreading Phytophthora cinnamomi.	2
Epacris virgata (Beaconsfield)	This species has a low number of populations, and possible poor response to an inappropriate fire regime.	Advice from DPIPWE recommended on a case-by-case basis.	3
Euphrasia scabra	Due to the highly localised occurrence of this species, and the potential deleterious impact from an inappropriate fire regime (which cannot be determined without a site survey and/or detailed conside...	Advice from DPIPWE recommended on a case-by-case basis.	3
Pterostylis cucullata subsp. cucullata	Due to the low number of highly localised sites and the potential deleterious impact from an inappropriate fire regime (which cannot be determined without a site survey and/or detailed consideration o...	Advice from DPIPWE recommended on a case-by-case basis.	3
Tetratheca ciliata	This species has very low number of confirmed extant sites, low population abundance at these sites, and possible poor response to an inappropriate fire regime.	Advice from DPIPWE recommended on a case-by-case basis.	3

Unverified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation	Category
Aphelia gracilis	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1
Stylidium despectum	This species is not likely to be significantly impacted by fuel reduction burning, including from peripheral activities such as track works.	No special management prescriptions are recommended.	1

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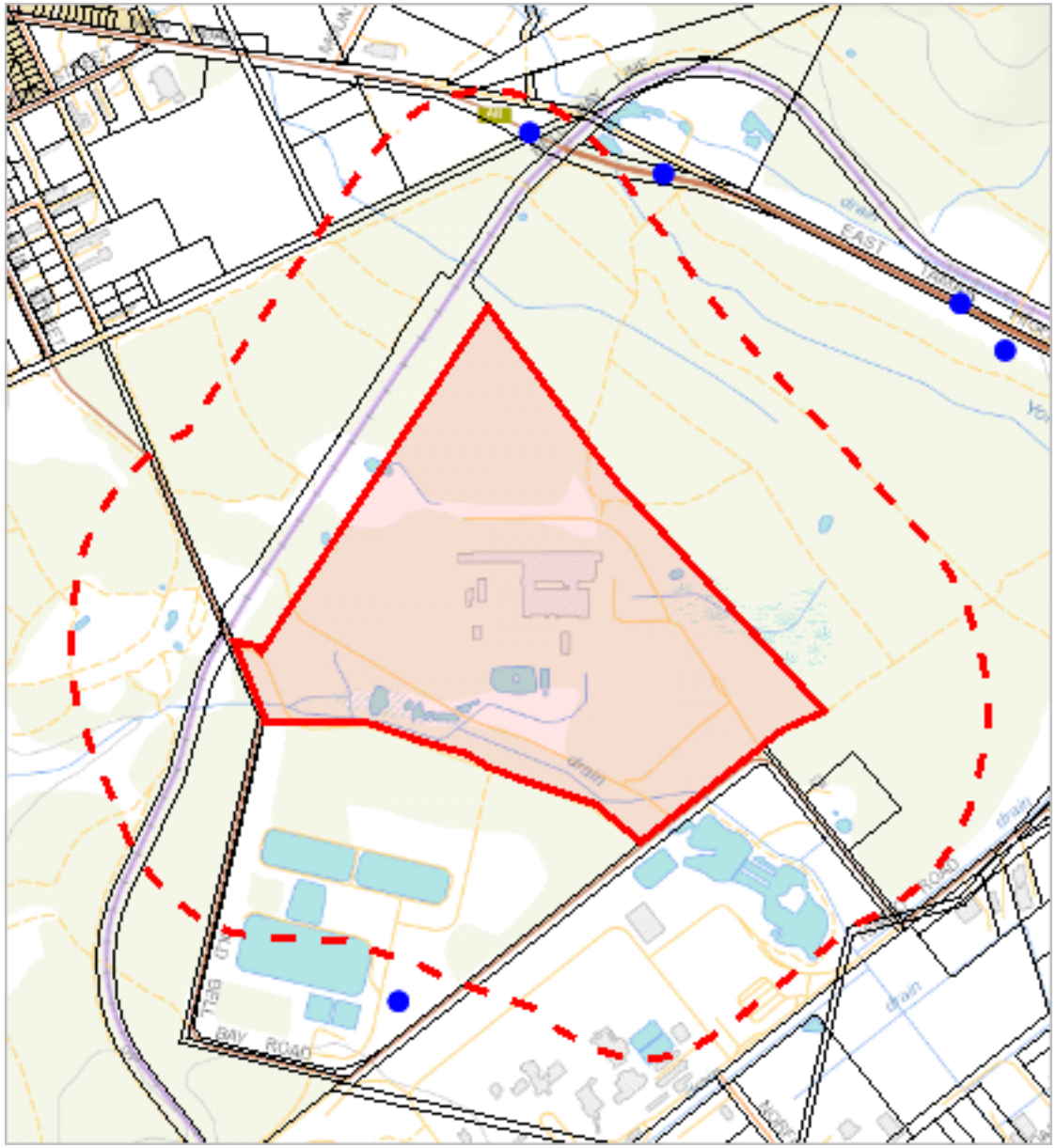
Threatened fauna within 500 metres

488623, 5449184



486198, 5446551

Please note that some layers may not display at all requested map scales

Threatened fauna within 500 metres

Legend: Verified and Unverified observations

Point Verified | Point Unverified | Line Verified | Line Unverified

Polygon Verified | Polygon Unverified

Legend: Cadastral Parcels

Threatened fauna within 500 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Dasyurus maculatus subsp. maculatus	spotted-tail quoll	r	VU	n	1	17-Jun-1996

Unverified Records

No unverified records were found!

Threatened fauna within 500 metres

(based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
Pseudomys novaehollandiae	new holland mouse	e	VU	n	1	0	0
Lathamus discolor	swift parrot	e	CR	mbe	1	0	0
Dasyurus maculatus subsp. maculatus	spotted-tail quoll	r	VU	n	1	0	0
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Prototroctes maraena	australian grayling	v	VU	ae	1	0	0
Antipodia chaostola	chaostola skipper	e	EN	ae	1	0	0
Pseudemoia pagenstecheri	tussock skink	v		n	1	0	0
Tyto novaehollandiae subsp. castanops	masked owl (Tasmanian)	e	VU	e	1	0	1
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	2	0	0
Limnodynastes peroni	striped marsh frog	e		n	1	0	0
Galaxiella pusilla	eastern dwarf galaxias	v	VU	n	1	0	0
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	0
Perameles gunnii	eastern barred bandicoot		VU	n	1	0	1
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
Dasyurus viverrinus	eastern quoll		EN	n	0	0	1

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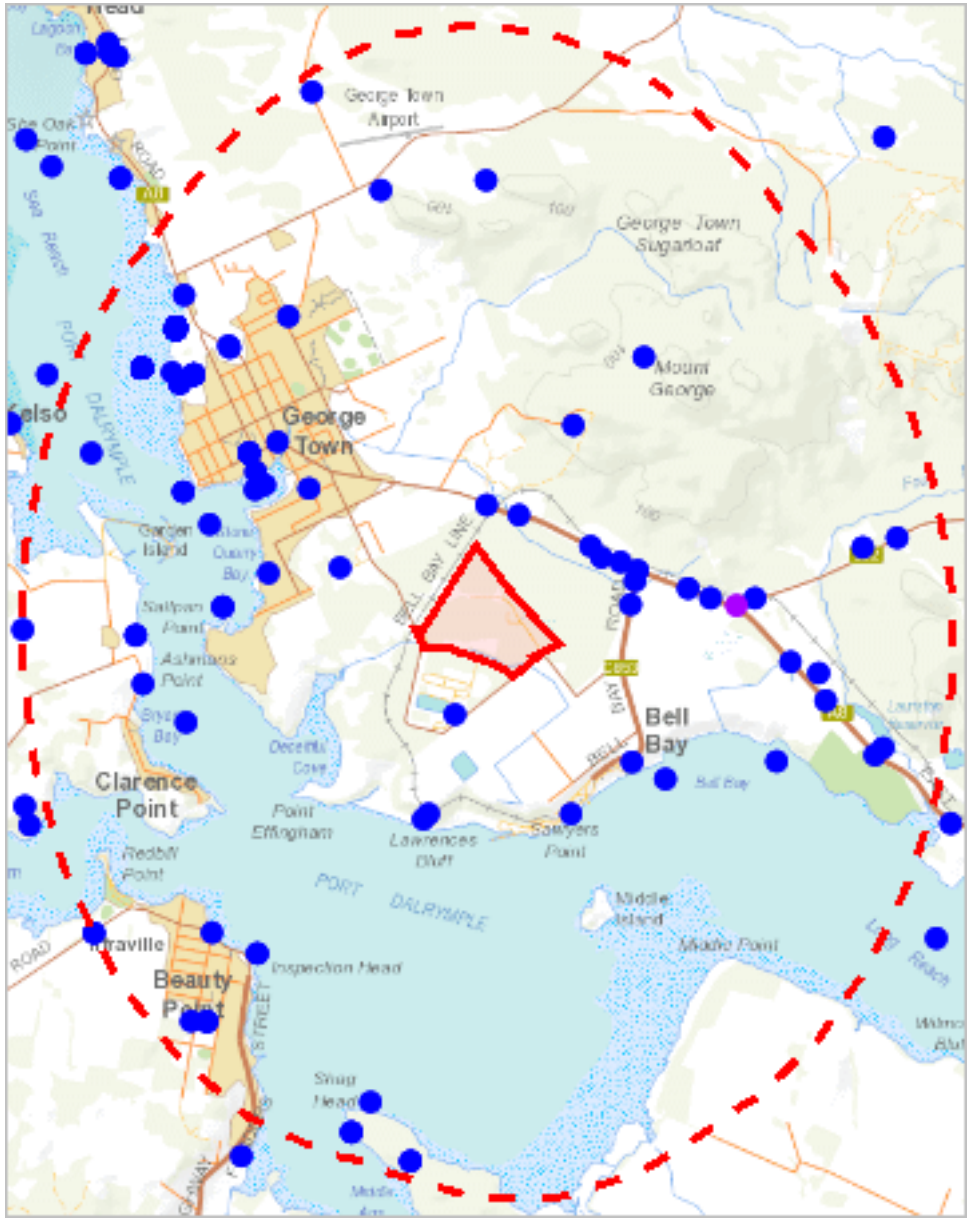
Threatened fauna within 5000 metres

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Threatened fauna within 5000 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Threatened fauna within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Accipiter novaehollandiae	grey goshawk	e		n	3	03-Jan-2016
Aquila audax	wedge-tailed eagle	pe	PEN	n	5	20-Mar-2018
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	7	11-Sep-2007
Arctocephalus tropicalis	sub-antarctic fur seal	e	VU	n	1	15-Sep-2016
Calidris canutus	red knot		EN	n	3	13-Jan-1999
Calidris ferruginea	curlew sandpiper		CR	n	13	13-Feb-1999
Dasyurus maculatus	spotted-tail quoll	r	VU	n	6	03-Oct-2019
Dasyurus maculatus subsp. maculatus	spotted-tail quoll	r	VU	n	9	17-Jun-1996
Eubalaena australis	southern right whale	e	EN	m	4	29-Jul-1997
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	14	01-Jan-2021
Hirundapus caudacutus	white-throated needletail		VU	n	2	01-Jan-1900
Lathamus discolor	swift parrot	e	CR	mbe	2	01-May-1982
Limosa lapponica subsp. baueri	western alaskan bar-tailed godwit		VU	n	4	16-Jun-1996
Litoria raniformis	green and gold frog	v	VU	n	1	01-Aug-2008
Macronectes giganteus	southern giant-petrel	v	EN	n	1	30-Sep-1979
Macronectes halli	northern giant-petrel	r	VU	n	1	05-Jul-1994
Megaptera novaeangliae	humpback whale	e	VU	m	8	23-Oct-2011
Numenius madagascariensis	eastern curlew	e	CR	n	22	17-Feb-2018
Perameles gunnii	eastern barred bandicoot		VU	n	7	07-Dec-2019
Sarcophilus harrisii	tasmanian devil	e	EN	e	23	22-Feb-2021
Seriolella brama	Blue Warehou		CD	n	3	17-Dec-1979
Sterna nereis subsp. nereis	fairy tern	pv	PVU		1	16-Jun-1996
Sternula albifrons subsp. sinensis	little tern	e		n	3	31-Dec-1998
Sternula nereis subsp. nereis	fairy tern	v	VU	n	17	14-Dec-2007
Thinornis rubricollis	hooded plover		VU	n	1	26-Sep-1910
Thylacinus cynocephalus	thylacine	x	EX	ex	1	01-Jan-1972
Tyto novaehollandiae	masked owl	pe	PVU	n	1	01-Jan-1950

Unverified Records

Species	Common Name	SS	NS	Bio	Observation Count
Sarcophilus harrisii	tasmanian devil	e	EN	e	1

Threatened fauna within 5000 metres

(based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
Pseudomys novaehollandiae	new holland mouse	e	VU	n	2	0	0
Lathamus discolor	swift parrot	e	CR	mbe	1	0	0
Dasyurus maculatus subsp. maculatus	spotted-tail quoll	r	VU	n	1	0	0
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Prototroctes maraena	australian grayling	v	VU	ae	13	0	0
Antipodia chaostola	chaostola skipper	e	EN	ae	2	0	0
Pseudemoia rawlinsoni	glossy grass skink	r		n	0	0	1
Pseudemoia pagenstecheri	tussock skink	v		n	1	0	0
Limnodynastes peroni	striped marsh frog	e		n	1	0	1
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	3	0	0
Tyto novaehollandiae subsp. castanops	masked owl (Tasmanian)	e	VU	e	1	0	1
Galaxiella pusilla	eastern dwarf galaxias	v	VU	n	1	0	0
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	0
Perameles gunnii	eastern barred bandicoot		VU	n	1	0	1
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
Engaeus granulatus	Central North burrowing crayfish	e	EN	e	1	0	0
Dasyurus viverrinus	eastern quoll		EN	n	0	0	1

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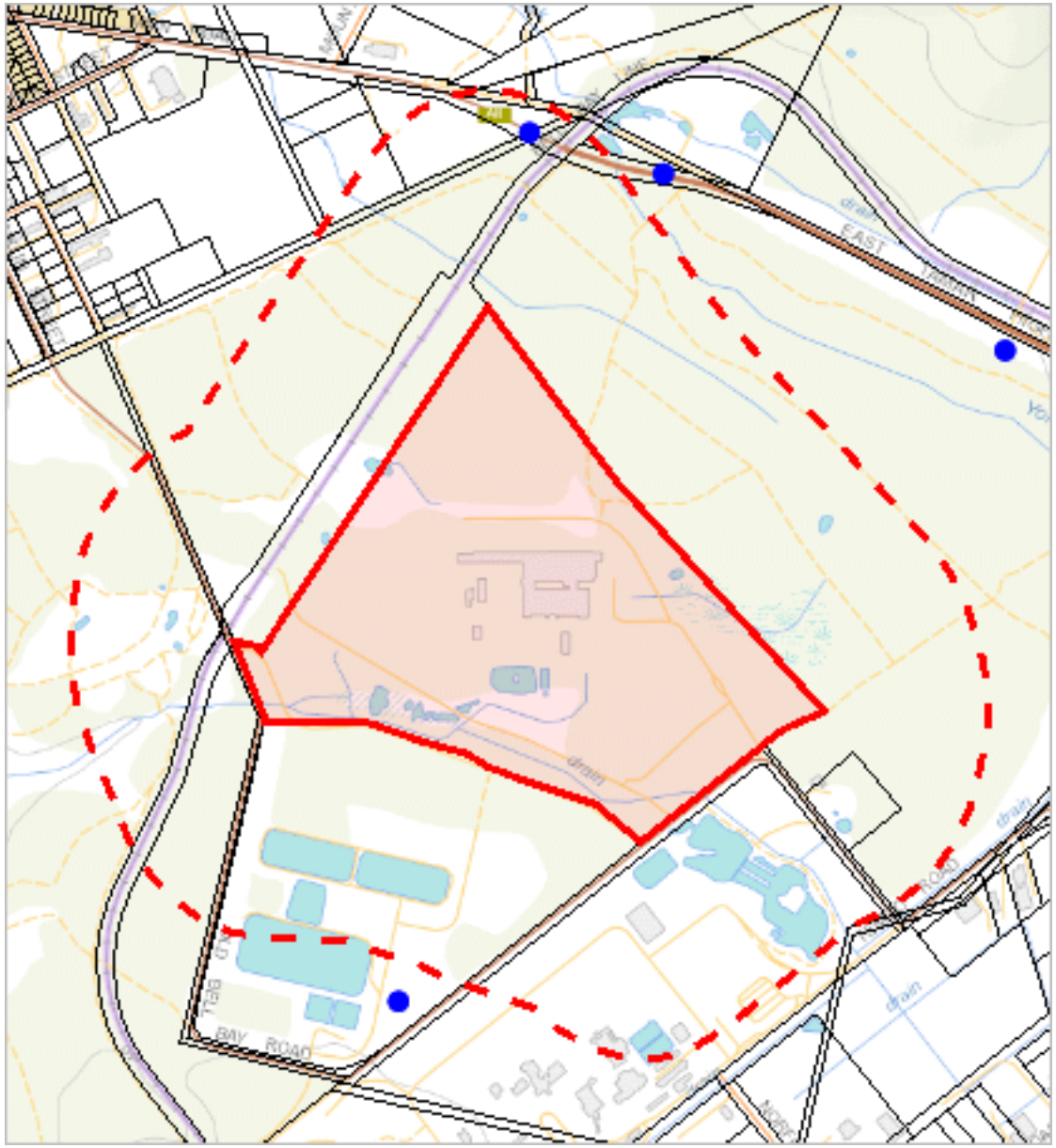
Threatened fauna within 5000 metres

Threatened fauna with fuel reduction burning attributes within 500 metres

488623, 5449184



486198, 5446551

Please note that some layers may not display at all requested map scales

Threatened fauna with fuel reduction burning attributes within 500 metres

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Line Verified
- Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Cadastral Parcels

Threatened fauna with fuel reduction burning attributes within 500 metres

Verified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation (known site)	Fuel reduction management recommendation (potential habitat)
Dasyurus maculatus subsp. maculatus	There is little evidence to indicate that any form of prescribed burning will have a deleterious impact on this species. Disturbance of a known maternal den may warrant case-by-case management.	Where a known maternal den (as identified on the Natural Values Atlas or indicated by another source) is within a prescribed burn unit, seek advice from DPIPWE or relevant specialist (inform DPIPWE of...	If a suspected den site is detected during planning of prescribed burns, notify DPIPWE to seek case-by-case management recommendations. If a suspected den site is detected during implementation of pre...

Unverified Records

No unverified records were found!

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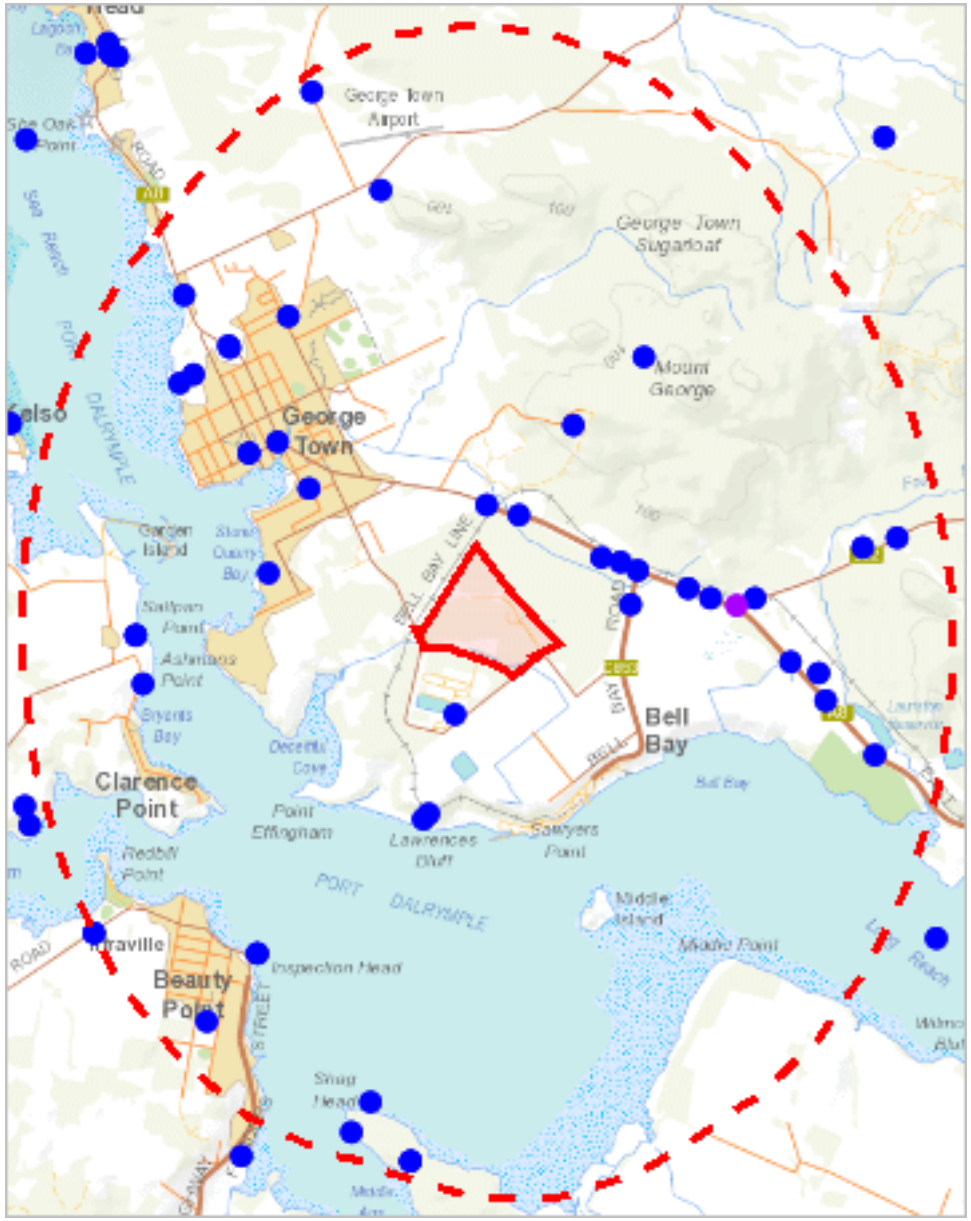
Threatened fauna with fuel reduction burning attributes within 5000 metres

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Threatened fauna with fuel reduction burning attributes within 5000 metres

Legend: Verified and Unverified observations

Point Verified | Point Unverified | Line Verified | Line Unverified

Polygon Verified | Polygon Unverified

Legend: Cadastral Parcels

Threatened fauna with fuel reduction burning attributes within 5000 metres

Verified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation (known site)	Fuel reduction management recommendation (potential habitat)
Accipiter novaehollandiae	It is highly unlikely that FRB will extend to habitat of the grey goshawk because the species is principally associated with wetter vegetation types. Known sites (nests) are almost always within matur...	The known nest site, and a buffer of 100 m radius around the nest site, should be managed as a non-target area during the breeding season (October to January, inclusive). Advice may need to be sought ...	No special management required.
Aquila audax subsp. fleayi	Impact on breeding behaviour during breeding season and potentila loss of nest sites.	Wherever practical, burning should be undertaken outside the breeding season (July to February, inclusive). Outside the breeding season, there are no restrictions on the distance personnel, vehicles o...	If a nest is discovered during the planning or implementation of a burn: (1) if practical, minimise disturbance to the nest site by moving vehicles (including helicopters), equipment and personnel as ...
Dasyurus maculatus subsp. maculatus	There is little evidence to indicate that any form of prescribed burning will have a deleterious impact on this species. Disturbance of a known maternal den may warrant case-by-case management.	Where a known maternal den (as identified on the Natural Values Atlas or indicated by another source) is within a prescribed burn unit, seek advice from DPIPWE or relevant specialist (inform DPIPWE of...	If a suspected den site is detected during planning of prescribed burns, notify DPIPWE to seek case-by-case management recommendations. If a suspected den site is detected during implementation of pre...
Haliaeetus leucogaster	Impact on breeding behaviour during breeding season and potentila loss of nest sites.	Wherever practical, burning should be undertaken outside the breeding season (July to February, inclusive). Outside the breeding season, there are no restrictions on the distance personnel, vehicles o...	If a nest is discovered during the planning or implementation of a burn: (1) if practical, minimise disturbance to the nest site by moving vehicles (including helicopters), equipment and personnel as ...
Lathamus discolor	The impact of prescribed burning on both foraging and nesting habitat is difficult to ascertain with certainty and depends on frequency, intensity, timing and other disturbance factors.	A strategic approach to the management of known nesting sites (and supporting habitat) is recommended. TFS should seek advice from DPIPWE on an annual basis regatrding that seasons breeding areas (gen...	Potential foraging habitat: No special management recommended. Potential nesting habitat but without any identified nest sites: No special management recommended.
Litoria raniformis	This is essentially a wetland species (although can disperse across large distances). Fire unlikely to be a significant threat.	Wetland vegetation and a fringe of 30 m around wetlands should be managed as non-target areas, unless less than 50% of the fringing vegetation will be burnt in any one burn event.	No special management recommended.
Perameles gunnii	There is little evidence to indicate that any form of prescribed burning will have a delterious imapct on this species. Disturbance of a known maternal den may warrant case-by-case management.	No special management required.	No special management required.
Sarcophilus harrisii	There is little evidence to indicate that any form of prescribed burning will have a deleterious impact on this species. Disturbance of a known maternal den may warrant case-by-case management.	Where a known maternal den (as identified on the Natural Values Atlas or indicated by another source) is within a prescribed burn unit, seek advice from DPIPWE or relevant specialist (inform DPIPWE of...	If a suspected den site is detected during planning of prescribed burns, notify DPIPWE to seek case-by-case management recommendations. If a suspected den site is detected during implementation of pre...

Unverified Records

Species	Fuel reduction potential impact	Fuel reduction management recommendation (known site)	Fuel reduction management recommendation (potential habitat)
Sarcophilus harrisii	There is little evidence to indicate that any form of prescribed burning will have a deleterious impact on this species. Disturbance of a known maternal den may warrant case-by-case management.	Where a known maternal den (as identified on the Natural Values Atlas or indicated by another source) is within a prescribed burn unit, seek advice from DPIPWE or relevant specialist (inform DPIPWE of...	If a suspected den site is detected during planning of prescribed burns, notify DPIPWE to seek case-by-case management recommendations. If a suspected den site is detected during implementation of pre...

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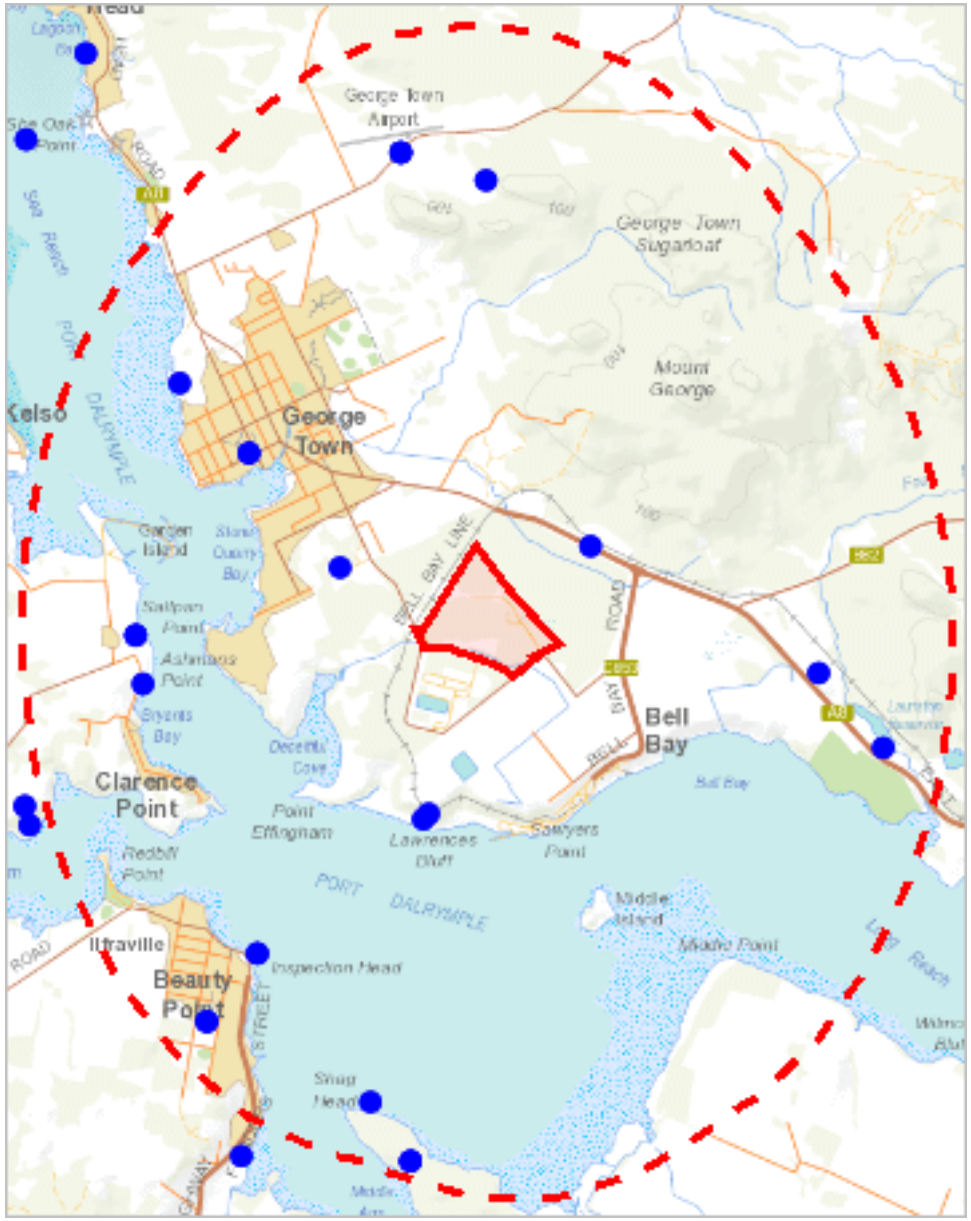
*** No Raptor nests or sightings found within 500 metres. ***

Raptor nests and sightings within 5000 metres

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Raptor nests and sightings within 5000 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Raptor nests and sightings within 5000 metres

Verified Records

Nest Id/Location Foreign Id	Species	Common Name	Obs Type	Observation Count	Last Recorded
1779	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	2	15-Nov-2012
2127	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	17-Feb-2014
2567	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-2017
2840	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-2021
781	Aquila audax	wedge-tailed eagle	Nest	1	30-Sep-2010
781	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	7	11-Sep-2007
97	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
	Accipiter novaehollandiae	grey goshawk	Not Recorded	3	03-Jan-2016
	Aquila audax	wedge-tailed eagle	Not Recorded	4	20-Mar-2018
	Falco peregrinus	peregrine falcon	Not Recorded	2	27-Jan-2014
	Haliaeetus leucogaster	white-bellied sea-eagle	Not Recorded	4	12-Jun-2016
	Haliaeetus leucogaster	white-bellied sea-eagle	Sighting	4	13-Jul-2020
	Tyto novaehollandiae	masked owl	Sighting	1	01-Jan-1950

Unverified Records

No unverified records were found!

Raptor nests and sightings within 5000 metres

(based on Range Boundaries)

Species	Common Name	SS	NS	Potential	Known	Core
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	0	0
Accipiter novaehollandiae	grey goshawk	e		1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		3	0	0

For more information about raptor nests, please contact Threatened Species Enquiries.
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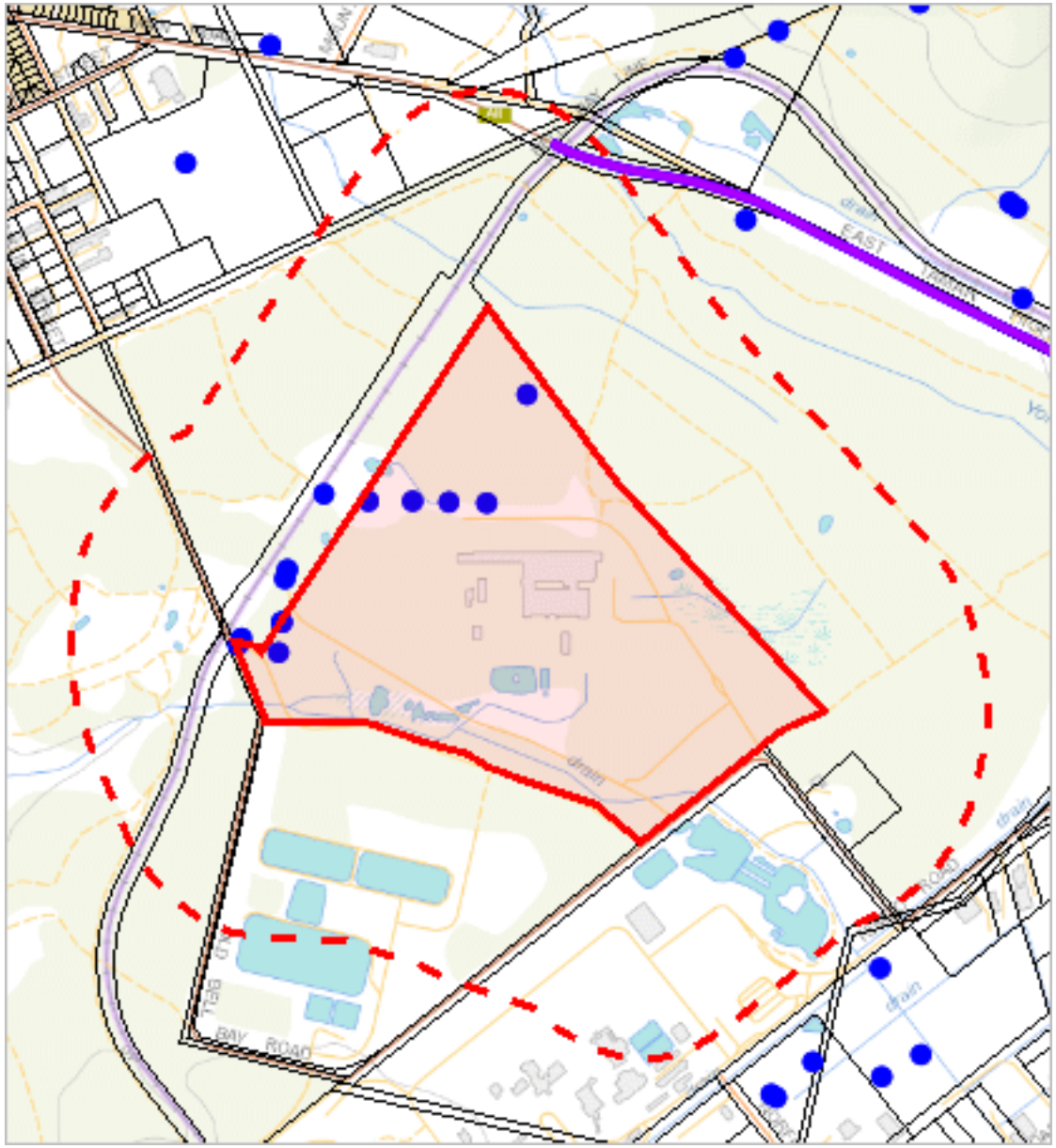
Non-threatened flora of conservation significance within 500 metres

488623, 5449184



486198, 5446551

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Non-threatened flora of conservation significance within 500 metres

Legend: Verified and Unverified observations

Point Verified | Point Unverified | Line Verified | Line Unverified

Polygon Verified | Polygon Unverified

Legend: Cadastral Parcels

Non-threatened flora of conservation significance within 500 metres

Verified Records

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Chrysanthemoides monilifera subsp. monilifera	boneseed				wma	i						2	27-Nov-2012
Cirsium arvense var. arvense	creeping thistle				wma	i						5	27-Nov-2012
Erica lusitanica	spanish heath				wma	i						2	27-Nov-2012
Melaleuca squarrosa	scented paperbark					n	3a					1	23-Nov-1842
Rubus fruticosus	blackberry				wma	i						2	27-Nov-2012
Ulex europaeus	gorse				wma	i						4	27-Nov-2012

Unverified Records

No unverified records were found!

For more information about flora and fauna species, please contact Natural Values Conservation Enquiries.

Telephone: (03) 6165 4319

Fax: (03) 6233 3477

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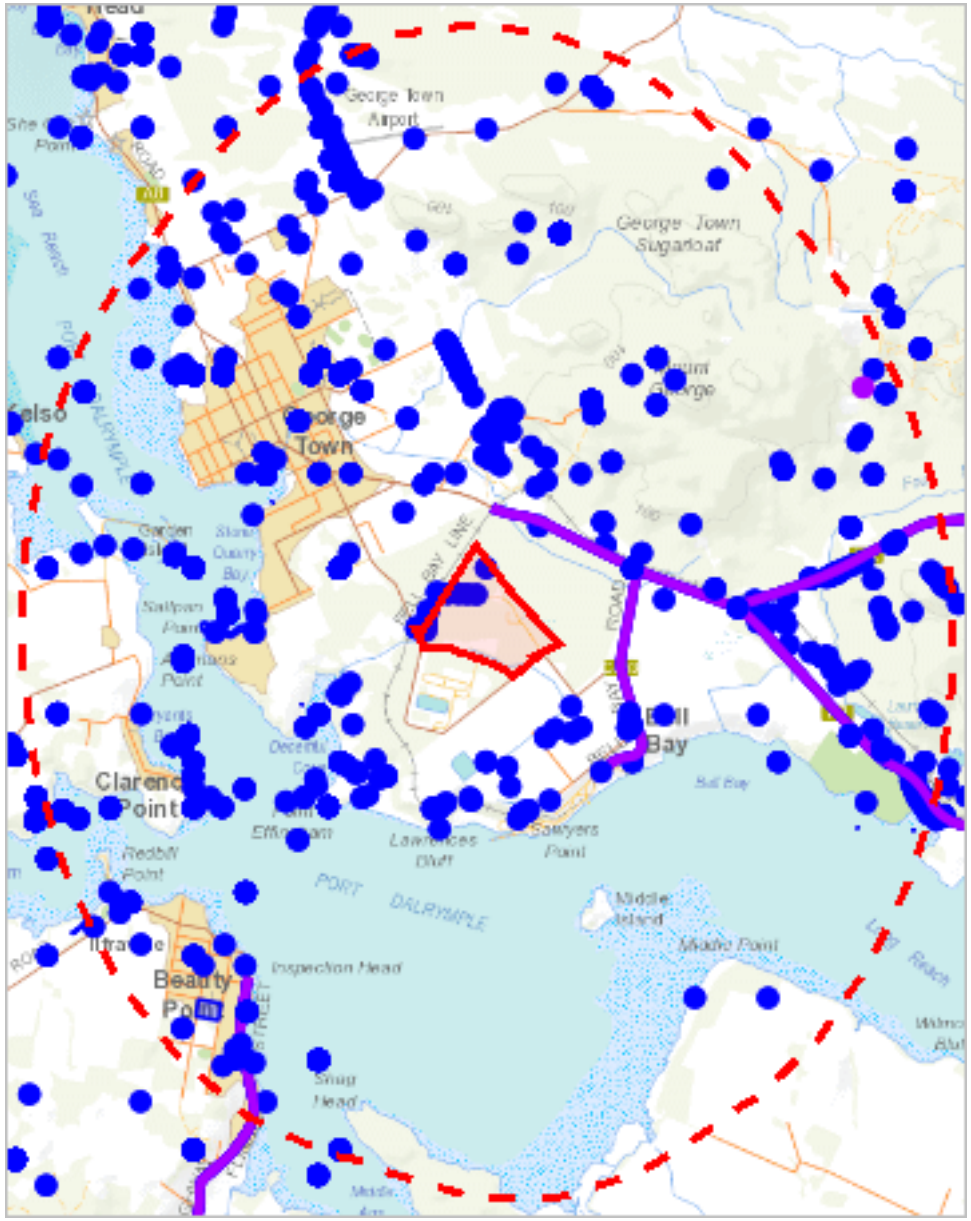
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Non-threatened flora of conservation significance within 5000 metres

492017, 5453686



482792, 5442069

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Non-threatened flora of conservation significance within 5000 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Non-threatened flora of conservation significance within 5000 metres

Verified Records

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Acacia dealbata subsp. dealbata	silver wattle					n	2				y	4	23-Nov-2012
Acacia leprosa var. graveolens	varnish wattle					n	3a					1	18-Jan-2004
Acacia mearnsii	black wattle					n	3a				y	12	08-Aug-2002
Acacia melanoxylon	blackwood					n	2				y	18	21-May-2014
Acacia mucronata subsp. mucronata	erect caterpillar wattle					e	H					1	01-Nov-1932
Acacia myrtifolia	redstem wattle					n	3a					2	03-Dec-1995
Acacia stricta	hop wattle					n	3a					10	19-Sep-2007
Acacia suaveolens	sweet wattle					n	3a					5	08-Aug-2002
Acacia verticillata	prickly moses					n	2				y	11	08-Aug-2002
Acacia verticillata subsp. ovoidea	prostrate prickly moses					n	H				y	8	18-Sep-1976
Acacia verticillata subsp. verticillata	prickly moses					n	H				y	2	01-Jan-1900
Acianthus sp.	mayfly orchid					n					y	1	01-Jan-1990
Acrotriche serrulata	ants delight					n	2				y	11	18-Jan-2004
Agrostis aemula	blown grass					n	3a					1	29-Nov-1970
Aira elegantissima	delicate hairgrass					i	3a					1	29-Nov-1970
Allittia cardiocarpa	swamp daisy					n	3a					1	22-Nov-1842
Allocasuarina littoralis	black sheoak					n	2				y	20	18-Jan-2004
Allocasuarina monilifera	necklace sheoak					e	2				y	9	18-Sep-1967
Allocasuarina verticillata	drooping sheoak					n	3a					6	08-Aug-2002
Angianthus preissianus	salt cupflower			dnct		n	3a					10	15-Dec-1902
Aphanes australiana	australian piert			dd		n	3b-6-7-12					1	18-Sep-2007
Apium insulare	island sea-celery			uc		n	2				y	2	27-Jan-1843
Apium prostratum subsp. prostratum var. filiforme	slender sea-celery					n	3a				y	1	27-Jan-1843
Apium prostratum subsp. prostratum var. prostratum	creeping sea-celery					n	3a				y	7	05-Feb-1983
Apodasmia brownii	coarse twinerush					n	3a					2	01-Jan-1900
Argentipallium dealbatum	white everlasting					n	3a					5	03-Dec-1995
Arthropodium milleflorum	pale vanilla-lily					n	2				y	2	03-Dec-1995
Asperula pusilla	alpine woodruff					n	3b					1	03-Dec-1841
Asplenium decurrens	shore spleenwort					n	3a					1	01-Jan-1900
Atriplex billardierei	glistening saltbush					t	2				y	2	01-Jan-1900
Austrostipa pubinodis	tall speargrass					n	3a					3	03-Dec-1995
Austrostipa stipoides	coast speargrass					n	3a					4	11-Oct-1993
Banksia marginata	silver banksia					n	2	y			y	19	21-May-2014
Baumea acuta	pale twigsedge					n	3a					2	01-Jan-1900
Baumea juncea	bare twigsedge					n	3a					7	29-Apr-2012
Baumea rubiginosa	soft twigsedge			uc		n	3a					1	01-Jan-1900
Bedfordia linearis subsp. linearis	slender blanketleaf					e	H					1	01-Jan-1804
Bedfordia salicina	tasmanian blanketleaf					e	3a					5	03-Dec-1995
Beyeria viscosa	pinkwood					n	2				y	7	08-Aug-2002
Billardiera heterophylla	bluebell creeper				pw	i						1	01-Dec-2004
Billardiera longiflora	purple appleberry					e	2				y	1	01-Jan-1990
Billardiera mutabilis	green appleberry					n	3a				y	10	03-Dec-1995
Boronia nana var. hyssopifolia	simple-leaf dwarf boronia			dd		n	3a					1	19-Nov-1970
Brachyloma ciliatum	fringed heath					n	2				y	1	01-Dec-1841
Brachyscome aculeata	hill daisy					n	3a					1	01-Jan-1900
Brachyscome decipiens	field daisy					n	3a					1	17-Oct-1959
Bulbine glauca	bluish bulbine-lily					n	3a				y	1	03-Dec-1995
Burchardia umbellata	milkmaids					n	3a				y	6	08-Aug-2002
Bursaria spinosa subsp. spinosa	prickly box					n	2				y	17	08-Aug-2002
Caesia parviflora	pale grass-lily					n	ltl				y	1	01-Jan-1990
Caesia parviflora var. minor	small grasslily			nt		n	3a-8				y	3	01-Nov-1850
Caesia parviflora var. parviflora	pale grasslily			uc		n	3a				y	2	01-Dec-1955
Caladenia angustata	narrowleaf finger-orchid			uc		e	3a				y	1	01-Oct-1921
Caladenia atrata	dark finger-orchid			uc		e	3a				y	1	01-Jan-1933
Caladenia carnea	pink fingers					n	2				y	4	17-Nov-1992

Non-threatened flora of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Caladenia dilatata	greencomb spider-orchid					n	3a				y	2	01-Nov-1969
Caladenia echidnachila	fawn spider-orchid					e	3a				y	1	01-Jan-1842
Caladenia fuscata	dusky fingers			dnct		n	2				y	1	22-Oct-1942
Caladenia gracilis	musky finger-orchid					n	3a				y	2	31-Oct-1949
Caladenia latifolia	pink fairies					n	2				y	3	01-Jan-1900
Caladenia sp.						n					y	1	01-Jan-1990
Caleana major	flying duck-orchid					n	3a				y	1	01-Nov-1926
Callithamnion violaceum	algae					tb						5	01-Jan-1900
Calochilus platychilus	purple beard-orchid					n	2				y	1	01-Nov-1953
Calochlaena dubia	rainbow fern					n	3a	y			y	5	19-Sep-2007
Carduus pycnocephalus	slender thistle				wma	i						4	11-Nov-2013
Carex cataractae	lax yellowfruit sedge			nt		e	3a					1	01-Jan-1802
Carex inversa	knob sedge					n	3a					1	08-Aug-2002
Carex pumila	strand sedge					n	3a					2	01-Jan-1900
Cassytha glabella	slender dodderlaurel					n	3a				y	3	18-Jan-2004
Cassytha glabella f. dispar	slender dodderlaurel			dd		n						2	23-Oct-1844
Cassytha melantha	large dodderlaurel					n	2				y	11	08-Aug-2002
Cassytha pubescens	downy dodderlaurel					n	2				y	3	22-Nov-1980
Cenchrus clandestinus	kikuyu grass				pw	i						1	12-Jan-2005
Centipeda elatinoides	spreading sneezeweed					n	3a				y	4	30-Jan-2008
Centrolepis aristata	pointed bristlewort					n	3a					4	01-Jan-1995
Centrolepis fascicularis	tufted bristlewort					n	3a					3	25-Jan-1844
Centrolepis strigosa subsp. strigosa	hairy bristlewort					n	3a					8	08-Aug-2002
Chamaescilla corymbosa var. corymbosa	blue stars					n	3a				y	2	08-Aug-2002
Cheilanthes austrotenuifolia	green rockfern					n	3a					2	01-Jan-1995
Cheilanthes sieberi subsp. sieberi	narrow rockfern			uc		n	3a					1	03-Dec-1995
Chiloglottis cornuta	green bird-orchid					n	3a				y	1	17-Nov-1992
Chrysanthemoides monilifera subsp. monilifera	boneseed				wma	i						22	13-Jul-2020
Chrysocephalum semipapposum	clustered everlasting					n	3a					1	01-Jan-1804
Chrysocephalum semipapposum subsp. semipapposum	clustered everlasting			dd		n						1	15-Feb-1948
Cirsium arvense var. arvense	creeping thistle				wma	i						5	27-Nov-2012
Cladophora rhizoclonioidea	algae			nt		n						3	01-Apr-1932
Clematis microphylla	small-leaf clematis					n	2				y	8	11-Oct-1993
Colobanthus apetalus var. apetalus	coast cupflower					n	3a-8					2	01-Jan-1900
Comesperma calymega	bluespike milkwort					n	3a					4	01-Jan-1900
Comesperma ericinum	heath milkwort			uc		n	3a					2	01-Jan-1900
Convolvulus angustissimus subsp. angustissimus	blushing bindweed					n	3a				y	4	01-Jan-1990
Coprosma quadrifida	native currant					n	2				y	7	19-Sep-2007
Correa lawrenceana var. ferruginea	rusty mountain correa					e						1	01-Jan-1804
Correa lawrenceana var. lawrenceana	mountain correa					e	3a					1	01-Jan-1804
Correa reflexa var. nummulariifolia	roundleaf correa			uc		e	H					1	01-Mar-1977
Cortaderia selloana	silver pampasgrass				wma	i						1	28-May-2008
Cortaderia sp.	pampas grass				wma	i						42	31-May-2018
Corunastylis despectans	sharp midge-orchid					n	3a					2	01-Jan-1861
Corybas aconitiflorus	spurred helmet-orchid					n	3a				y	1	13-Jun-2003
Corybas diemenicus	stately helmet-orchid					n	3a				y	2	13-Jun-2003
Corybas incurvus	slaty helmet-orchid					n					y	3	05-Aug-1961
Crassula helmsii	swamp stonecrop					n	3a					1	01-Nov-1850
Cryptostylis subulata	large tongue-orchid					n	3a				y	5	18-Dec-1986
Cyathea australis subsp. australis	rough treefern					n	3a	y			y	1	01-Jan-1940
Cymbonotus preissianus	southern bears-ears					n	3a					2	11-Oct-1993

Non-threatened flora of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Cytisus scoparius	english broom				wma	i						2	18-Sep-2007
Daviesia latifolia	hop bitterpea					n	3a					1	06-Jan-1804
Daviesia sejugata	leafy spiky bitterpea					n	3a					1	01-Jan-1900
Dianella revoluta	spreading or black-anther flax-lily					n	2				y	6	03-Dec-1995
Dianella tasmanica	forest flaxlily					n	2				y	4	03-Dec-1995
Dichelachne crinita	longhair plumegrass					n	3a					4	25-Dec-1970
Dichelachne micrantha	shorthair plumegrass					n	3a					1	25-Dec-1970
Dicksonia antarctica	soft treefern					n	2	y			y	1	14-Oct-1988
Diplarrena moraea	white flag-iris					n	2				y	6	08-Aug-2002
Dipodium roseum	rosy hyacinth-orchid					n	2				y	3	15-Jan-1844
Distichlis distichophylla	australian saltgrass					n	3a					5	11-Oct-1993
Diuris orientis	eastern wallflower orchid					n	2				y	20	11-Oct-1994
Diuris sulphurea	tiger orchid					n	3a				y	2	01-Jan-1861
Dodonaea filiformis	fineleaf hopbush					e	3a	y				1	10-Jan-1804
Drosera binata	forked sundew					n	3a					2	01-Jan-1924
Drosera hookeri	grassland sundew			dd		n	na					3	18-Sep-2007
Echium plantagineum	patersons curse				wma	i						3	06-Feb-2011
Erica lusitanica	spanish heath				wma	i						71	13-Jul-2020
Eryngium vesiculosum	prickfoot					n	3a					3	02-Feb-2008
Eucalyptus amygdalina	black peppermint					e	2					30	18-Jan-2004
Eurychorda complanata	flat cordrush					n	3a					8	18-Jan-2004
Euryomyrtus parviflora	creeping heathmyrtle					n	3a					2	01-Jan-1948
Fallopia japonica	japanese knotweed				wma	i						21	10-Feb-2016
Foeniculum vulgare	fennel				wma	i						2	08-Jan-1995
Gahnia filum	chaffy sawsedge					n	3a					8	18-Sep-2007
Gahnia trifida	coast sawsedge					n	3a					1	01-Jan-1900
Galium binifolium subsp. conforme	lesser uneven bedstraw			dd		n						1	03-Dec-1841
Genista monspessulana	montpellier broom				wma	i						2	21-Sep-2007
Gentianella gunniana	gunns forestgentian			uc		n	3a					1	01-Jan-1900
Geranium retrorsum	grassland cranesbill			dd		n	3a-8-12					1	01-Dec-1955
Geum urbanum var. strictum	wood avens					?iHx	5					1	10-Jan-1804
Gigartina muelleriana	algae					tb						2	27-Jan-1949
Gleichenia dicarpa	pouched coralfern					n	2	y				3	01-Jan-1900
Glycine clandestina	twining glycine					n	3a					12	11-Oct-1993
Gnaphalium indutum subsp. indutum	tiny cottonleaf					n	3a					2	23-Oct-1844
Gonocarpus humilis	shade raspwort	ouv				n	3a					2	14-Oct-1988
Goodenia humilis	swamp native-primrose					n	3a					12	15-Nov-2006
Goodenia ovata	hop native-primrose					n	3a					7	19-Sep-2007
Goodia lotifolia (broad sense)						n	3a					4	11-Oct-1993
Gratiola peruviana	southern brooklime					n	3a					1	01-Dec-1928
Hackelia suaveolens	sweet houndstongue					n	3a					2	01-Jan-1990
Hakea teretifolia subsp. hirsuta	dagger needlebush					n	3a					1	18-Jul-1842
Halophila australis	sea wrack			nt		n	2					3	01-Jan-2001
Helichrysum leucopsideum	satin everlasting			uc		n	3a					4	01-Jan-1843
Hemichroa pentandra	trailing saltstar					n	3a					7	11-Oct-1993
Heterozostera nigricaulis	blackstem grasswrack			dd		n	na					2	01-Mar-1933
Heterozostera tasmanica	tasman grasswrack					n	3a					1	13-May-2010
Hibbertia sericea var. sericea	silky guineaflower					n	3a					2	24-Oct-1959
Hydrocotyle callicarpa	tiny pennywort			dnct		n	3a					1	18-Sep-2007
Hydrocotyle capillaris	thread pennywort			uc		n	3a					1	01-Jan-1995
Hydrocotyle muscosa	mossy pennywort					n	3a					1	13-May-1983
Hydrocotyle pterocarpa	winged pennywort					n	3a					1	01-Jan-1900
Hymenophyllum cupressiforme	common filmyfern					n	2	y				1	19-Sep-2007
Hypolaena fastigiata	tassel roperush					n	3a					5	01-Jan-1900

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Indigofera australis subsp. australis	native indigo					n	3a					8	19-Sep-2007
Isolepis hookeriana	grassy clubsedge			nt		n	2					2	25-Dec-1965
Isolepis marginata	little clubsedge					n	3a					2	25-Dec-1965
Isolepis producta	nutty clubsedge					n	3a					1	01-Jan-1900
Juncus amabilis	gentle rush		y	dnct		n	3a					2	25-Feb-2008
Juncus astreptus	rigid rush					e	3a					2	23-Oct-2003
Juncus caespiticius	grassy rush					n	3a					1	01-Jan-1911
Juncus holoschoenus	jointleaf rush					n	3a					1	19-Dec-1955
Juncus kraussii subsp. australiensis	sea rush					n	3a					6	11-Oct-1993
Juncus revolutus	creeping rush			nt		n	3a					3	19-Feb-1986
Kennedia prostrata	running postman					n	3a					4	11-Oct-1993
Kunzea ambigua	white kunzea					n	3a					2	08-Aug-2002
Lachnagrostis aemula	tumbling blowngrass			dnct		n	3a					1	29-Nov-1970
Lachnagrostis rudis subsp. rudis	rough blowngrass			uc		n						1	12-Dec-2000
Laxmannia orientalis	dwarf wirelily					n	3a					5	18-Sep-1976
Lemna disperma	common duckweed					n	3a					1	20-Jan-1843
Lepidosperma curtisiae	little swordsedge					n	3a					1	03-Dec-1995
Lepidosperma gladiatum	coast swordsedge					n	3a					3	01-Nov-1850
Lepidosperma inops	fan sedge					e	2					5	03-Dec-1995
Leptecophylla juniperina	pinkberry					n	2				y	4	01-Jan-1990
Leptecophylla oxycedrus	coast pinkberry			uc		n					y	2	09-Sep-2016
Leptinella longipes	coast buttons					n	3a					2	01-Jan-1869
Leptocarpus tenax	slender twinerush					n	3a					6	21-May-2014
Leptoceras menziesii	hares ears			dd		n	3a					7	01-Nov-1968
Leucophyta brownii	cushionbush					n	3a					6	01-Jan-1900
Lobelia anceps	angled lobelia					n	3a-6-7-8-12					5	27-Dec-1970
Lomatia tinctoria	guitarplant					e	2	y				6	08-Aug-2002
Lycium ferocissimum	african boxthorn				wma	i						1	12-Jan-2005
Lycopodium deuterodensum	conifer clubmoss					n	2	y				1	19-Feb-1842
Lythrum hyssopifolia	small loosestrife					n	3a					1	12-Jan-2005
Macrothamnion acanthophorum	algae					tb						2	02-Dec-1999
Melaleuca gibbosa	slender honeymyrtle					n	3a					1	01-Dec-1864
Melaleuca squamea	swamp honeymyrtle					n	3a					1	01-Jan-1804
Melaleuca squarrosa	scented paperbark					n	3a					14	21-May-2014
Microsorum pustulatum subsp. pustulatum	kangaroo fern					n	2	y				1	01-Jan-1900
Microtis oblonga	sweet onion-orchid					n	3a					3	18-Dec-1986
Microtis parviflora	slender onion-orchid					n	3a					8	18-Dec-1992
Millotia tenuifolia var. tenuifolia	soft bowflower			dnct		n	3a					2	19-Oct-2007
Mitrasacme pilosa	hairy mitrewort					n	3a					1	01-Jan-1990
Monotoca elliptica	tree broomheath					n	3a					2	11-Oct-1993
Montia fontana subsp. chondrosperma	waterblinks			nt		n						1	23-Oct-2003
Muehlenbeckia adpressa	climbing lignum					n	3a					3	01-Nov-1849
Muehlenbeckia gunnii	forest lignum					n	3a					1	01-Jan-1912
Myriodesma integrifolium	algae					ae						9	19-Jan-2010
Nitospinosa tasmanica						ae						5	01-Dec-1999
Oenanthe pimpinelloides	dropwort				wma	i						1	10-Feb-2016
Olearia glandulosa	swamp daisybush					n	3a					1	01-Jan-1900
Olearia phlogopappa subsp. gunniana	forest dusty daisybush					e						3	01-Jan-1900
Olearia phlogopappa subsp. salicina	willowleaf dusty daisybush			nt		n						1	01-Jan-1900
Opercularia ovata	broadleaf stinkweed					n	3a					3	01-Jan-1990
Opercularia varia	variable stinkweed					n	3a					5	15-Dec-1955
Ornduffia reniformis	running marshflower					n	3a					1	22-Oct-1842
Oxylobium arborescens	tall shaggypea					n	3a					3	20-Nov-1850
Ozothamnus gunnii	woolly everlastingbush			nt		e	2					3	27-Jan-1843

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Ozothamnus rosmarinifolius	swamp everlastingbush					n	3a					1	01-Jan-1804
Ozothamnus turbinatus	coast everlastingbush					n	3a					1	27-Jan-1843
Paracaleana minor	small duck-orchid			dnct		n	3a					1	01-Dec-1928
Patersonia fragilis	short purpleflag					n	3a					4	01-Jan-1990
Pauridia vaginata	sheathing yellowstar		y	uc		n	3a					15	20-Sep-2007
Pauridia vaginata var. brevistigmata	shortstyle sheathing yellowstar		yy	uc		n	H					15	21-Oct-2009
Pauridia vaginata var. vaginata	sheathing yellowstar		yy	uc		n	H					14	03-Nov-2010
Pelargonium inodorum	annual storksbill					n	3a					1	01-Jan-1990
Pentapogon quadrifidus	five-awned speargrass					n	3a					1	03-Dec-1995
Perithalia caudata	algae					ae						2	01-Apr-1949
Pheladenia deformis	blue fairies					n	3a					1	01-Oct-1970
Phloiocaulon foecundum	algae					ae						1	01-Jan-1900
Phyllota diffusa	heath bushpea			uc		e	3a					1	06-Jan-1804
Pimelea ligustrina subsp. ligustrina	tall riceflower					n	3a					3	08-Aug-2002
Pimelea nivea	bushmans bootlace					e	2					6	19-Sep-2007
Pimelea pauciflora	poison riceflower			dnct		n	3a					1	01-Nov-1951
Pimelea serpyllifolia subsp. serpyllifolia	thyme riceflower					n	3a					1	22-Nov-1980
Pityophykos tasmanica						tb						4	01-Jan-1900
Platylobium obtusangulum	common flatpea					n	3a					2	23-Nov-1842
Poa gunnii	gunns snowgrass					e	2					1	19-Oct-2007
Poa sieberiana var. hirtella	hairy grey tussockgrass			dd		n						1	25-Dec-1965
Polycerea nigrescens	algae					ae						2	01-Jan-1900
Pomaderris apetala subsp. maritima	coast dogwood			uc		n	3a					3	18-Sep-2007
Pomaderris elliptica var. elliptica	yellow dogwood					n	3a					4	18-Sep-2007
Prasophyllum australe	austral leek-orchid					n	3a					6	18-Dec-1992
Prasophyllum concinnum	trim leek-orchid			dnct		e	2					1	01-Oct-1952
Prasophyllum elatum	tall leek-orchid					n	3a					5	03-Dec-1941
Prasophyllum lindleyanum	green leek-orchid			uc		n	3a					2	31-Oct-1949
Prasophyllum rostratum	slaty leek-orchid					e	3a					2	01-Nov-1927
Prasophyllum truncatum	truncate leek-orchid			dnct		e	3a					2	01-Jan-1933
Pterostylis aphylla	leafless greenhood					e	3a					1	01-Jan-1843
Pterostylis curta	blunt greenhood					n	3a					2	15-Oct-1893
Pterostylis scabrida	rough greenhood					e	3a					2	23-Oct-1844
Pterostylis straminea	large bearded greenhood					e	2					3	15-Nov-1971
Pterostylis tasmanica	small bearded greenhood					n	3a					1	01-Oct-1954
Ranunculus lappaceus	woodland buttercup	ouv				n	3a					3	08-Aug-2002
Ranunculus sessiliflorus var. sessiliflorus	rockplate buttercup	ouv	y	dnct		n	3a					2	28-May-2008
Reseda luteola	weld				pw	i						1	12-Jan-2005
Rhodymenia prolificans	algae					tb						1	01-Jan-1900
Rorippa gigantea	large bittercress					n	3a					1	13-Jan-1804
Rubus anglocandicans	blackberry				wma	i						4	13-Jul-2020
Rubus fruticosus	blackberry				wma	i						88	27-Nov-2012
Rumex brownii	slender dock					n	3a					2	01-Dec-1955
Rytidosperma caespitosum	common wallabygrass					n	3a					4	03-Dec-1995
Rytidosperma pilosum	velvet wallabygrass					n	3a					3	25-Dec-1965
Rytidosperma tenuius	purplish wallabygrass					n	3a					2	26-Nov-1970
Salix x fragilis nothovar. fragilis	crack willow				wma	i						1	01-Jan-1990
Samolus repens var. repens	creeping brookweed					n	3a					6	11-Oct-1993
Sarcocornia blackiana	thickhead glasswort			uc		n	3a					1	28-Aug-1979
Sarcocornia quinqueflora	beaded glasswort					n	3a					4	25-Sep-2000
Sargassum lacerifolium	algae					ae						1	01-Jan-1900
Scaevola hookeri	creeping fanflower					n	3a				y	1	10-Jan-1843
Schizaea bifida	forked combfern					n	3a	y				2	15-Oct-1893
Schizoseris perriniae	algae					tb						2	01-Jan-1928
Schoenus absconditus	hidden bogsedge					e	3b					1	01-Jan-1995
Schoenus nitens	shiny bogsedge					n	3a					3	29-Apr-2012
Sebaea albidiflora	white sebaea					n	3a					2	01-Jan-1900

Non-threatened flora of conservation significance within 5000 metres

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Seirococcus axillaris	algae					ae						6	27-Jan-1949
Selaginella uliginosa	swamp spikemoss					n	3a	y				6	01-Jan-1990
Selliera radicans	shiny swampmat					n	3a					1	01-Jan-1869
Senecio hispidissimus	coarse fireweed			nt		n	5					2	01-Jan-1900
Senecio jacobaea	ragwort				wma	i						1	17-Feb-1993
Senecio prenanthoides	common fireweed					n	3b					1	27-Nov-1966
Solanum laciniatum	kangaroo apple					n	3a				y	4	21-May-2014
Spartina anglica	common cordgrass				pw	i						9	28-May-2008
Sphacelaria biradiata	algae					ae						1	29-Jan-1949
Sphacelaria reinkei	algae					ae						1	01-Jan-1900
Sphaerolobium minus	eastern globepea					n	3a					2	01-Jan-1900
Spiranthes australis	lowland spiral-orchid					n	3a					1	01-Mar-1865
Sporochnus apodus	algae					ae						1	01-Jan-1855
Sprengelia incarnata	pink swampheath					n	3a					3	18-Jan-2004
Stellaria pungens	prickly starwort					n	3a					6	11-Oct-1993
Stylidium graminifolium	narrowleaf triggerplant					n	2				y	5	03-Dec-1995
Styphelia adscendens	golden heath					n	2				y	4	18-Jan-2004
Styphelia humifusa	native cranberry					n	2				y	7	08-Aug-2002
Suaeda australis	southern seablite					n	3a					4	01-Dec-1847
Tasmannia lanceolata	mountain pepper					n	2				y	1	01-Jan-1900
Tecticornia arbuscula	shrubby glasswort					n	3a					2	22-Sep-2016
Tetragonia implexicoma	bower spinach					n	2				y	3	01-Nov-1850
Tetragonia tetragonoides	new zealand spinach					n	3b				y	3	12-Jan-2005
Tetratheca pilosa subsp. latifolia	broadleaf hairy pinkbells			dd		n	H					6	01-Jan-1900
Thelionema caespitosum	tufted lily					n	3a					6	01-Dec-1976
Thelymitra aristata	great sun-orchid					n	2				y	4	26-Nov-1975
Thelymitra brevifolia	shortleaf sun-orchid			dd		n	1-2				y	1	31-Oct-1987
Thelymitra carnea	tiny sun-orchid			uc		n	3a				y	2	01-Nov-1971
Thelymitra erosa	striped sun-orchid					n	3a				y	2	08-Dec-1992
Thelymitra exigua	short sun-orchid			nt		n	2				y	1	12-Nov-1961
Thelymitra flexuosa	twisted sun-orchid					n	3a				y	12	29-Oct-1986
Thelymitra ixioides	spotted sun-orchid					n	3a				y	1	21-Nov-1842
Thelymitra nuda	plain sun-orchid					n	3a				y	4	12-Nov-1961
Thelymitra pauciflora	slender sun-orchid					n	2				y	3	08-Dec-1992
Thelymitra rubra	pink sun-orchid					n	2				y	3	01-Jan-1900
Themeda triandra	kangaroo grass					n	2				y	13	08-Aug-2002
Threlkeldia diffusa	coast bonefruit			uc		n	2					2	01-Dec-1891
Thysanotus patersonii	twining fringelily					n	3a				y	1	01-Jan-1995
Tinocladia australis	algae					ae						2	01-Jan-1871
Tradescantia fluminensis	wandering creeper				pw	i						1	23-Nov-1999
Triglochin nana	dwarf arrowgrass					n	3a					2	01-Nov-1850
Ulex europaeus	gorse				wma	i						95	07-Sep-2020
Utricularia dichotoma	fairies aprons					n	3a					1	01-Dec-1886
Veronica calycina	hairy speedwell					n	3a					4	01-Jan-1990
Veronica derwentiana subsp. derwentiana	derwent speedwell					n	3a	y				3	01-Dec-1894
Veronica formosa	common speedwell bush					e	3a					4	01-Jan-1900
Veronica gracilis	slender speedwell					n	3a					2	01-Aug-2008
Wahlenbergia multicaulis	bushy bluebell					n	3a					1	22-Nov-1842
Westringia brevifolia	shortleaf westringia					e	ltl					1	01-Jan-1900
Wurmbea uniflora	oneflower early nancy					n	2				y	1	20-Nov-1842
Xanthorrhoea australis	southern grasstree					n	3a				y	3	01-Jan-1990
Xanthosia ternifolia	shrubby crossherb					n	3a					4	17-Oct-1959
Xerochrysum bracteatum	golden paperdaisy					i	3a					1	03-Dec-1841
Xyris tasmanica	tasmanian yelloweye					e	3a					1	01-Jan-1948
Zieria arborescens subsp. arborescens	stinkwood					n	2				y	7	19-Sep-2007
Zonaria angustata	algae					ae						3	27-Jan-1949
Zostera muelleri subsp. muelleri	dwarf grasswrack			nt		n	2					1	01-Apr-1932

Non-threatened flora of conservation significance within 5000 metres

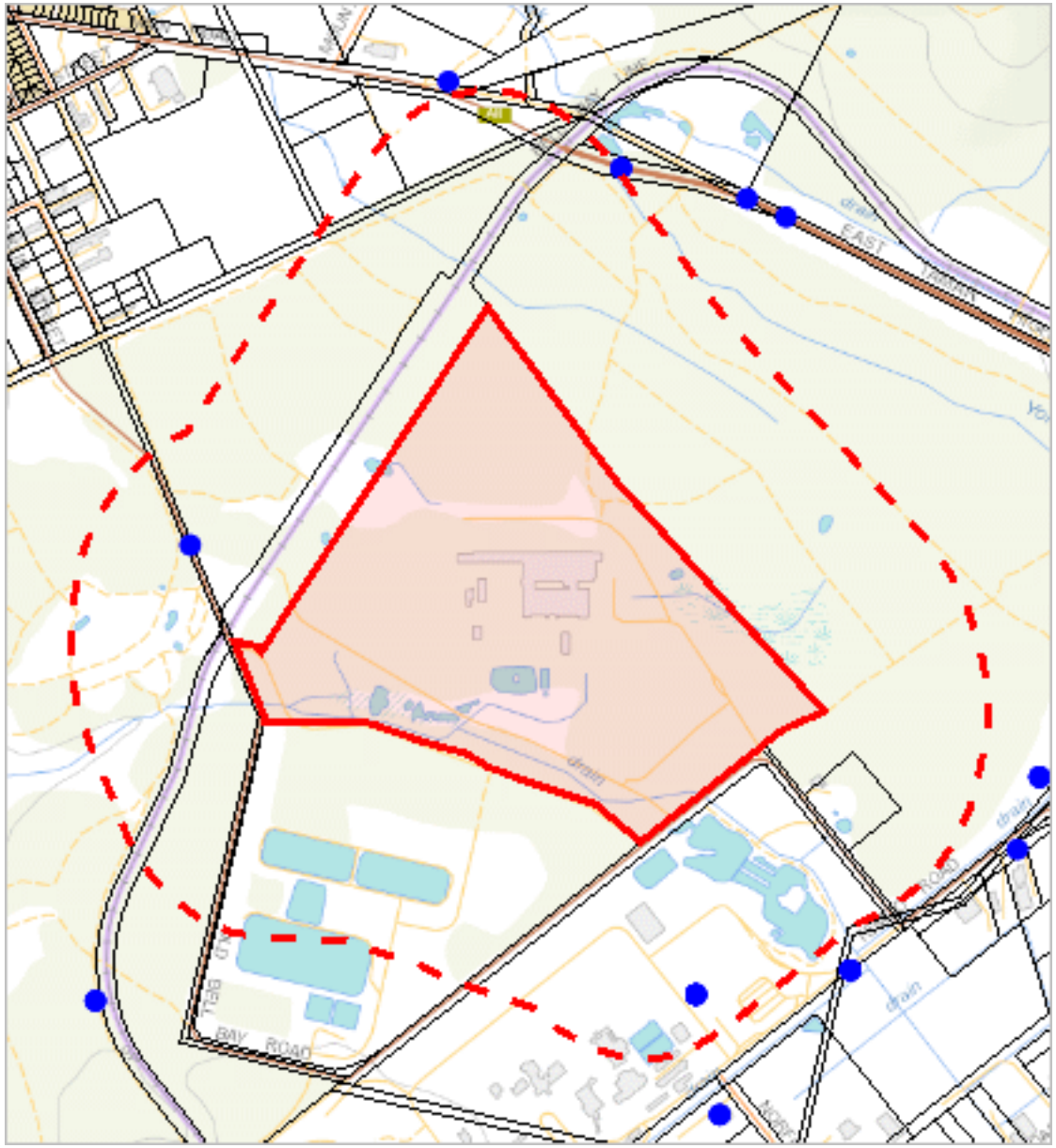
Unverified Records

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count
Asperula gunnii	mountain woodruff					n	3a					1

For more information about flora and fauna species, please contact Natural Values Conservation Enquiries.
Telephone: (03) 6165 4319
Fax: (03) 6233 3477
Email: NaturalValuesConservation.Enquiries@dpipwe.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Non-threatened fauna of conservation significance within 500 metres

488623, 5449184



486198, 5446551

Please note that some layers may not display at all requested map scales

Non-threatened fauna of conservation significance within 500 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Non-threatened fauna of conservation significance within 500 metres

Verified Records

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Anas castanea	chestnut teal			nca4		ae						1	05-Mar-1996
Anthus australis subsp. bistriatus	australian pipit	ouv				e						1	05-Mar-1996
Charadrius ruficapillus	red-capped plover			nca2		n						1	05-Mar-1996
Elseyornis melanops	black-fronted dotterel			nca2		n						1	05-Mar-1996
Hirundo neoxena	welcome swallow			nca2		n						1	05-Mar-1996
Poliocephalus poliocephalus	hoary-headed grebe			nca2		n						1	05-Mar-1996
Pseudocheirus peregrinus	common ringtail possum	ouv		nca2		n						1	06-Nov-2019
Thylogale billardierii	tasmanian pademelon	ouv		nca4		eax						1	11-Jan-1992
Trichosurus vulpecula subsp. fuliginosus	common brushtail possum	ouv		nca4		e						1	11-Jan-1992
Vanellus miles	masked lapwing			nca2		n						1	05-Mar-1996

Unverified Records

No unverified records were found!

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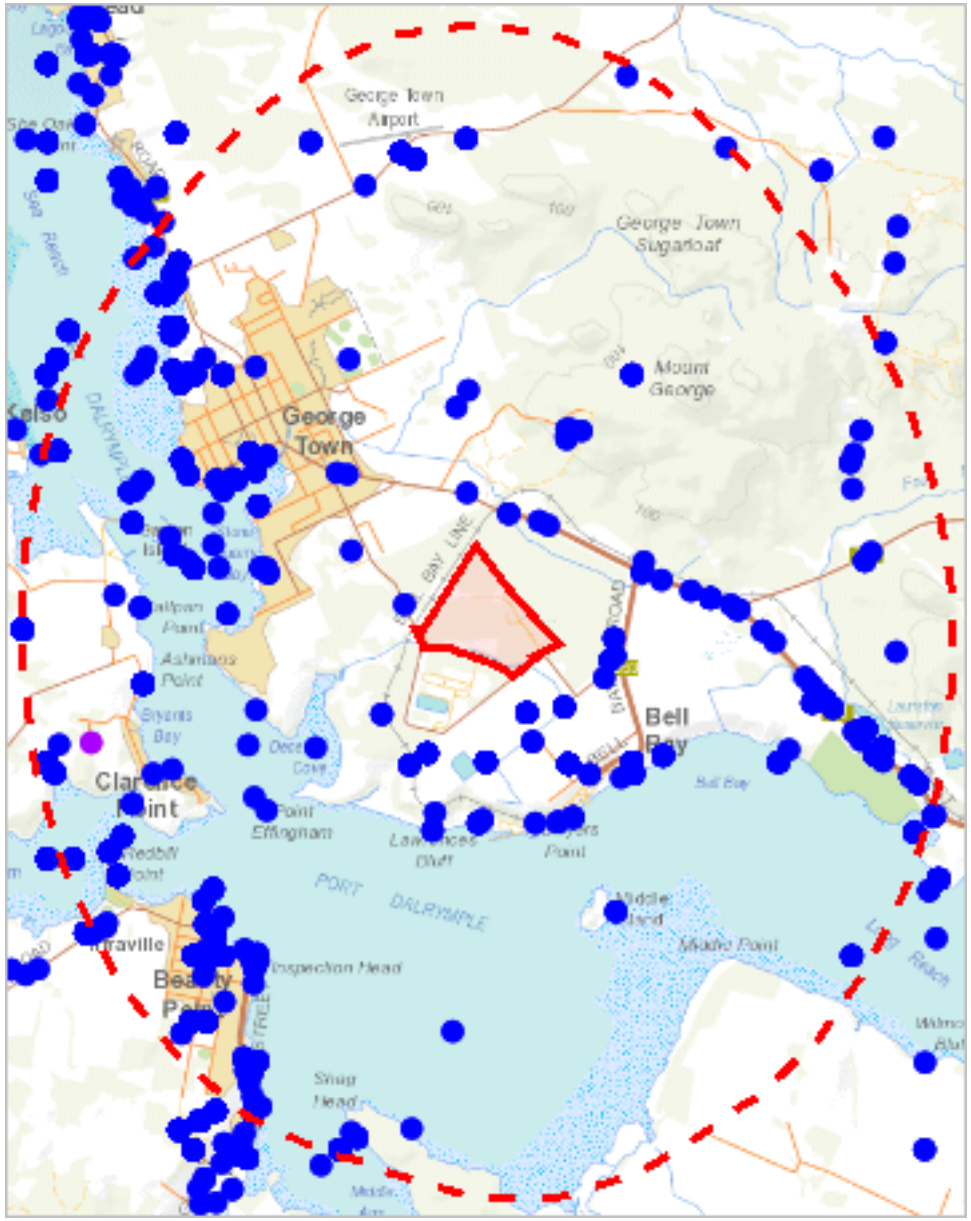
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Non-threatened fauna of conservation significance within 5000 metres

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Non-threatened fauna of conservation significance within 5000 metres

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Non-threatened fauna of conservation significance within 5000 metres

Verified Records

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Acanthiza chrysorrhoa	yellow-rumped thornbill	ouv		nca2		ae						24	02-Nov-2016
Acanthiza ewingii	tasmanian thornbill	ouv		nca2		e						5	08-Sep-1910
Acanthiza pusilla	brown thornbill	ouv		nca2		ae						65	17-Feb-2018
Acanthochitona granostriata	grainy-streaked chiton					ae						2	21-Nov-1992
Acanthochitona pilsbryi	Pilsbry's chiton					ae						1	25-Apr-2001
Acanthochitona sueurii	Lesueur's chiton					ae						2	24-Jul-1993
Acanthorhynchus tenuirostris	eastern spinebill			nca2		n						23	03-Jan-2016
Acar squamosa	scaly ark-shell					ae						1	25-Apr-2001
Accipiter cirrocephalus	collared sparrowhawk			nca2		n						4	20-Apr-1997
Accipiter fasciatus	brown goshawk			nca2		n						3	14-Dec-2007
Aclophoropsis festiva	festive sinistral-creeper					ae						1	01-Jan-1982
Adelium tenebroides						?e						7	21-Apr-2017
Aegotheles cristatus	australian owlet-nightjar	ouv		nca2		n						2	23-Nov-2017
Aetapcus maculatus	warty prowlfish					ae						3	24-Dec-1974
Agrypnus impressicollis						?e						41	13-Apr-2006
Alaba pulchra						ae						1	01-Jan-1917
Alabes dorsalis	common shore eel					ae						5	05-Feb-1967
Alvania fasciata	banded rice-shell					ae						1	20-May-1989
Alvania strangei	Strange's rice-shell					ae						1	01-Jan-1917
Amalda marginata	margined olive					ae						1	01-Jan-1950
Amblychilepas javanicensis	rayed keyhole-limpet					ae						1	01-Jan-1950
Ammotretis lituratus	Spotted Flounder					ae						1	04-Jan-1976
Amoria undulata	wavy volute					ae						1	01-Jan-1950
Anabathron lene	gentle false rice-shell					ae						1	01-May-1989
Anabathron luteofuscus	yellowish false rice-shell					ae						1	01-Jan-1900
Anachis atkinsoni	Atkinson's dove-shell					ae						1	25-Apr-2001
Anapella cycladea						ae						2	11-Feb-2008
Anas castanea	chestnut teal			nca4		ae						120	19-Mar-2018
Anonychomyrma biconvexa						ae						1	21-Dec-1990
Anthochaera chrysoptera	little wattlebird	ouv		nca2		n						95	18-Feb-2018
Anthochaera paradoxa	yellow wattlebird	ouv		nca2		e						66	09-Oct-2017
Anthus australis subsp. bistriatus	australian pipit	ouv				e						1	05-Mar-1996
Anyllis leiala						ae						10	03-Mar-2006
Aracana aurita	Shaw's Cowfish					ae						4	14-Jun-1968
Araneus acuminatus	Pointy Orbweaver					ae						1	06-Feb-1989
Archimicrodon brachycerus						ae						1	01-Mar-1915
Arctocephalus pusillus	australian fur seal			nca2		n						3	20-Mar-2017
Arctocephalus pusillus subsp. doriferus	australian fur seal			nca2		n						4	17-Aug-2000
Arenaria interpres	ruddy turnstone			nca2		n						71	27-Jan-2014
Arenigobius bifrenatus	bridled goby					ae						1	01-Jan-1947
Arripis georgianus	Australian herring					ae						1	03-Sep-1935
Artamus cyanopterus	dusky woodswallow			nca2		n						23	28-Dec-2017
Artoriopsis expolita						ae						1	01-Mar-1996
Astralium aureum	Golden Small Star					ae						2	24-Jul-1993
Atactodea erycinaea	eryx wedge-shell					ae						4	27-Jul-1993
Austrelaps superbus	lowland copperhead			nca2		n						3	28-Dec-2007
Austrocochlea brevis	short top-shell					te						2	27-Apr-2001
Austrocochlea constricta	Periwinke					ae						24	26-Jan-1995
Austrolittorina unifasciata	Banded Periwinkle					ae						9	04-Apr-2007
Austrominius covertus						ae						28	18-Apr-2001
Aythya australis	hardhead			nca2		n						5	12-Dec-2013
Bankivia fasciata	Silver Kelp or Banded Kelp					ae						1	01-May-1953
Barbatia pistachia	hairy ark-shell					ae						2	01-Jan-1970
Bedeva paivae	mussel drill					ae						4	24-Apr-2001
Bedeva vinosa	purple-mouthed rock-shell					ae						3	11-Feb-2008
Bellidilia laevis						ae						4	05-Feb-1994
Bellorchestia pravidactyla						ae						1	11-Mar-1997
Bembicium melanostomum	Common Conniwink					tb						27	26-Jan-1995
Benthoxystus petterdi	Petterd's trophon					ae						1	01-Jan-1900
Bettongia gaimardi	tasmanian bettong	ouv		nca2		eax						3	17-Apr-1992

Non-threatened fauna of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Biziura lobata	musk duck			nca2		ae						4	18-Oct-2007
Brachidontes rostratus	Beaked Mussel					ae						1	01-Dec-1978
Brachynectes fasciatus	Barred Threefin					ae						1	05-Feb-1967
Brookula angeli	Angel's false-top-shell					ae						1	01-Mar-1980
Cacomantis flabelliformis	fan-tailed cuckoo			nca2		n						26	06-Nov-2015
Cacozeliana granarium	grainy creeper					ae						1	01-Jan-1950
Cacozeliana icarus	icarus creeper					ae						1	01-Feb-1989
Cadmus australis						?e						1	07-Jan-2000
Caesioperca rasor	barber perch					ae						8	22-Feb-1981
Calamanthus fuliginosus	striated fieldwren	ouv		nca2		ae						2	03-Dec-1911
Calidris ruficollis	red-necked stint			nca2		n						86	08-Jun-2014
Callidircaea venusta						?e						1	03-Jan-2002
Calliostoma armillatum	Jewelled Top Shell					ae						1	01-Jan-1950
Callista diemenensis	Tasmanian callista					ae						1	19-Apr-2001
Callomelitta insularis						ae						1	04-Nov-1917
Calyptorhynchus funereus	yellow-tailed black cockatoo			nca2		n						40	06-Nov-2015
Calyptraea calyptraeformis	common shelf-limpet					ae						11	20-Apr-2001
Candalides acasta						ae						1	02-Dec-1902
Caryodes dufresnii	Banded Bush Snail	ouv				e						3	16-Dec-1982
Cellana tramoserica	Ariel Patellid Limpet or Common Limpet					ae						1	27-Jul-1993
Cephaloscyllium laticeps	draughtboard shark					ae						2	24-Sep-1961
Cercartetus lepidus	little pygmy-possum			nca2		n						1	04-Jun-1965
Cerdistus caliginosus						e						1	15-Nov-1914
Cerdistus luctificus						e						1	03-Feb-1988
Cerdistus margitis						ae						5	20-Nov-1914
Cetacea unidentified	unidentifed whale, dolphin or porpoise			nca2								1	28-Nov-1999
Chaetophyes admittens						ae						2	08-Nov-2001
Chaetophyes compacta						ae						5	16-Jan-2003
Chalcites lucidus	shining bronze-cuckoo			nca2		n						29	06-Nov-2015
Chamaesipho tasmanica						ae						1	26-Jul-1993
Chameloscyphon huonensis						e						1	17-Sep-2004
Charadrius bicinctus	double-banded plover			nca2		n						22	22-Mar-2015
Charadrius bicinctus bicinctus	double-banded plover			nca2		n						17	08-Jun-2014
Charadrius ruficapillus	red-capped plover			nca2		n						87	12-Jun-2016
Chelodina longicollis	long-necked tortoise				nca5	iaus						1	05-Mar-2008
Chlorodiloma adelaidae	Adelaide Periwinkle					ae						1	01-Jan-1970
Chthamalus antennatus						ae						3	11-Dec-1993
Circus approximans	swamp harrier			nca2		n						21	08-Jun-2014
Clanculus aloysii	Saint Aloysius' top-shell					ae						2	11-Feb-2008
Clanculus plebejus	Plebeian Clanculus					ae						2	18-Apr-2001
Cleobora mellyi	southern ladybird					ae						5	17-Jan-2003
Colluricincla harmonica	grey shrike-thrush			nca2		n						67	06-Jan-2018
Colluricincla harmonica subsp. harmonica	grey shrike-thrush	ouv				e						1	26-Sep-1995
Cominella eburnea	ivory whelk					ae						7	22-Apr-2001
Cominella lineolata	Lineated Buccinum Whelk					ae						8	26-Jan-1995
Conassiminea studderti	Studdert's assiminea					ae						1	01-Jan-1905
Condylocardia limaeformis	file-like condyl-clam					ae						1	01-May-1989
Conuber conicus	Conical Moon Snail					ae						1	01-Jan-1950
Conus anemone	anemone cone					ae						5	01-Apr-1952
Coracina novaehollandiae	black-faced cuckoo-shrike	ouv		nca2		n						37	18-Sep-2015
Cosmetalepas concatenatus	pitted keyhole-limpet					ae						2	25-Apr-2001
Coturnix ypsilophora	brown quail			nca4		ae						2	07-Dec-1911
Cracticus tibicen	australian magpie			nca2		n						12	06-Jan-2018
Cracticus torquatus	grey butcherbird			nca2		n						80	03-Jan-2016
Cracticus torquatus subsp. cinereus	grey butcherbird	ouv		nca2		e						4	07-May-2003
Crassitoniella erratica	erratic eaton-shell					ae						1	20-May-1989
Cratidentium tiberianum	tiberian kelp-shell					ae						1	01-Mar-1980
Creocele cardinalis	Broad Clingfish					ae						1	01-Jan-1934
Crinia signifera	Common Eastern Froglet or brown froglet			nca2		n		y				2	19-Aug-1993

Non-threatened fauna of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Crinia tasmaniensis	tasmanian froglet	ouv		nca2		e		y				2	01-Nov-1938
Cristiceps australis	Southern Crested Weedfish					ae						4	05-Feb-1967
Cryptassiminea buccinoides	whelk-like assiminea					ae						8	26-Jan-1995
Cygnus atratus	black swan			nca2		n						109	25-Apr-2018
Cymatiella verrucosa	Little Southern Triton					ae						1	01-Jan-1950
Delena spenceri						e						3	01-Mar-1998
Delphinidae unidentified	unidentified ocean dolphin			nca2								1	14-Jun-2003
Demetrida infuscata						?e						1	28-Nov-2000
Dentimitrella leucostoma	white-mouthed dove-shell					ae						1	01-Jan-1950
Dentiraja lemprieri	Thornback Skate					ae						9	29-Mar-1981
Diahogna martensii						ae						1	01-Aug-1996
Diala megapicalis	big-topped diala					ae						1	01-Jan-1905
Diloma concamerata	Speckled Or Wavy Periwinkle					ae						6	26-Jan-1995
Dimorphostylis cottoni						ae						1	18-Apr-2001
Eatoniella fulva	tawny eaton-shell					ae						1	21-May-1989
Eatoniella galbinia	yellowish eaton-shell					ae						1	01-Feb-1989
Eatoniella melanochroma	blackish eaton-shell					ae						1	01-Jan-1905
Ebalia intermedia						ae						1	27-Apr-2001
Egernia whitii	Whites skink			nca2		n						1	28-Dec-2007
Egolia variegata						e						1	28-Nov-2002
Egretta garzetta	little egret			nca2		n						9	19-Apr-2012
Egretta novaehollandiae	white-faced heron			nca2		n						126	25-Apr-2018
Electroma papilionacea	common butterfly-shell					ae						1	19-Apr-2001
Elseyornis melanops	black-fronted dotterel			nca2		n						2	05-Mar-1996
Emarginula candida	Notched False Limpet					ae						1	01-Jan-1950
Engaeus mairener						e						1	30-Oct-2007
Enischnelater specularis						e						4	28-Nov-2002
Epopella simplex						ae						1	25-Apr-2001
Ericusa papillosa	nippled volute					ae						1	01-Jan-1952
Eudyptula minor	little penguin			nca2		n						3	05-Jan-2019
Euprymna tasmanica	Southern Bobtail Squid					ae						1	25-Apr-2001
Exoneura turneri						e						1	04-Nov-1917
Felis catus	cat				pia	i						5	07-Dec-2019
Fulvia tenuicostata	Common Southern Cockle					ae						1	27-Apr-2001
Galathea australiensis						ae						1	20-Apr-2001
Galaxias truttaceus	trout galaxias					ae						2	01-Nov-1938
Gallinula mortierii	tasmanian native hen			nca2		e						2	02-May-2019
Gazameda tasmanica	Tasmanian screw-shell					ae						1	01-Jan-1950
Geitoneura klugii	Klug's xenica					ae						1	25-Jan-1909
Gibbomodiola albicostus	Narrow Horse Mussel					ae						1	25-Apr-2001
Girella zebra	Zebrafish					ae						1	08-Jan-1967
Gliciphila melanops	tawny-crowned honeyeater			nca2		n						2	13-Dec-1911
Granata imbricata	tiled top-shell					ae						1	01-Jan-1902
Gymnorhina tibicen subsp. hypoleuca	australian magpie or australian magpie (white-backed ssp.)			nca2								1	02-Jan-2016
Haematopus fuliginosus	sooty oystercatcher			nca2		n						7	27-Oct-2001
Haematopus longirostris	pied oystercatcher			nca2		n						160	25-Apr-2018
Haletta semifasciata	Blue Weed Whiting					ae						1	01-May-1972
Haliotis laevigata	Green-lip Abalone					ae						1	01-Jan-1900
Haliotis rubra	Black-lip Abalone					ae						1	01-Jan-1900
Hedleytriphora scitula	beautiful sinistral-creeper					ae						1	01-Jan-1982
Heloecius cordiformis	Semaphore Crab					ae						7	26-Jan-1995
Herpetopoma aspersus	speckled top-shell					ae						1	01-Jan-1950
Herpetopoma scabriuscula	rough top-shell					ae						1	01-Mar-1980
Hesperilla donnysa donnysa						ae						1	03-Feb-1988
Heteroclinus johnstoni	Johnston's Weedfish					ae						3	28-Oct-1978
Heteroclinus perspicillatus	Common Weedfish					ae						2	14-Feb-1962
Heteroscarus acroptilus	Rainbow Cale					ae						1	18-Dec-1967
Hiatella australis	Australian rock borer					ae						2	25-Apr-2001
Hirundo neoxena	welcome swallow			nca2		n						113	19-Mar-2018
Hydrococcus brazieri	Brazier's hydrococcus					ae						1	27-Apr-2001
Hydromys chrysogaster	water rat			nca2		n						4	05-Sep-2020
Hydroprogne caspia	caspian tern			nca2		n						20	03-Jan-2016

Non-threatened fauna of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Hydrurga leptonyx	leopard seal			nca1		n						4	21-Oct-1992
Ibacus peronii	Balmain Bug					ae						1	11-Jan-1967
Ibla quadrivalvis						ae						2	16-Feb-1994
Ischnochiton lineolatus	lined chiton					ae						2	05-Feb-1994
Ischnochiton variegatus	variegated chiton					ae						3	05-Feb-1994
Isoodon obesulus	southern brown bandicoot	ouv		nca2		n						3	07-Jan-2020
Isoodon obesulus subsp. affinis	southern brown bandicoot	ouv				e						4	24-Oct-1992
Jeanna robiginosa						e						1	12-Apr-1991
Katelysia peronii	Peron's venus					ae						11	05-Feb-1994
Katelysia rhytiphora	Ridged Venus					ae						7	26-Apr-2001
Kathetostoma laeve	Common Stargazer					ae						1	09-Jan-1966
Keratroides vulgaris						e						1	18-Nov-1991
Koloonella moniliformis	necklace murchisonellid					ae						2	20-May-1989
Larus dominicanus	kelp gull			nca2		n						1	08-Sep-2015
Larus novaehollandiae	silver gull			nca2		n						5	27-Oct-2001
Larus pacificus	pacific gull			nca2		n						76	25-Apr-2018
Lasaea australis	Australian Lasaea					ae						25	20-Apr-2001
Laternula creccina	elongated lantern-shell					ae						1	23-Oct-1993
Laternula tasmanica	Tasmanian lantern-shell					ae						4	26-Jan-1995
Leptatherina presbyteroides	tamar hardyhead					ae						2	28-Jan-1967
Leptochiton badius	dark brown chiton					ae						1	26-Apr-2001
Lerista bougainvillii	Bougainvilles skink			nca2		n						1	28-Dec-2007
Leuconopsis pellucidus	transparent air-breather					tb						1	20-May-1989
Lichenostomus flavicollis	yellow-throated honeyeater	ouv		nca2		e						5	07-May-2003
Limatula strangei	Strange's file-shell					ae						1	25-Apr-2001
Limnodynastes dumerilii	banjo frog			nca2		n						1	27-Jan-2018
Limnoperna inconstans						ae						17	21-May-1994
Limosa lapponica	bar-tailed godwit			nca2		n						68	17-Nov-2015
Lironoba australis	southern rice-shell					ae						1	01-Jan-1905
Lissocampus caudalis	Smooth Pipefish					ae						1	05-Feb-1967
Lissodesmus alisonae						e						1	02-Mar-1996
Litoria ewingii	brown tree frog			nca2		n		y				1	06-May-2003
Lodderena minima	Minute Liotia					ae						1	01-Apr-1989
Lunella undulatus	Common Warrener					ae						2	01-Jan-1950
Lycosa tasmanicola	a wolf spider					e						1	01-Jan-1997
Macomona deltoidalis	Deltoid Tellen					ae						7	24-Apr-2001
Macropus giganteus	forester kangaroo			nca2		ae						1	12-Dec-2018
Macropus rufogriseus subsp. rufogriseus	red-necked wallaby			nca4		e						7	06-Jan-1993
Malurus cyaneus	superb fairy-wren			nca2		n						123	19-Mar-2018
Manorina melanocephala	noisy miner			nca2		n						3	06-Jun-2010
Mecynopus cothurnatus						e						8	10-Jan-2016
Megalurus gramineus	little grassbird	ouv		nca2		n						1	16-Sep-1911
Melanella tenisoni	Tenison's urchin-snail					ae						1	01-Feb-1989
Melanodryas vittata	dusky robin	ouv		nca2		e						19	14-Dec-2007
Melithreptus affinis	black-headed honeyeater	ouv		nca2		e						23	21-Dec-2006
Melithreptus validirostris	strong-billed honeyeater	ouv		nca2		e						7	01-Jan-1900
Merelina hirta	hairy rice-shell					ae						1	01-Jun-1984
Mesoginella pygmaeoides	pygmy margin-shell					ae						1	01-Jan-1950
Mictyris platycheles						ae						4	05-Sep-2020
Mimachlamys asperrima	Doughboy Scallop					ae						1	20-Apr-2001
Mitrella austrina						ae						1	01-Jun-1949
Mitrella lincolnensis						ae						2	24-Apr-2001
Mitrella semiconvexa						ae						2	01-Apr-1952
Mitrella tayloriana						ae						1	01-Apr-1952
Montfortula rugosa	Rough Notch Limpet					ae						5	20-Apr-2001
Mordacia mordax	shorthead lamprey					ae						2	05-Aug-1984
Morus serrator	australasian gannet			nca2		n						9	15-Oct-2013
Myadora complexa	complex myadora					ae						1	20-Apr-2001
Myall clavicornis						?e						2	08-Feb-2001
Myiagra cyanoleuca	satin flycatcher			nca2		n						5	14-Oct-2008
Myrmecia forficata						ae						1	01-Jan-1900
Mysella donaciformis	wedge-shaped lepton					ae						1	28-Apr-2001

Non-threatened fauna of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Nassarius nigellus	Tasmanian Dog Whelk					ae						7	20-Apr-2001
Nassarius pauperatus	Impoverished Dog Whelk					ae						4	21-Apr-2013
Nassarius pyrrhus	Banded Dog Whelk					ae						2	25-Apr-2001
Neolepton planiliratum	flat-grooved neolepton					ae						1	19-Apr-2001
Neoodax balteatus	little weed whiting					ae						1	18-Feb-1979
Neophema chrysostoma	blue-winged parrot	ouv		nca2		n						2	21-Dec-2008
Neoscleropogon durvillei						ae						1	29-Nov-1914
Neosebastes pandus	Bighead Gurnard Perch					ae						3	29-Mar-1981
Neotrigonia margaritacea	pearly brooch-shell					ae						1	25-Apr-2001
Nerita atramentosa	black nerite sea snail					ae						15	28-Apr-2001
Nesogobius hinsbyi	Tasmanian orange-spotted sand-goby or Hinsby's Goby					ae						1	27-Dec-1961
Nesoptilotis flavicollis	Yellow-throated Honeyeater					e						87	03-Feb-2016
Nicodamus peregrinus						ae						1	25-Feb-1993
Ninox novaeseelandiae	southern boobook			nca2		n						2	02-Oct-1976
Ninox novaeseelandiae subsp. leucopsis	southern boobook	ouv		nca2		e						1	02-Oct-1976
Nipponatys tumidus	swollen bubble-shell					ae						1	25-Sep-1995
Niveoscincus metallicus	metallic skink			nca2		n						1	30-Dec-2014
Niveoscincus ocellatus	ocellated skink	ouv		nca2		e						1	28-Dec-2007
Notechis scutatus	eastern tiger snake			nca2		n						2	28-Dec-2007
Notoacmea alta	tall limpet					ae						1	01-Jan-1950
Notoacmea flammea	flame limpet					ae						32	11-Feb-2008
Notocypraea angustata	Brown Cowry					ae						2	05-Feb-1967
Notocypraea comptoni	Compton's Cowry					ae						2	01-Jan-1957
Notocypraea piperita	Peppered Cowry					ae						2	01-Jan-1957
Notolabrus tetricus	Bluethroat Wrasse					ae						5	29-Mar-1981
Notoplax speciosa	pretty chiton					ae						1	25-Apr-2001
Novodamus nodatus	red'n'black spider					e						3	01-Mar-1998
Nucula pusilla	tiny nutlet-shell					ae						1	25-Apr-2001
Numenius phaeopus	whimbrel			nca2		n						52	06-Nov-2015
Nyctophilus geoffroyi	lesser long-eared bat			nca2		n						1	22-Feb-2012
Odostomia occultidens	hidden-toothed pyramid-shell					ae						1	20-Apr-2001
Opalia granosa	grainy wentletrap					ae						1	01-Jan-1950
Ophicardelus ornatus	mangrove air-breather					ae						9	26-Jan-1995
Orcinus orca	killer whale			nca2		n						3	23-Aug-2017
Oreixenica lathoniella subsp. lathoniella						?e						1	10-Mar-1940
Oryctolagus cuniculus	rabbit				14nca7	i						2	30-Oct-2020
Oryctolagus cuniculus subsp. cuniculus	rabbit				14nca7	i						2	16-Apr-1993
Pachycephala pectoralis	golden whistler			nca2		n						36	03-Feb-2016
Pachycephala pectoralis subsp. glaucura	golden whistler	ouv				e						5	01-Jan-1900
Parablennius tasmanianus	Tasmanian Blenny					ae						1	04-Feb-1962
Paragrapsus gaimardii						ae						15	22-Apr-2001
Paragrapsus quadridentatus						tb						6	25-Apr-2001
Pardalotus punctatus	spotted pardalote			nca2		n						23	03-Feb-2016
Pardalotus striatus	striated pardalote			nca2		n						43	06-Nov-2015
Parequula melbournensis	Silverbelly					ae						2	06-Jul-1979
Paropsis tasmanica	eucalyptus leaf beetle					?e						2	17-Jan-2003
Paropsisterna decolorata						ae						3	17-Jan-2003
Paropsisterna lignea						ae						1	17-Jan-2003
Paropsisterna nobilitata	Noble Eucalyptus Leaf Beetle					ae						14	17-Jan-2003
Paropsisterna variicollis						ae						7	17-Jan-2003
Patelloida insignis	Maltese Cross Limpet					ae						2	01-Apr-1986
Patelloida victoriana	Victorian limpet					ae						1	26-Oct-1985
Pelecanus conspicillatus	australian pelican			nca2		n						119	04-May-2018
Pentaceropsis recurvirostris	Longsnout Boarfish					ae						1	13-Dec-1965
Perrierina bernardi	Bernard's bean-shell					tb						2	11-Feb-2008
Petrochelidon nigricans	tree martin			nca2		n						14	28-Dec-2017
Petroica boodang subsp. leggii	scarlet robin			nca2		e						19	22-Mar-2015
Petroica phoenicea	flame robin			nca2		n						5	01-Jan-1900
Phalacrocorax fuscescens	black-faced cormorant			nca2		n						69	19-Mar-2018

Non-threatened fauna of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Phalacrocorax sulcirostris	little black cormorant			nca2		n						46	06-Jan-2018
Phallomedusa solida	solid air-breather					ae						1	01-Feb-1983
Phaps chalcoptera	common bronzewing			nca2		n						3	27-Jan-2014
Phaps elegans	brush bronzewing			nca2		n						7	14-Oct-2008
Phasianella australis	Painted Lady or Australian Pheasant					ae						1	01-May-1953
Phasianotrochus eximius	choice kelp-shell					ae						1	01-Jan-1950
Phasianotrochus irisodontes	Rainbow Kelp Shell					ae						2	25-Apr-2001
Philobrya rubra	reddish micromussel					ae						1	01-Mar-1980
Phycothais reticulata	knobbly rock-shell					ae						1	01-Jan-1950
Phylidonyris novaehollandiae	new holland honeyeater			nca2		n						87	17-Feb-2018
Phylidonyris pyrrhoptera	crescent honeyeater			nca2		n						42	20-Sep-2014
Phylidonyris pyrrhopterus	crescent honeyeater			nca2		n						1	27-May-1996
Pictilabrus laticlavius	Senator Wrasse					ae						2	29-Mar-1981
Pisinna frenchiensis	French false rice-shell					ae						2	27-Apr-2001
Pisinna kershawi	Kershaw's false rice-shell					ae						2	01-Mar-1980
Pisinna labrotoma	labrotoma false rice-shell					te						1	01-Jan-1905
Pisinna olivacea	olivaceous false rice-shell					ae						2	01-Jan-1917
Platycephalus bassensis	Southern Sand Flathead					ae						6	03-Feb-1980
Platycephalus speculator	Southern Bluespotted Flathead					ae						1	01-Jan-1978
Platycercus caledonicus	green rosella	ouv		nca2		e						55	19-Mar-2018
Platycercus eximius	eastern rosella			nca2		n						5	14-Dec-2007
Plaxiphora matthewsi	Matthews' chiton					ae						1	19-Apr-2001
Pleuroploca australasia	Australian Horse Conch					ae						2	08-Jan-1994
Podargus strigoides	tawny frogmouth			nca2		n						3	06-Oct-1976
Poliocephalus poliocephalus	hoary-headed grebe			nca2		n						17	06-Nov-2015
Porphyrio porphyrio subsp. melanotus	purple swamphen			nca2		n						4	09-Mar-2016
Potorous tridactylus subsp. apicalis	long-nosed potoroo	ouv		nca2		e						2	16-Apr-1993
Propescala valida	strong wentletrap					ae						1	20-May-1989
Pseudamycla miltostoma	milky-mouthed dove-shell					ae						1	01-Jan-1950
Pseudocheirus peregrinus	common ringtail possum	ouv		nca2		n						1	06-Nov-2019
Pseudocheirus peregrinus subsp. viverrinus	common ringtail possum	ouv				e						3	24-Oct-1991
Pseudophryne semimarmorata	southern toadlet			nca2		n						2	07-May-2003
Pterochelus triformis	three-cornered murex					ae						2	01-Jan-1950
Ptomaphila lacrymosa						ae						1	06-Jan-2006
Pugnaso curtirostris	Pugnose Pipefish					ae						4	05-Feb-1967
Purpurocardia bimaculata	splashed false-cockle					ae						1	21-Apr-2001
Pyreneola fulgida	gleaming dove-shell					ae						1	01-Feb-1989
Rattus lutreolus	swamp rat	ouv		nca2		n		y				2	18-Feb-1961
Reloncavia mactroides	trough-like bean-shell					ae						1	26-Apr-2001
Retusa atkinsoni	Atkinson's canoe-shell					ae						1	25-Sep-1995
Retusa pelyx	bowl canoe-shell					tb						2	11-Feb-2008
Retusa pygmaea	pygmy canoe-shell					ae						1	23-Jan-1996
Rhipidura albiscapa	grey fantail			nca2		n						1	27-May-1996
Rissoina fasciata	banded rice-shell					ae						1	11-Feb-2008
Salinator fragilis	fragile air-breather					ae						21	11-Feb-2008
Scorpis aequipinnis	Sea Sweep					ae						1	07-Mar-1976
Scutus antipodes	common elephant-snail					ae						1	05-Feb-1994
Semicassis paucirugis						ae						1	01-Jan-1900
Sepioteuthis australis	Southern Calamari Squid					ae						1	07-May-1972
Sericornis humilis	tasmanian scrubwren			nca2		e						15	14-Dec-2007
Siphonaria diemenensis	common siphon-shell					ae						15	04-Apr-2007
Siphonognathus radiatus	Longray Weed Whiting					ae						3	05-Feb-1967
Somethus tasmani						?e						1	04-Jun-1978
Spisula trigonella	Little Trough Shell					ae						3	27-Apr-2001
Stagonopleura bella	beautiful firetail			nca2		n						21	16-Nov-2010
Stenacapha hamiltoni	Hamilton's pinwheel Snail	ouv				e						3	01-Jan-1956
Strepera fuliginosa	black currawong			nca2		e						5	19-Mar-2018
Strepera versicolor	grey currawong			nca2		n						53	22-Apr-2018
Sturnus vulgaris	common starling				pia	i						171	25-Apr-2018
Synechocera deplana						ae						1	07-Mar-2001

Non-threatened fauna of conservation significance within 5000 metres

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count	Last Recorded
Synthemis tasmanica	Tasmanian Swamp Tigertail					?e						1	01-Jan-1900
Tachyglossus aculeatus	short-beaked echidna			nca2		ae		y				2	10-Aug-2018
Tachyglossus aculeatus subsp. setosus	short-beaked echidna	ouv		nca2		e		y				2	18-May-1987
Tasmanodesmus hardyi						e						1	02-Mar-1996
Tasmanoplax latifrons	Southern Sentinel Crab					ae						13	27-Apr-2001
Tatea rufilabris						ae						5	26-Jan-1995
Tawera gallinula	Feathered Venerid					ae						1	21-Apr-2001
Tellinides margaritinus	pearly tellin					ae						1	18-Apr-2001
Teranodes montana						ae						1	13-Dec-1976
Tetractenos glaber	smooth toadfish					ae						1	03-Feb-1980
Thalasseus bergii	crested tern			nca2		n						97	25-Apr-2018
Thalotia conica	conical kelp-shell					ae						2	23-Jan-1996
Theora lata	Shining Theora or fragile semele					ae						1	19-Apr-2001
Thryasona diemenensis	Sharp-ribbed Pinwheel Snail					e						1	02-Mar-1996
Thylogale billardierii	tasmanian pademelon	ouv		nca4		eax						28	27-Jan-2020
Tiliqua nigrolutea	blotched bluetongue			nca2		n						1	23-Dec-2007
Trachymela papulosa						e						3	17-Jan-2003
Tribonyx mortierii	tasmanian native hen					e						30	19-Mar-2018
Trichosurus vulpecula subsp. fuliginosus	common brushtail possum	ouv		nca4		e						14	06-May-2003
Tringa nebularia	common greenshank			nca2		n						73	12-Oct-2012
Trygonorrhina dumerilii	Banjo Shark					ae						2	03-Feb-1980
Trypaea arenosa						ae						1	20-Apr-2001
Upeneichthys vlamingii	Bluespotted Goatfish					ae						1	29-Mar-1981
Urolophus paucimaculatus	Sparsely-spotted Stingaree					ae						1	16-Feb-1975
Urolophus viridis	Greenback Stingaree					ae						1	01-Dec-1957
Uroteuthis noctiluca	luminous bay-squid					ae						1	14-Jul-1973
Vanacampus phillipi	Port Phillip Pipefish					ae						2	05-Feb-1967
Vanellus miles	masked lapwing			nca2		n						189	25-Apr-2018
Vanellus tricolor	banded lapwing			nca2		n						15	22-Oct-2003
Venatrix funesta						ae						2	01-Jan-1997
Venatrix pseudospeciosa						ae						1	01-Aug-1996
Victaphanta lampra	Northern Tasmanian Carnivorous Snail	ouv				e						2	30-Nov-2002
Vombatus ursinus subsp. tasmaniensis	common wombat or wombat	ouv		nca2		e						9	16-Feb-2019
Vulsella ovata	Southern Sponge Finger					ae						1	24-Apr-2001
Zeacumantus diemenensis	common mud-creeper					ae						1	01-Jan-1950
Zeacumantus plumbeus	estuarine mud-creeper					ae						2	01-Jan-1950
Zebinella elegantula	elegant rice-shell					ae						1	11-Feb-2008
Zoothera lunulata	bassian thrush			nca2		n						3	31-Dec-1998
Zosterops lateralis	silvereye			nca2		n						37	06-Nov-2015

Unverified Records

Species	Common Name	Sci	RFA	Nat	Int	Bio	Res	Pri	Unc	Sen	Cul	Observation Count
Litoria ewingii	brown tree frog			nca2		n		y				1

For more information about flora and fauna species, please contact Natural Values Conservation Enquiries.

Telephone: (03) 6165 4319

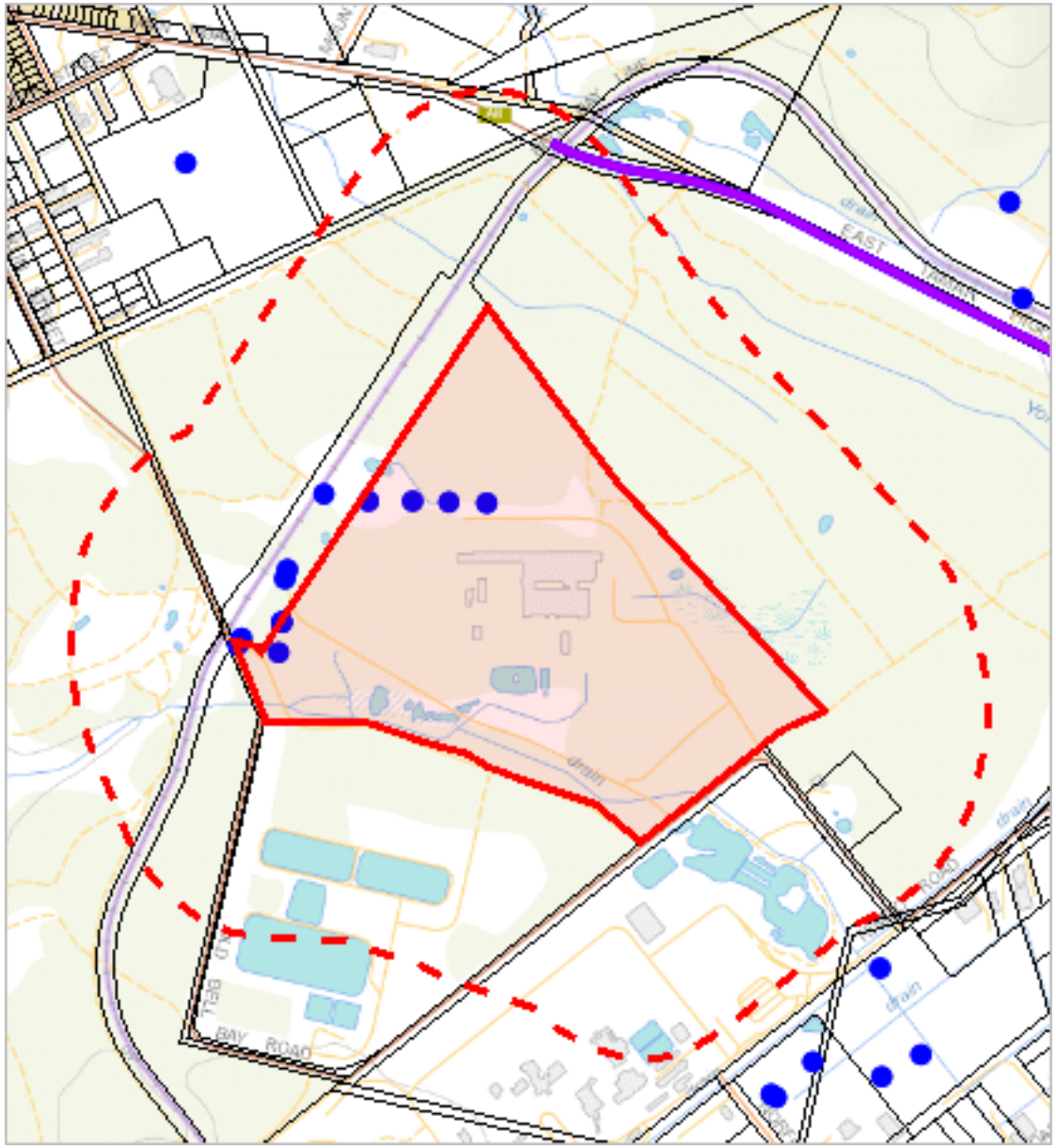
Fax: (03) 6233 3477

Email: NaturalValuesConservation.Enquiries@dpipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Tas Management Act Weeds within 500 m

488623, 5449184



486198, 5446551

Please note that some layers may not display at all requested map scales

Tas Management Act Weeds within 500 m

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Line Verified
- Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Cadastral Parcels

Tas Management Act Weeds within 500 m

Verified Records

Species	Common Name	Observation Count	Last Recorded
Chrysanthemoides monilifera subsp. monilifera	boneseed	2	27-Nov-2012
Cirsium arvense var. arvense	creeping thistle	5	27-Nov-2012
Erica lusitanica	spanish heath	2	27-Nov-2012
Rubus fruticosus	blackberry	2	27-Nov-2012
Ulex europaeus	gorse	4	27-Nov-2012

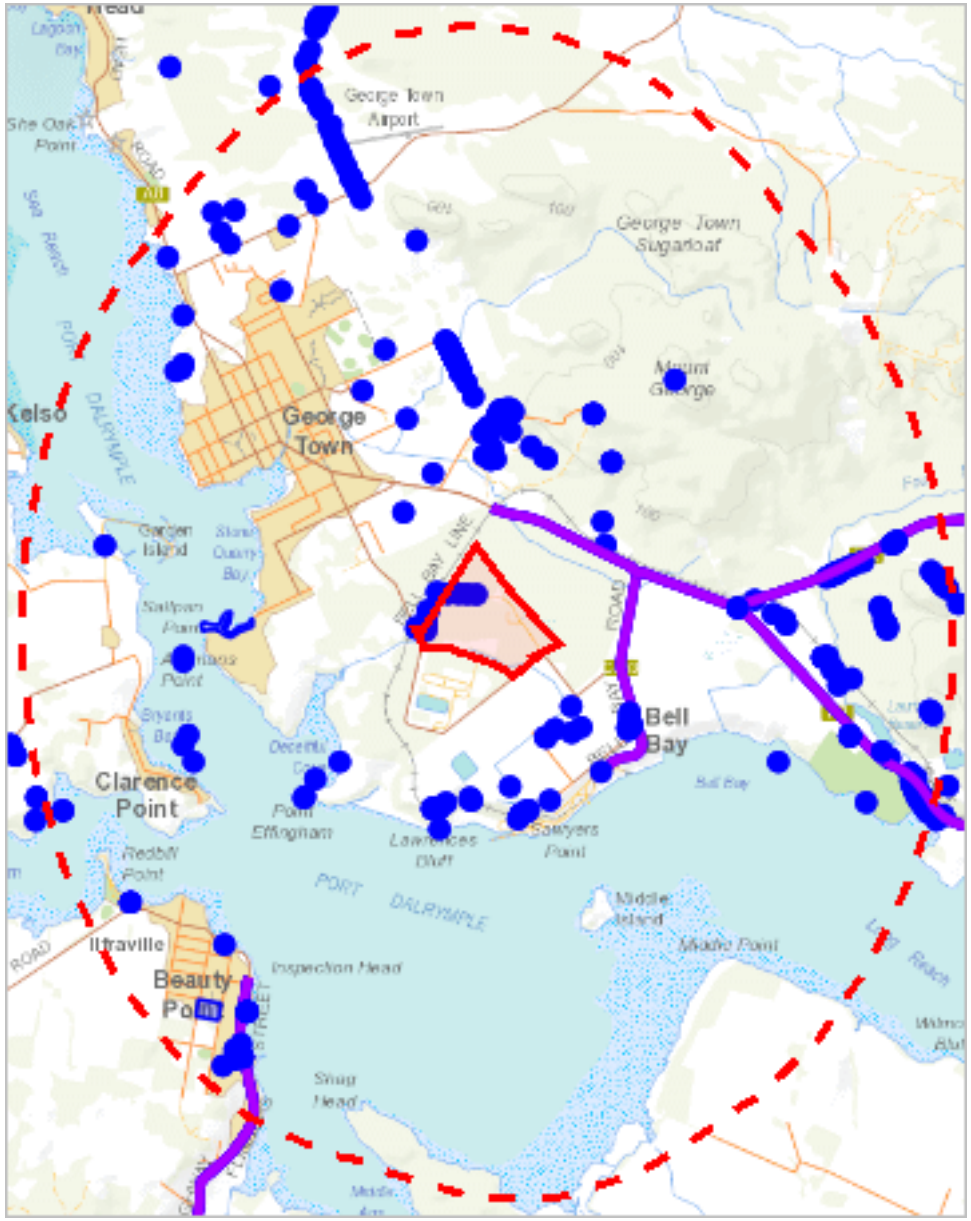
Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

https://www.dpipwe.tas.gov.au/invasive-species/weeds

Tas Management Act Weeds within 5000 m

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Tas Management Act Weeds within 5000 m

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Line Verified
- Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Cadastral Parcels

Tas Management Act Weeds within 5000 m

Verified Records

Species	Common Name	Observation Count	Last Recorded
Carduus pycnocephalus	slender thistle	4	11-Nov-2013
Chrysanthemoides monilifera subsp. monilifera	boneseed	22	13-Jul-2020
Cirsium arvense var. arvense	creeping thistle	5	27-Nov-2012
Cortaderia selloana	silver pampasgrass	1	28-May-2008
Cortaderia sp.	pampas grass	42	31-May-2018
Cytisus scoparius	english broom	2	18-Sep-2007
Echium plantagineum	patersons curse	3	06-Feb-2011
Erica lusitanica	spanish heath	71	13-Jul-2020
Fallopia japonica	japanese knotweed	21	10-Feb-2016
Foeniculum vulgare	fennel	2	08-Jan-1995
Genista monspessulana	montpellier broom	2	21-Sep-2007
Lycium ferocissimum	african boxthorn	1	12-Jan-2005
Oenanthe pimpinelloides	dropwort	1	10-Feb-2016
Rubus anglocandicans	blackberry	4	13-Jul-2020
Rubus fruticosus	blackberry	88	27-Nov-2012
Salix x fragilis nothovar. fragilis	crack willow	1	01-Jan-1990
Senecio jacobaea	ragwort	1	17-Feb-1993
Ulex europaeus	gorse	95	07-Sep-2020

Unverified Records

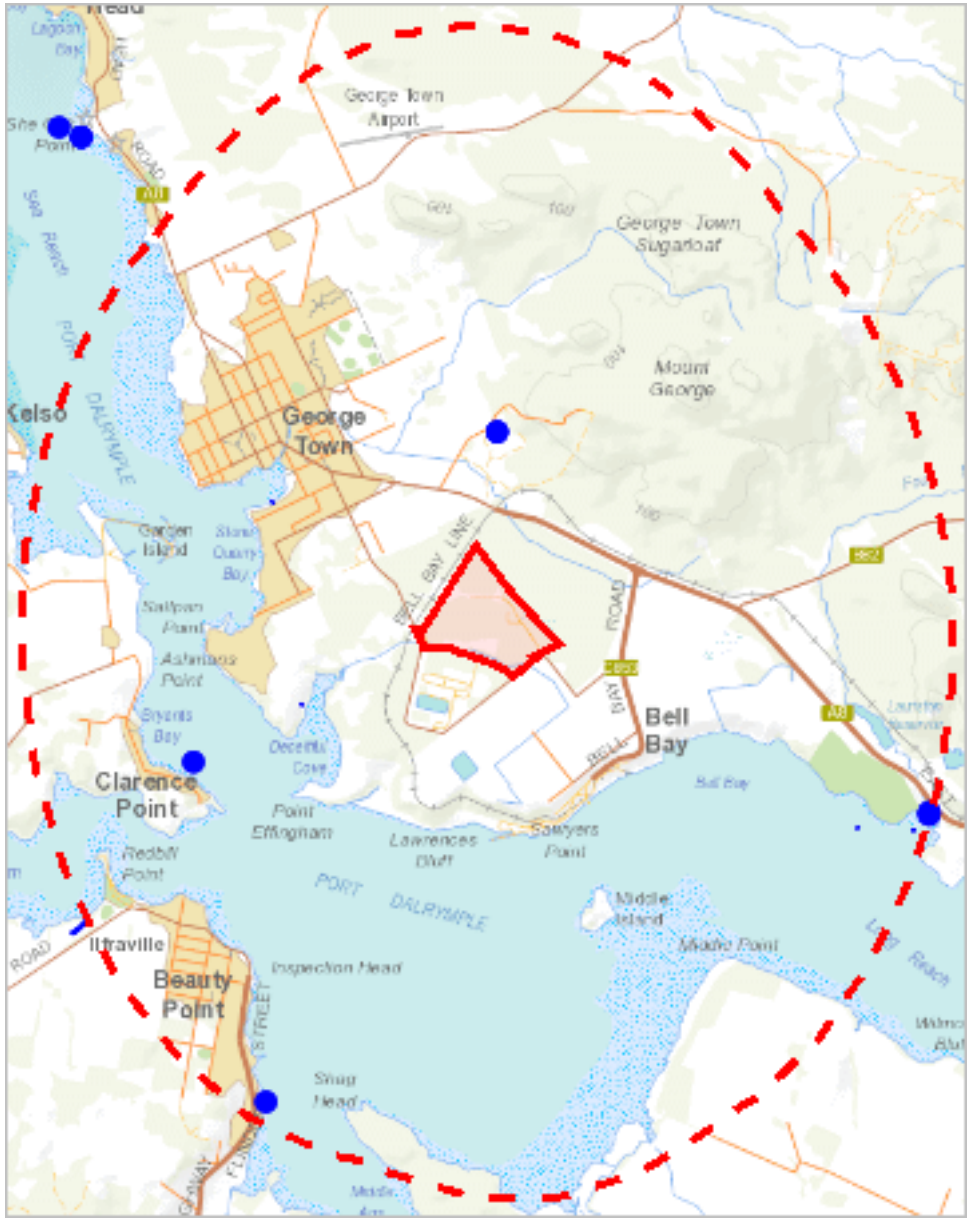
For more information about introduced weed species, please visit the following URL for contact details in your area:

https://www.dpipwe.tas.gov.au/invasive-species/weeds

*** No Priority Weeds found within 500 metres ***

Priority Weeds within 5000 m

492017, 5453686



482792, 5442069

Please note that some layers may not display at all requested map scales

Priority Weeds within 5000 m

Legend: Verified and Unverified observations

Legend: Cadastral Parcels

Priority Weeds within 5000 m

Verified Records

Species	Common Name	Observation Count	Last Recorded
Billardiera heterophylla	bluebell creeper	1	01-Dec-2004
Cenchrus clandestinus	kikuyu grass	1	12-Jan-2005
Reseda luteola	weld	1	12-Jan-2005
Spartina anglica	common cordgrass	9	28-May-2008
Tradescantia fluminensis	wandering creeper	1	23-Nov-1999

Unverified Records

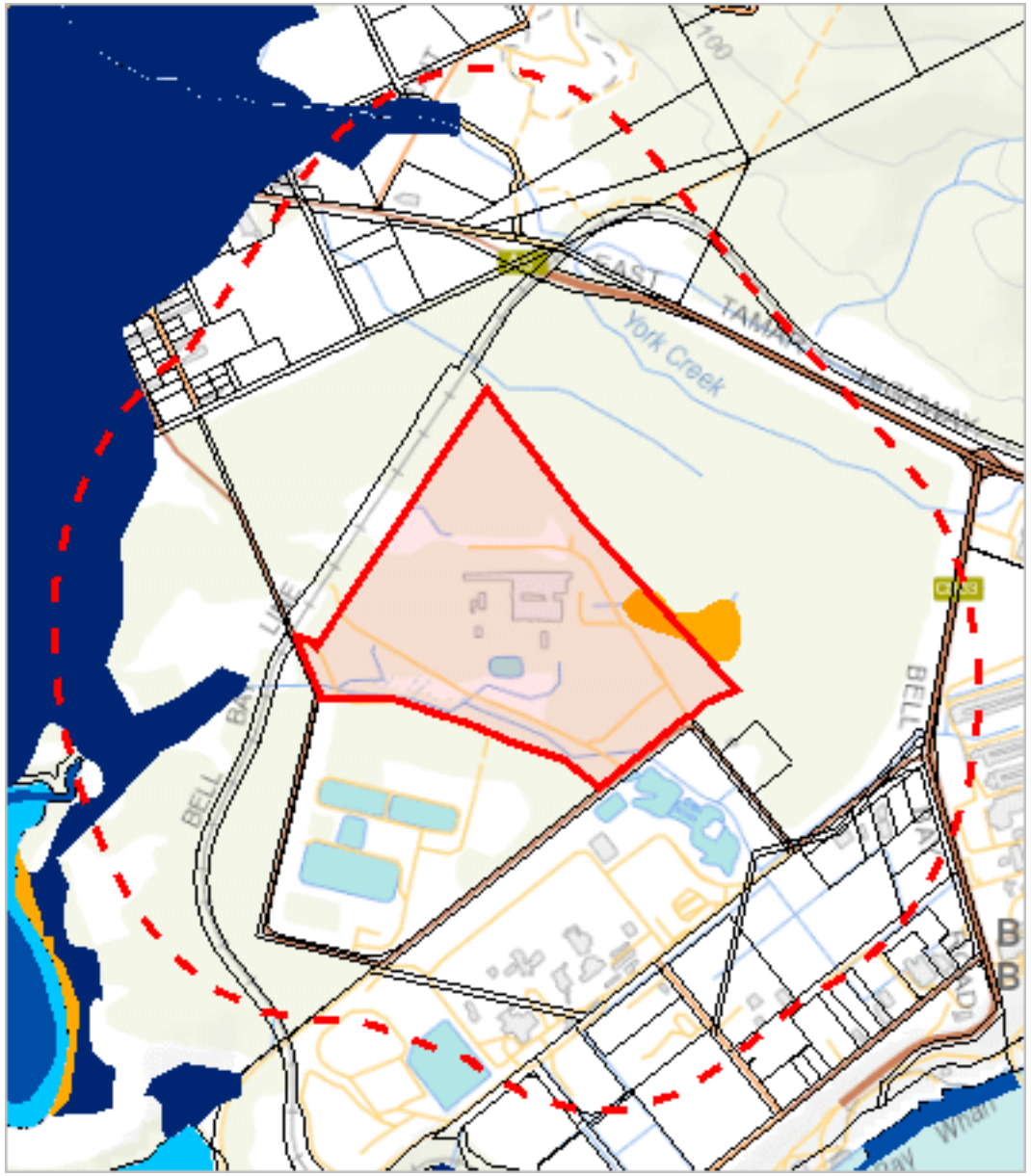
For more information about introduced weed species, please visit the following URL for contact details in your area:

https://www.dpipwe.tas.gov.au/invasive-species/weeds

*** No Geoconservation sites found within 1000 metres. ***

Acid Sulfate Soils within 1000 metres

489001, 5449684



485820, 5446053

Please note that some layers may not display at all requested map scales

Acid Sulfate Soils within 1000 metres

Legend: Coastal Acid Sulfate Soils (0 - 20m AHD)

High | Low | Extremely Low

Legend: Inland Acid Sulfate Soils (>20m AHD)

High | Low | Extremely Low

Legend: Marine Subaqueous/Intertidal Acid Sulfate Soil

High (Intertidal) | High (Subtidal)

Legend: Cadastral Parcels

Acid Sulfate Soils within 1000 metres

Dataset Name	Acid Sulfate Soil Probability	Acid Sulfate Soil Atlas	Description
Coastal Acid Sulfate Soils	Extremely Low	Ci(p3)	Extremely low probability of occurance (1-5% of mapping unit). with occurences in small areas. Sandplains and dunes 2-10m AHD, ASS generally below 1m from the surface. Heath, forests. Holocene or Pleistocene. Potential acid sulfate soil (PASS) = sulfidic material (Isbell 1996 p.122). No necessary analytical data are available but confidence is fair, based on a knowledge of similar soils in similar environments.
Coastal Acid Sulfate Soils	Extremely Low	Cj(p3)	Extremely low probability of occurance (1-5% of mapping unit). with occurences in small areas. Sandplains and dunes >10m AHD, ASS generally below 1m from the surface. Heath, forests. Mainly Pleistocene. Potential acid sulfate soil (PASS) = sulfidic material (Isbell 1996 p.122). No necessary analytical data are available but confidence is fair, based on a knowledge of similar soils in similar environments.
Inland Acid Sulfate Soils	Low	Bm(p4)	Low probability of occurance (6-70% chance of occurrence in mapping unit). Hydrosols, ASS generally within upper 1m in wet/riparian areas with Hydrosols (Isbell 1996). Potential acid sulfate soil (PASS) = sulfidic material (Isbell 1996 p.122). No necessary analytical data are available and classifier has little knowledge or experience with ASS, hence classification is provisional.
Marine Subaqueous and Intertidal Acid Sulfate Soils	High	Aa(p3)	High probability of occurance (>70% chance of occurrence in mapping unit). Subaqueous material in subtidal wetland, PASS material and/or MBO. Often seagrasses. Potential acid sulfate soil (PASS) = sulfidic material (Isbell 1996 p.122). No necessary analytical data are available but confidence is fair, based on a knowledge of similar soils in similar environments.

For more information about Acid Sulfate Soils, please contact Land Management Enquiries.

Telephone: (03) 6777 2227

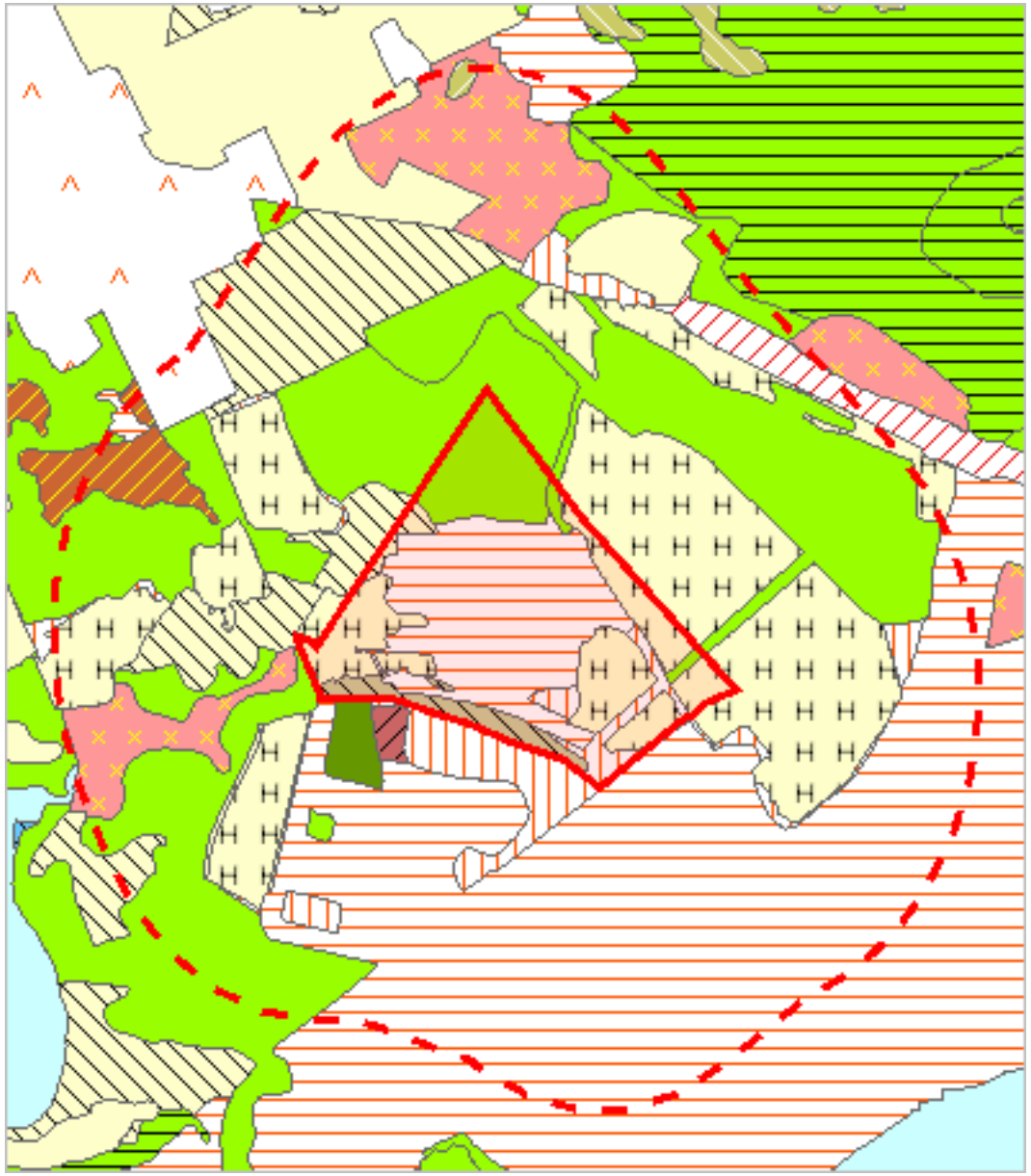
Fax: (03) 6336 5111

Email: LandManagement.Enquiries@dpipwe.tas.gov.au

Address: 171 Westbury Road, Prospect, Tasmania, Australia, 7250

TASVEG 4.0 Communities within 1000 metres

489001, 5449684



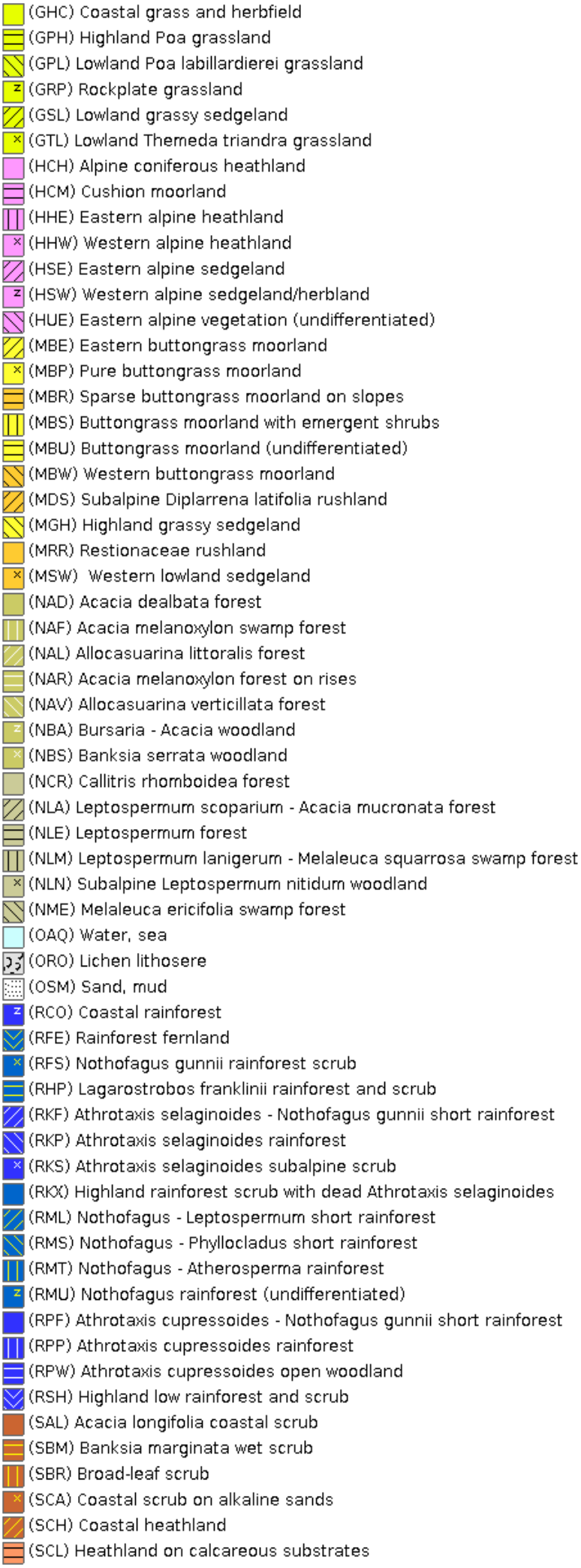
485820, 5446053

Please note that some layers may not display at all requested map scales

TASVEG 4.0 Communities within 1000 metres

Legend: TASVEG 4.0

TASVEG 4.0 Communities within 1000 metres



TASVEG 4.0 Communities within 1000 metres

(SED) Eastern scrub on dolerite
(SHS) Subalpine heathland
(SHW) Wet heathland
(SKA) Kunzea ambigua regrowth scrub
(SLG) Leptospermum glaucescens heathland and scrub
(SLL) Leptospermum lanigerum scrub
(SLS) Leptospermum scoparium heathland and scrub
(SMM) Melaleuca squamea heathland
(SMP) Melaleuca pustulata scrub
(SMR) Melaleuca squarrosa scrub
(SRE) Eastern riparian scrub
(SRF) Leptospermum with rainforest scrub
(SRH) Rookery halophytic herbland
(SSC) Coastal scrub
(SSK) Scrub complex on King Island
(SSW) Western subalpine scrub
(SSZ) Spray zone coastal complex
(SWR) Western regrowth complex
(SWW) Western wet scrub
(WBR) Eucalyptus brookeriana wet forest
(WDA) Eucalyptus dalrympleana forest
(WDB) Eucalyptus delegatensis forest with broad-leaf shrubs
(WDL) Eucalyptus delegatensis forest over Leptospermum
(WDR) Eucalyptus delegatensis forest over rainforest
(WDU) Eucalyptus delegatensis wet forest (undifferentiated)
(WGK) Eucalyptus globulus King Island forest
(WGL) Eucalyptus globulus wet forest
(WNL) Eucalyptus nitida forest over Leptospermum
(WNR) Eucalyptus nitida forest over rainforest
(WNU) Eucalyptus nitida wet forest (undifferentiated)
(WOB) Eucalyptus obliqua forest with broad-leaf shrubs
(WOL) Eucalyptus obliqua forest over Leptospermum
(WOR) Eucalyptus obliqua forest over rainforest
(WOU) Eucalyptus obliqua wet forest (undifferentiated)
(WRE) Eucalyptus regnans forest
(WSU) Eucalyptus subcrenulata forest and woodland
(WVI) Eucalyptus viminalis wet forest

Legend: Cadastral Parcels

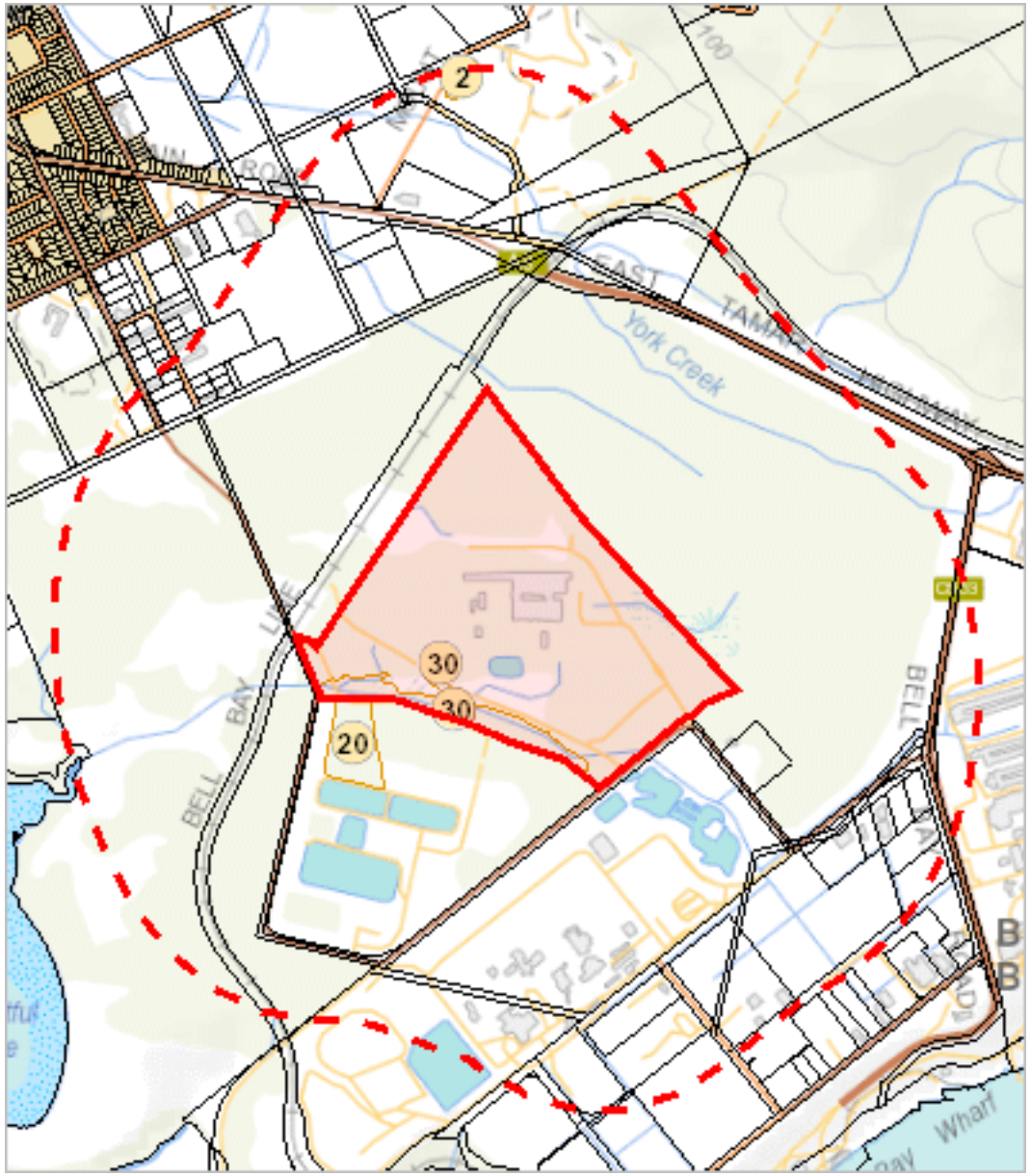
TASVEG 4.0 Communities within 1000 metres

Code	Community	Canopy Tree
DAC	(DAC) Eucalyptus amygdalina coastal forest and woodland	
DAD	(DAD) Eucalyptus amygdalina forest and woodland on dolerite	
DOW	(DOW) Eucalyptus ovata heathy woodland	
FAG	(FAG) Agricultural land	
FPE	(FPE) Permanent easements	
FPH	(FPH) Plantations for silviculture - hardwood	
FPU	(FPU) Unverified plantations for silviculture	
FRG	(FRG) Regenerating cleared land	
FUM	(FUM) Extra-urban miscellaneous	
FUR	(FUR) Urban areas	
NAL	(NAL) Allocasuarina littoralis forest	
NME	(NME) Melaleuca ericifolia swamp forest	
OAQ	(OAQ) Water, sea	
SCH	(SCH) Coastal heathland	
SHW	(SHW) Wet heathland	EL
SHW	(SHW) Wet heathland	
SMR	(SMR) Melaleuca squarrosa scrub	

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.
Telephone: (03) 6165 4320
Email: TVMMPSupport@dpipwe.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Threatened Communities (TNVC 2020) within 1000 metres

489001, 5449684



485820, 5446053

Please note that some layers may not display at all requested map scales

Threatened Communities (TNVC 2020) within 1000 metres

Legend: Threatened Communities

- 1 - Alkaline pans
- 2 - Allocasuarina littoralis forest
- 3 - Athrotaxis cupressoides/Nothofagus gunnii short rainforest
- 4 - Athrotaxis cupressoides open woodland
- 5 - Athrotaxis cupressoides rainforest
- 6 - Athrotaxis selaginoides/Nothofagus gunnii short rainforest
- 7 - Athrotaxis selaginoides rainforest
- 8 - Athrotaxis selaginoides subalpine scrub
- 9 - Banksia marginata wet scrub
- 10 - Banksia serrata woodland
- 11 - Callitris rhomboidea forest
- 13 - Cushion moorland
- 14 -Eucalyptus amygdalina forest and woodland on sandstone
- 15 - Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
- 16 - Eucalyptus brookeriana wet forest
- 17 - Eucalyptus globulus dry forest and woodland
- 18 - Eucalyptus globulus King Island forest
- 19 - Eucalyptus morrisbyi forest and woodland
- 20 - Eucalyptus ovata forest and woodland
- 21 - Eucalyptus risdonii forest and woodland
- 22 - Eucalyptus tenuiramis forest and woodland on sediments
- 23 - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
- 24 - Eucalyptus viminalis Furneaux forest and woodland
- 25 - Eucalyptus viminalis wet forest
- 26 - Heathland on calcareous substrates
- 27 - Heathland scrub complex at Wingaroo
- 28 - Highland grassy sedgeland
- 29 - Highland Poa grassland
- 30 - Melaleuca ericifolia swamp forest
- 31 - Melaleuca pustulata scrub
- 32 - Notelaea - Pomaderris - Beyeria forest
- 33 - Rainforest fernland
- 34 - Riparian scrub
- 35 - Seabird rookery complex
- 36 - Sphagnum peatland
- 36A - Spray zone coastal complex
- 37 - Subalpine Diplarrena latifolia rushland
- 38 - Subalpine Leptospermum nitidum woodland
- 39 - Wetlands

Legend: Cadastral Parcels

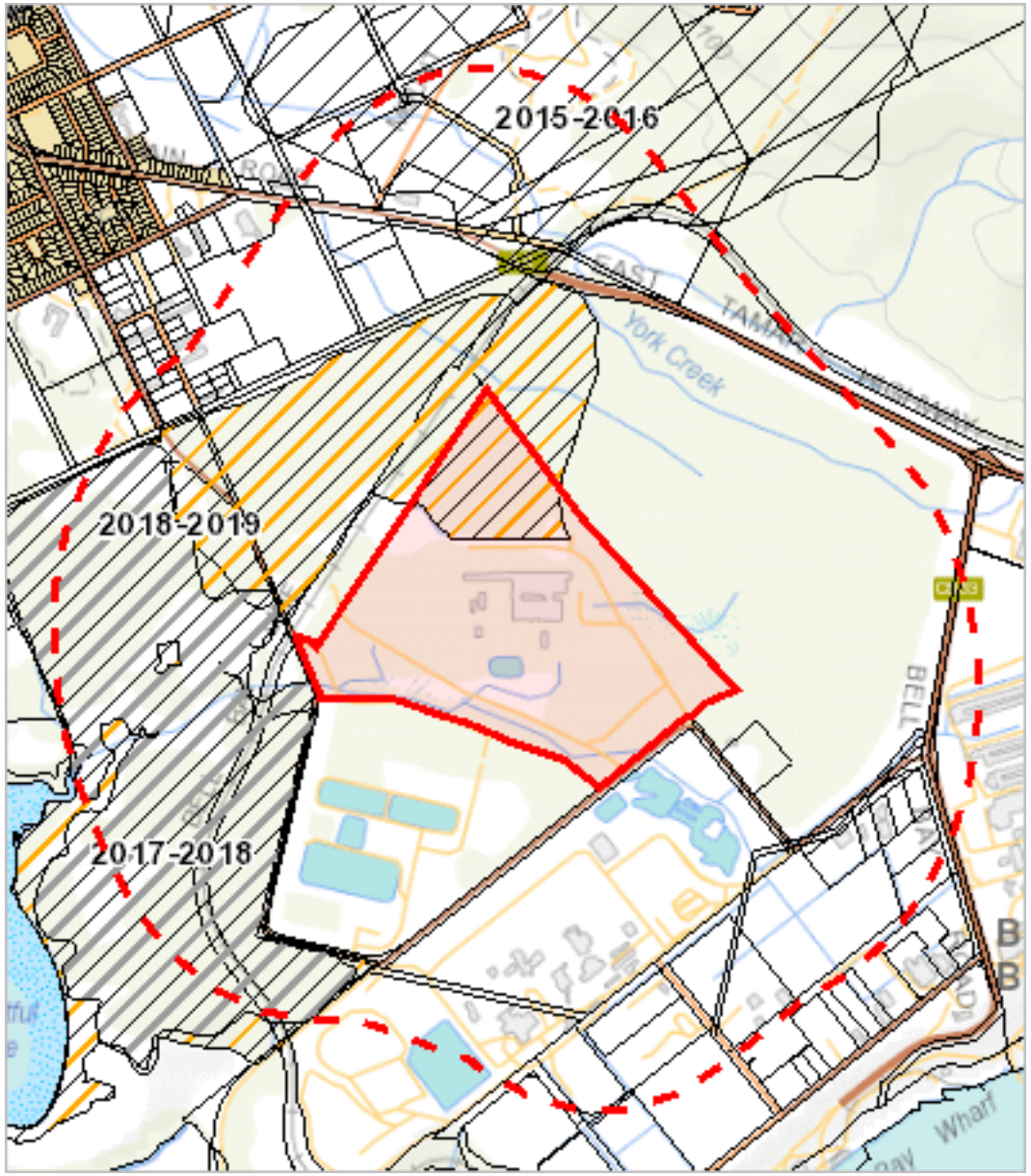
Threatened Communities (TNVC 2020) within 1000 metres

Scheduled Community Id	Scheduled Community Name
2	Allocasuarina littoralis forest
20	Eucalyptus ovata forest and woodland
30	Melaleuca ericifolia swamp forest

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.
Telephone: (03) 6165 4320
Email: TVMMPSupport@dpipwe.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Fire History (All) within 1000 metres

489001, 5449684



485820, 5446053

Please note that some layers may not display at all requested map scales

Fire History (All) within 1000 metres

Legend: Fire History All

Bushfire-Unknown Category

Bushfire

Completed Planned Burn

Legend: Cadastral Parcels

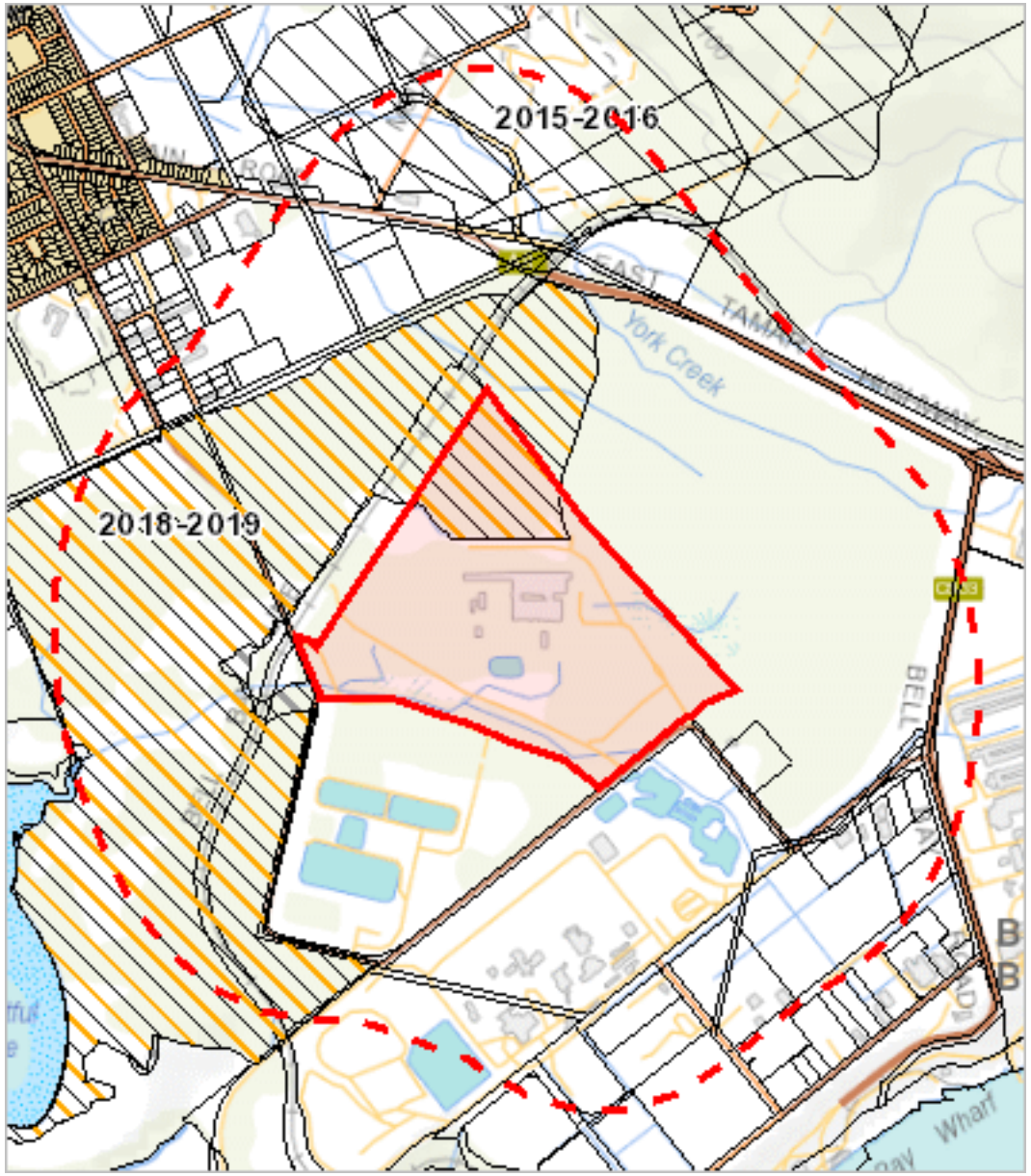
Fire History (All) within 1000 metres

Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
234974	Main Road George Town	21-Dec-2015	Bushfire	Accidental	163.12378344
237817	Old Bell Bay Road	28-Feb-2016	Bushfire	Deliberate	6.4968105
TTZ018BU	Bell Bay FRB	12-Nov-2018	Planned Burn	Planned Burn	211.6419605
		06-Dec-2017	Unknown	Undetermined	119.67724058

For more information about Fire History, please contact the Manager Community Protection Planning, Tasmania Fire Service.
Telephone: 1800 000 699
Email: planning@fire.tas.gov.au
Address: cnr Argyle and Melville Streets, Hobart, Tasmania, Australia, 7000

Fire History (Last Burnt) within 1000 metres

489001, 5449684



485820, 5446053

Please note that some layers may not display at all requested map scales

Fire History (Last Burnt) within 1000 metres

Legend: Fire History Last

Bushfire-Unknown category

Bushfire

Completed Planned Burn

Legend: Cadastral Parcels

Fire History (Last Burnt) within 1000 metres

Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
234974	Main Road George Town	21-Dec-2015	Bushfire	Accidental	163.12378344
TTZ018BU	Bell Bay FRB	12-Nov-2018	Planned Burn	Planned Burn	211.6419605
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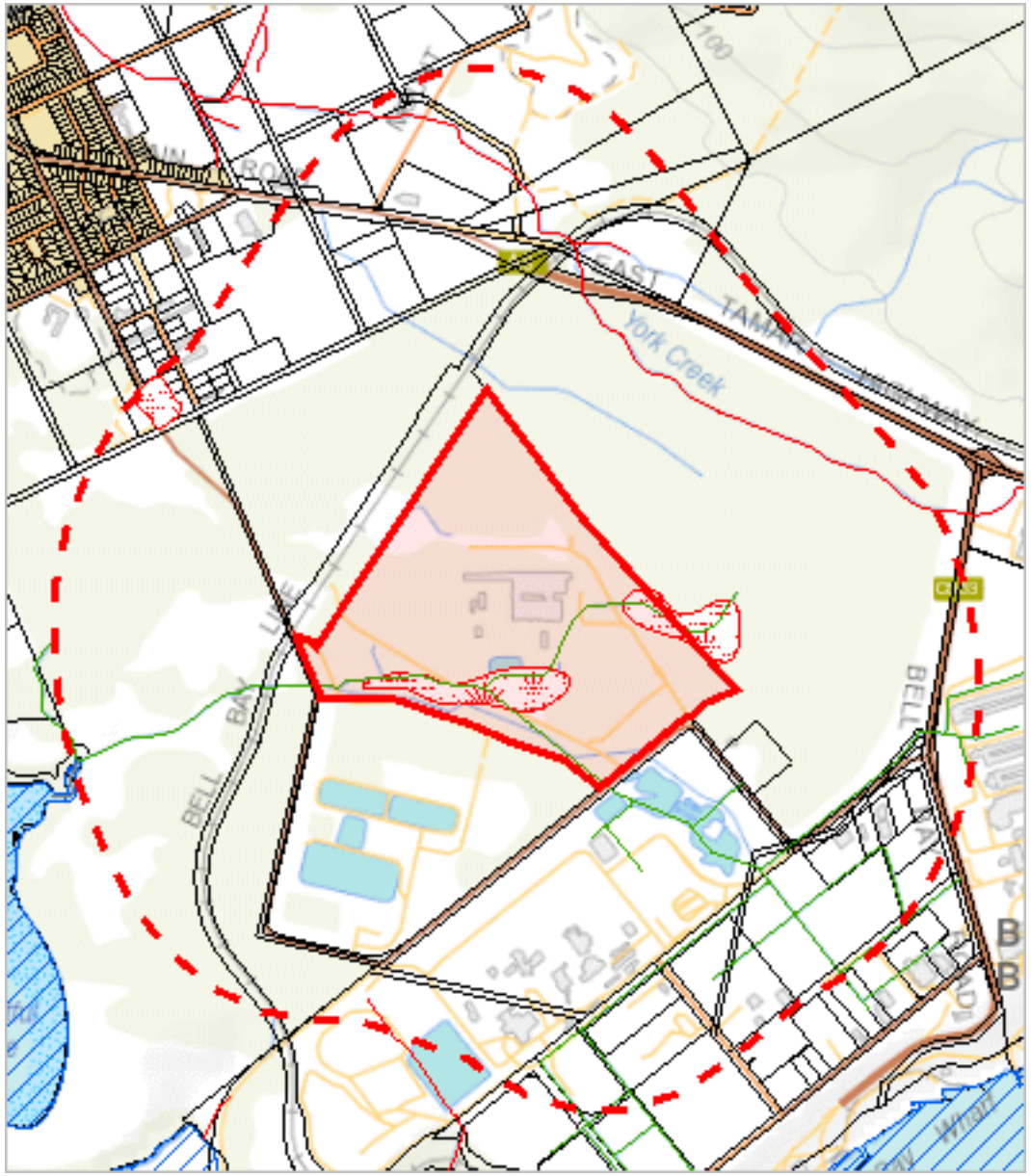
For more information about Fire History, please contact the Manager Community Protection Planning, Tasmania Fire Service.
Telephone: 1800 000 699
Email: planning@fire.tas.gov.au
Address: cnr Argyle and Melville Streets, Hobart, Tasmania, Australia, 7000

Freshwater Ecosystem Values within 1000 metres

489001, 5449684



485820, 5446053

Please note that some layers may not display at all requested map scales

Freshwater Ecosystem Values within 1000 metres

Legend: CFEV Rivers - Integrated Conservation Value

Very High | High | Medium | Low | Artificial drainage

Legend: CFEV Waterbodies - Integrated Conservation Value

Very High | High | Medium | Low

Legend: CFEV Wetlands - Integrated Conservation Value

Very High | High | Medium | Low

Legend: CFEV Saltmarshes - Integrated Conservation Value

Very High | High | Medium

Legend: CFEV Estuaries - Integrated Conservation Value

Very High | High | Medium

Legend: CFEV Karst - Integrated Conservation Value

Very High | High | Medium

Legend: CFEV Groundwater Dependent Ecosystems (GDEs)

Legend: Cadastral Parcels

Freshwater Ecosystem Values within 1000 metres

Rivers

Id	Name	Naturalness	Integrated Conservation Value	Conservation Management Priority	Number of Special Values
310721		Low	L	L	1
310727		Low	H	VH	1
310735		Low	H	VH	1
310736		Low	H	VH	1
310738		Medium	H	VH	1
310750		Low	H	VH	1
310751		Low	H	VH	1
310755		Low	H	VH	1
310756		Low	H	VH	1
310757		Low	H	VH	1
310758		Low	H	VH	1
310759		Low	H	VH	1
311654		Low	H	VH	1
311655		Low	H	VH	1
311656		Low	H	VH	1
311657		Low	H	VH	1
311658		Low	H	VH	1
311661					1
311662		Low	H	VH	1
311663		Low	H	VH	1
311664		Low	H	VH	1
311665		Low	H	VH	1
311670		Low	H	VH	1
311671		Low	H	VH	1
311672		Low	H	VH	1
311687		High	H	VH	1
311688		Medium	H	VH	1
311689		Low	H	VH	1
311690		Low	H	VH	1
311692		Low	L	L	1
311693	York Creek	Low	L	L	1
311753	York Creek	High	L	M	1

Waterbodies

No Waterbody features found within 1000 metres

Wetlands

Id	Name	Naturalness	Integrated Conservation Value	Conservation Management Priority	Number of Special Values
18529		Low	L	L	1
18530		Low	L	L	1
18535		Low	L	L	1

Saltmarshes

No Saltmarsh features found within 1000 metres

Estuaries

Id	Name	Naturalness	Integrated Conservation Value	Conservation Management Priority	Number of Special Values
23	Tamar	Low	VH	VH	14

Karst

No Karst features found within 1000 metres

Groundwater Dependent Ecosystems

No Groundwater Dependent Ecosystem features found within 1000 metres

For more information about Freshwater Ecosystem Values, please contact the Conservation of Freshwater Ecosystem Values Program.
Telephone: (03) 6165 53271
Email: cfev@dpipwe.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Freshwater Ecosystem Values within 1000 metres

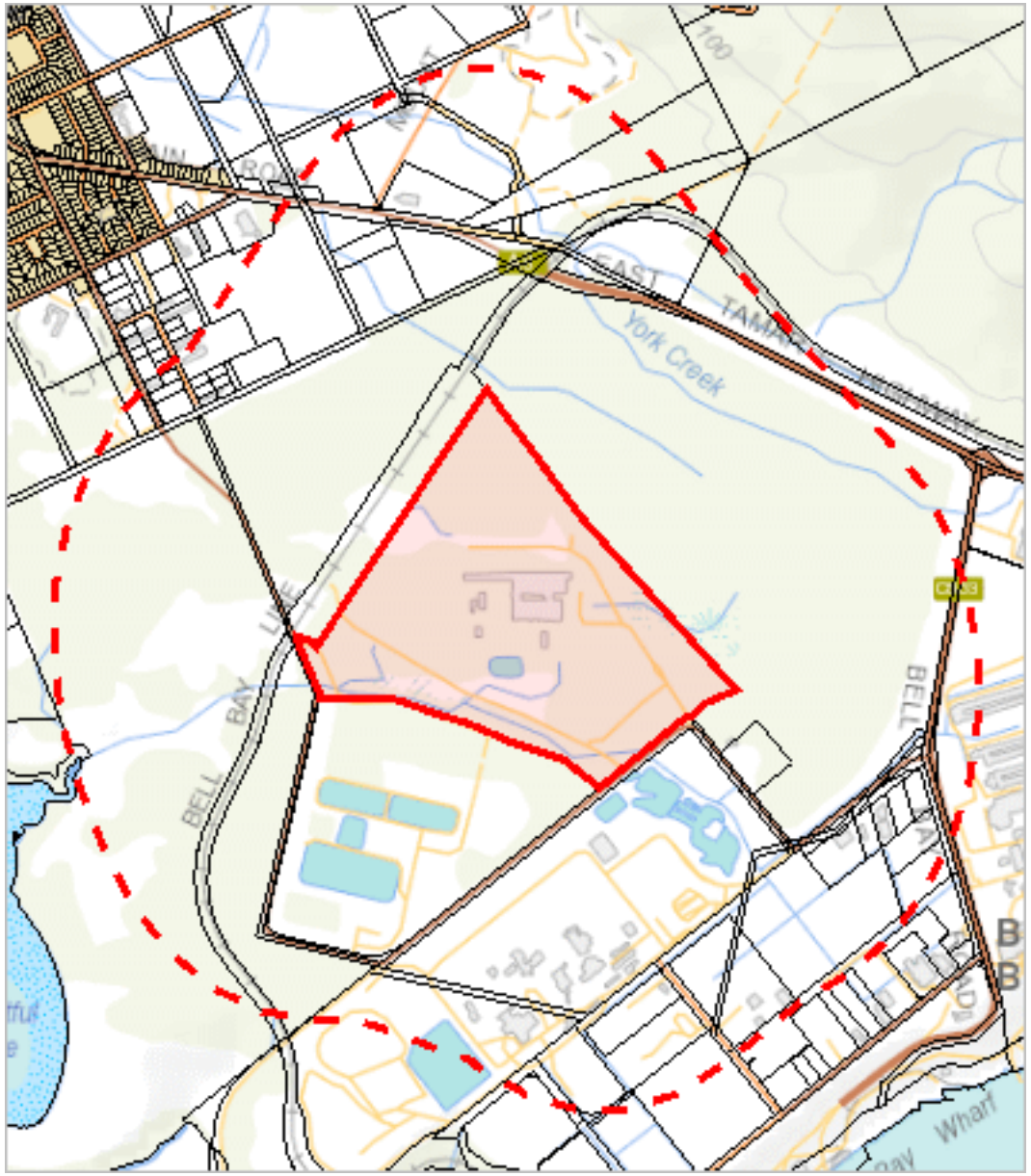
Website: https://www.dpipwe.tas.gov.au/cfev

For more detailed information on freshwater ecosystems, see the Conservation of Freshwater Ecosystem Values (CFEV) database: https://wrt.tas.gov.au/cfev

*** No reserves found within 1000 metres ***

Known biosecurity risks within 1000 meters

489001, 5449684



485820, 5446053

Please note that some layers may not display at all requested map scales

Known biosecurity risks within 1000 meters

Legend: Biosecurity Risk Species

Point Verified | Point Unverified | Line Verified | Line Unverified

Polygon Verified | Polygon Unverified

Legend: Hygiene infrastructure

Location Point Verified | Location Point Unverified | Location Line Verified

Location Line Unverified | Location Polygon Verified | Location Polygon Unverified

Legend: Cadastral Parcels

Known biosecurity risks within 1000 meters

Verified Species of biosecurity risk

No verified species of biosecurity risk found within 1000 metres

Unverified Species of biosecurity risk

No unverified species of biosecurity risk found within 1000 metres

Generic Biosecurity Guidelines

The level and type of hygiene protocols required will vary depending on the tenure, activity and land use of the area. In all cases adhere to the land manager's biosecurity (hygiene) protocols. As a minimum always Check / Clean / Dry (Disinfect) clothing and equipment before trips and between sites within a trip as needed https://www.dpipwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual

On Reserved land, the more remote, infrequently visited and undisturbed areas require tighter biosecurity measures.

In addition, where susceptible species and communities are known to occur, tighter biosecurity measures are required.

Apply controls relevant to the area / activity:

- Don't access sites infested with pathogen or weed species unless absolutely necessary. If it is necessary to visit, adopt high level hygiene protocols.
- Consider not accessing non-infested sites containing known susceptible species / communities. If it is necessary to visit, adopt high level hygiene protocols.
- Don't undertake activities that might spread pest / pathogen / weed species such as deliberately moving soil or water between areas.
- Modify / restrict activities to reduce the chance of spreading pest / pathogen / weed species e.g. avoid periods when weeds are seeding, avoid clothing/equipment that excessively collects soil and plant material e.g. Velcro, excessive tread on boots.
- Plan routes to visit clean (uninfested) sites prior to dirty (infested) sites. Do not travel through infested areas when moving between sites.
- Minimise the movement of soil, water, plant material and hitchhiking wildlife between areas by using the Check / Clean / Dry (Disinfect when drying is not possible) procedure for all clothing, footwear, equipment, hand tools and vehicles https://www.dpipwe.tas.gov.au/invasive-species/weeds/weed-hygiene
- Neoprene and netting can take 48 hours to dry, use non-porous gear wherever possible.
- Use walking track boot wash stations where available.
- Keep a hygiene kit in the vehicle that includes a scrubbing brush, boot pick, and disinfectant https://www.dpipwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual
- Dispose of all freshwater away from natural water bodies e.g. do not empty water into streams or ponds.
- Dispose of used disinfectant ideally in town though a treatment or septic system. Always keep disinfectant well away from natural water systems.
- Securely contain any high risk pest / pathogen / weed species that must be collected and moved e.g. biological samples.

Hygiene Infrastructure

No known hygiene infrastructure found within 1000 metres

APPENDIX B

Application Form

GEORGE TOWN COUNCIL

Council Office: 16-18 Anne Street
George Town, Tasmania 7253
Email: planning@georgetown.tas.gov.au

Postal Address: P.O. Box 161, George Town, Tasmania 7253
Telephone: (03) 6382 8800 Facsimile: (03) 6382 8899

DEVELOPMENT APPLICATION FORM

Section 57 & 58

OFFICE USE ONLY		
Application Number: DA /		Date:
PID:	Zone:	Permitted or Discretionary

APPLICANT DETAILS

Applicant Name:	TIMBERLINK AUSTRALIA PTY LIMITED					
Postal Address:	331 OLD BELL BAY ROAD BELL BAY, 7253					
Email Address:	nlorentzen@timberlinkaustralia.com.au					
Contact Phone:	B/H	0499 699 049	Mobile	0499 699 049	Fax	

Note: *Full name(s) of person(s) or company making the application and postal address for correspondence.*

Please mark the box if you prefer to receive all correspondence via email ☒
Invoice to be made out to: the applicant ☐ or property owner ☒

OWNER DETAILS (as shown on Title)

☒ (X) As Above

Owner/Authority Name:	
Postal Address:	
Email Address:	

DEVELOPMENT APPLICATION DETAILS

Location/Address:	331 OLD BELL BAY ROAD BELL BAY, 7253
Title Reference:	168618 / 2

Development Type:	New dwelling ☒	Outbuilding ☐	Addition/extension ☐
	Fencing ☐	Demolition ☐	Signage ☐
	Subdivision ☐	Change of use ☐	Other ☐
Description/Use:	Wood & Plastics Bio-Composite Plant		

Driveway/Vehicle Crossover:	Existing ☐ Proposed ☐ Alteration Required ☐ ***Contact Council's engineering department for details on crossover construction***
	If yes please give details:

SUPPORTING INFORMATION

Existing Development/Use: (describe the way the land is used now)	Sawmilling and Timber Preservation	
Estimated construction cost of the proposed development:	$ 2.1 million	*Includes total cost of building works inclusive of GST*
New floor area:	*2190 m^2*	
Total floor area:	*2190 m^2*	
New building height:	*8 m*	

Water Supply:	TasWater ☒	Tank ☒

Waste Water Treatment:	TasWater ☒	On-Site Waste Water System ☐

APPLICANT DECLARATION

I hereby declare that;

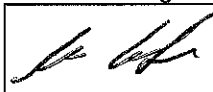
- I have read and understood the questions in this application and the answers given are true and correct.
- I am liable for the payment of Council's application fees, even in the event of the application not proceeding.
- I acknowledge that section 57 of *the Land Use Planning Approvals Act 1993* may require that the information submitted in this application be made accessible to the public and may be reproduced for representors, referral authorities and any other persons/bodies interested in this proposal.
- I consent to the entry of the land by an authorised officer including councillors in accordance with section 65J (1) (a) for any purpose connected with the administration and enforcement of the *Land Use Planning and Approvals Act 1993* and assessment of this application.

- Where the applicant is not the owner, I (the applicant) have either;
  - a) Notified the owner about the application (for private land)
  - b) Attached owners consent (Crown and Council land)

PLEASE NOTE: OWNERS CONSENT

Written consent and signature as per below of the owner is required before the application can be lodged as follows:

- for Crown land — seek consent from the relevant minister
- for Council land — seek consent from the General Manager or their delegates

	Name	*Signed*	*Date*
Applicant/Owner:	Nicholas Lorentzen		14/07/2021
Crown Land or Council consent (if required)			

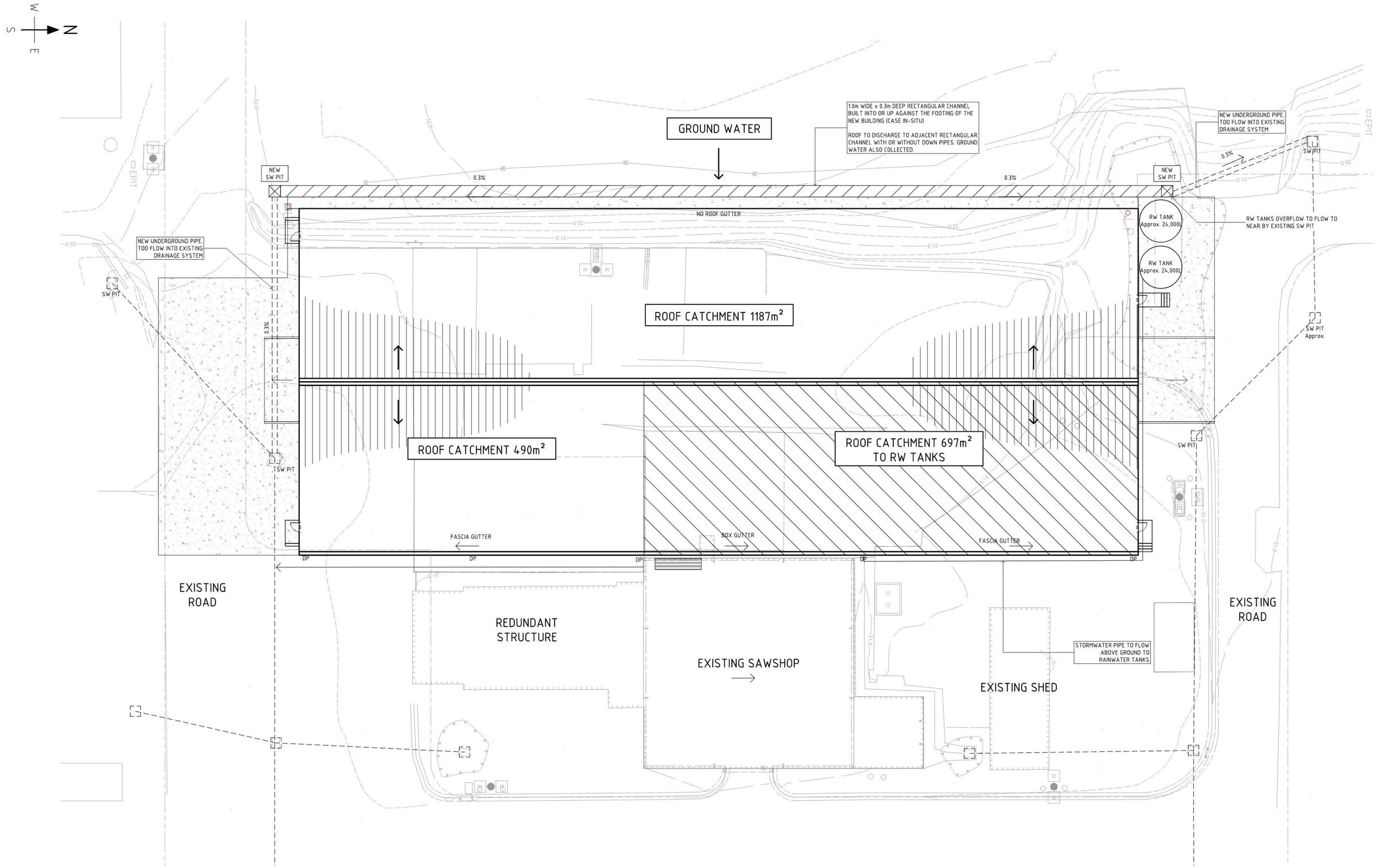
Planning Application Fee	$	Total Fees	$
Advertising Fee	$	Receipt No.	
		Date	/ /
		Initials	

Personal information is managed in accordance with the *Personal Information Protection Act 2004* and may be accessed by the individual to whom it relates, on request to George Town Council.

Information can be used for other purposes permitted by the *Local Government Act 1993* and regulations made by or under that Act, and, if necessary, may be disclosed to other public sector bodies, agents or contractors of George Town Council, in accordance with the Council's Personal Information Protection Policy.

APPENDIX C

Drainage Plan



PRELIMINARY DRAWING ONLY

NOT TO BE USED FOR MANUFACTURE

REV	BY	DATE	APP	DESCRIPTION
E	JW	20/05/21		ADD ROLLER DOOR
D	JW	09/07/20		CHGS. AS REQUESTED
C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	01/07/20		REVISED FFL
A	JW	23/06/20		ISSUED FOR TENDER

TIMBER LINK AUSTRALIA
Plantation timber building Australia
TIMBERLINK AUSTRALIA PTY LTD
ABN: 12 161 713 015

DO NOT SCALE
DRG TO AS1100

CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING DRAINAGE PLAN
DATE 23/06/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1:200	DRG # B11-001-G02	SHEET 08 / REV E / A1

ISO A1 (841 x 594)

APPENDIX D

Noise Assessment

NVC
NOISE VIBRATION CONSULTING

Timberlink
Old Bell Bay Road
Bell Bay, TAS

24 September 2021

Ref: 1522–1 EER Noise Assessment

Attention: Nick Lorentzen

Wood Plastic Composite Plant — Noise Assessment

Timberlink is proposing to install a wood plastic composite (WPC) plant on their site at Old Bell Bay Road, Bell Bay. The proposal is classed as a level 2A activity and will be assessed by the EPA. As such, an environmental effects report is required, which entails amongst other inputs, a noise assessment of the proposed operations. This letter provides such a noise assessment, conducted by NVC in September 2021.

1. Background

The location of the proposed WPC is on the existing Timberlink timber mill site at 331 Old Bell Bay Road, Bell Bay. The site (boundary in red in Figure 1), occupies approximately 85 hectares of flat land and is located between the bulk of the Bell Bay industrial area to the south and the township of George Town to the north-west and west. The WPC is indicated by the blue rectangle in Figure 1. There is a single residence to the NE at nominally 1200m (K in the figure), with the bulk of the sensitive receivers to the NW and W at nominally 1400 - 1500 m (B, G and J in the figure). The intervening land is predominantly flat bushland. George Town is a relatively small community, with low vehicle volumes on its suburban roads; the main traffic volumes being on the East Tamar highway to the north of the site. Suburban George Town is characterised by an acoustic environment that is generally quiet.

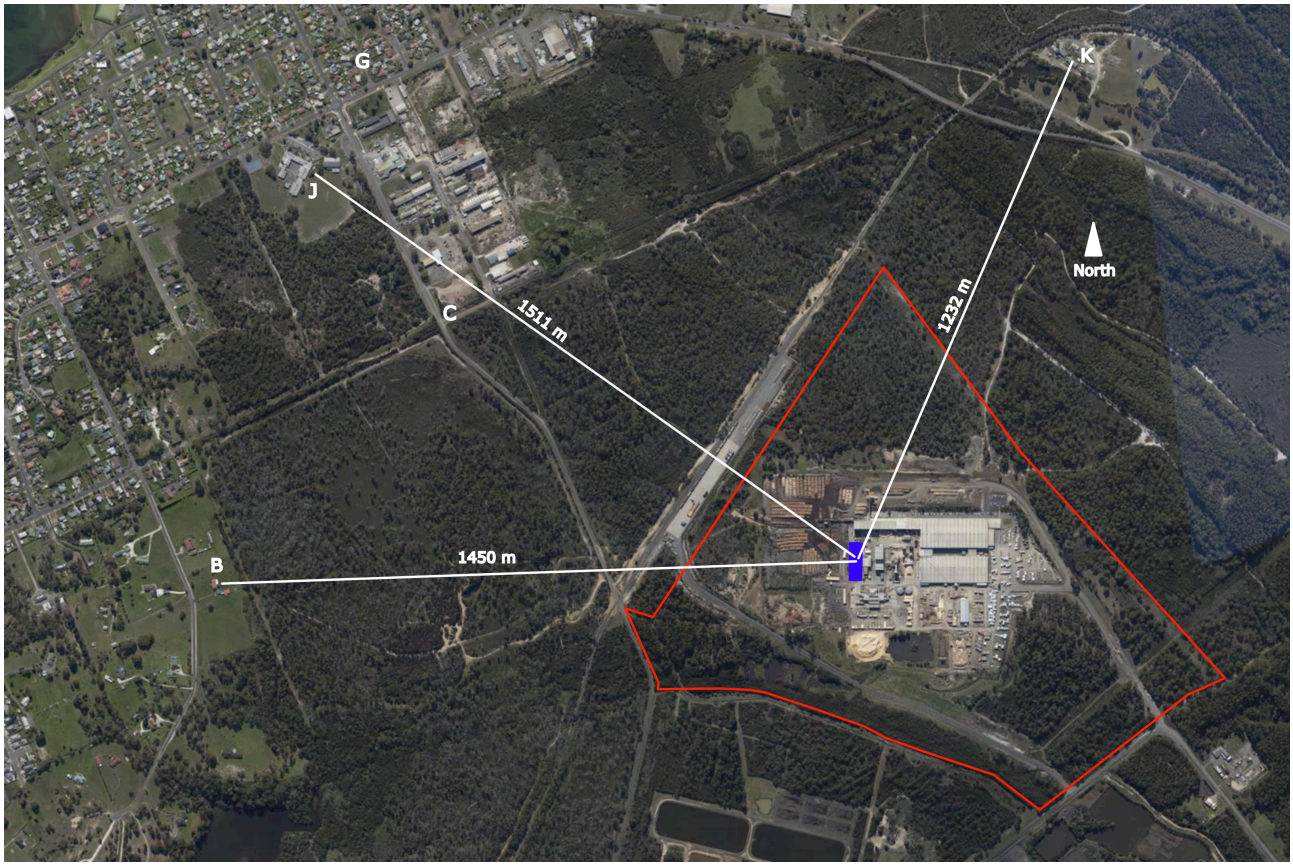


FIGURE 1: SITE AND SURROUNDINGS

The Timberlink site currently comprises a log yard, a substantial building (26,000 m^2) that houses its green mill, dry mill and product storage, a waste wood steam plant, and timber drying kilns. The main building is a steel framed and Colorbond-cladded structure, with some concrete panel walls for structural integrity. There are some large access doors around the building.

The WPC plant will similarly be a steel framed and Colorbond-clad structure, occupying some 2,100 m^2 on the western edge of the processing plant area and directly east of the log yard. Access to the building will be via a large entranceway on the southern end of the building.

Current operations on site entail:

- Raw product arrives on site via trucks into the log yard, with wheeled loaders unloading the trucks, stacking the logs, and loading the de-barker log deck.
- The de-barked logs passing via conveyor to the green mill in-feed. At this point the logs pass to the green mill inside the main building.
- The green mill is a 100m long line of process equipment, with a small un-enclosed chipper at the in-feed end and a hogger at the out-feed end handling any waste.
- The green timber is then moved to the drying kilns before coming back inside the main building to be processed in the dry mill. The product is then stored directly or post-treated (chemically) before storage.
- Forklifts load the final product onto trucks for removal from site.
- There is a re-saw facility located on the southern side of the main building, housed within a steel framed, Colorbond-clad structure. It contains a docking saw and six band saws, and has a dust extraction fan outside on the western side. Low quality product passes to the re-saw plant where it is processed into fence palings.

The WPC will take as its in-feed wood pellets from the dry mill and HDPE pellets from external suppliers. The wood pellets have final drying by a warm air stream, before being combined with the HDPE pellets and passing through an extruder. The output of the extruder is the WPC board and it is docked to length prior to storage within the WPC building. The entire process occurs within the WPC building.

The hours of operation for the current site are 24/7 and the WPC will operate 24/5.

The off-site truck movements associated with the WPC are 4 per day, all to occur during the daytime only.

The main noise sources identified with the WPC process are listed in Table 1 along with their electrical power rating and nominal sound power level. In determining the sound power levels the noise sources are taken as the electric motors, a centrifugal fan, and the chillers. For the chiller manufacturers data has been used, whilst generic formulations from Bies & Hansen[1] have been used for all other sources.

TABLE 1: NOISE SOURCES

Item		Electric Power	Sound Power level, dBA
Wood Drier	Fan and electric motor	75 kW	90
Rotary Extruder	Hydraulic power pack	250 kW	96
	Co-extruder, 2 off	45 kW ea.	91
Finishing	Electric motors, 13 off	30 kW ea.	97
Cooling	Chiller, 2 off	100 kW ea.	100

[1] *Engineering Noise Control, 5th Edition*, David A. Bies, Colin H, Hansen, Carl Q. Howard, 2018

2. CRITERIA

The Timberlink site currently operates under EPN 8563/3, which states the following regarding noise emissions, under Condition N1:

1. *Noise emissions from the activity when measured at any noise sensitive premises in other ownership and expressed as the continuous equivalent A-weighted sound pressure level must not exceed:*
    - 1.1. *45 dB(A) between the hours of 0700 and 1800 (Daytime);and*
    - 1.2. *40 dB(A) between the hours of 1800 and 2200 (Evening time);and*
    - 1.3. *35 dB(A) between the hours of 2200 and 0700 (Night time);and*
2. *Where the combined level of noise from the activity and the normal ambient noise exceeds the noise level stated above, this condition will not be considered to be breached unless the noise emissions from the activity are audible and exceed the ambient noise levels by at least 5 dB(A).*
3. *The time interval over which noise levels are averaged must be between 10 and 20 minutes.*
4. *Measured noise levels must be adjusted for tonality and impulsiveness in accordance with the Tasmanian Noise Measurements Procedure Manual.*
5. *All methods of measurement must be in accordance with the Tasmanian Noise Measurements Procedure Manual, issued by the Director.*

These are taken to apply for the future noise emissions from the existing and WPC operations at the site.

3. NOISE MEASUREMENTS

Triennial community noise surveys are conducted for the Timberlink site and show:

- Typical noise levels in the nearest George Town areas (B,C,G in Figure 1) as indicated in Table 2.

TABLE 2: TYPICAL NOISE LEVELS IN GEORGE TOWN

	Sound Pressure Level, dBA					
	Day		Evening		Night	
	L90	Leq	L90	Leq	L90	Leq
George Town	37	41	36	39	35	38

- The main noises audible during these measurements are traffic (particularly during the day), the Bell Bay industrial area, and birds / insects. The latter two are most dominant at night time.
- Timberlink is not perceived as audible in any of the measurements.
- The Bell Bay industrial area noise is considered to be from Temco and Comalco principally, with wood chippers (Artec / Reliance) occasionally audible during the day.

The current Timberlink-alone noise levels are not measurable in the community as they are inaudible.

4. NOISE EMISSIONS FROM WPC

A spreadsheet-based model has been used to calculate noise emissions from the proposed use at the neighbouring residential boundaries. The following comments are relevant to the noise predictions:

- Truck movements off site (4 per day) are not included, as they are insignificant compared to existing movements (113 per day). Further, the truck route is to the east of the site on the East Tamar Highway, where there are no residences in the near vicinity.
- All sources are combined into a single source and located at the centre position of the WPC shed. The sound power level of this single source is 102 dBA.
- NO attenuation for the shed is allowed for, i.e. the source is in the free field. This is very conservative, the shed may be expected to provide 10 to 15 dB attenuation.

- The ISO9613 algorithms are used, which allow for a mild temperature inversion or downwind propagation.
- No topographic screening is modelled, which is conservative.

The predicted sound pressure levels are 22 dBA at B and J, 25 dBA at K.

Given this is a conservative prediction (erring on the high side), and current background levels are 35 dBA, the WPC is not expected to affect the current acoustic environment at the nearest sensitive receivers.

As the noise will be inaudible (≥10 dB below current background), it by default has no character requiring adjustment in the noise levels.

5. RECOMMENDATIONS

This desktop assessment of the noise emissions from the proposed WPC plant indicate it will be inaudible at the nearest sensitive receivers and have no impact on the existing noise levels there.

It is recommended that a noise survey be conducted once the plant is operational, the intent of the survey being to:

- Conduct measurements in and around the WPC plant sufficient to define its sound power level.
- Conduct measurements at the nearest sensitive receivers during the day and night time to confirm site noise emissions continue to meet the site EPN noise criteria.

Should you have any queries, please do not hesitate to contact me directly.

Kind regards,

Bill Butler

NOISE VIBRATION CONSULTING

APPENDIX E

Environment Protection Notice

ENVIRONMENT PROTECTION NOTICE No. 8563/3

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

Issued to: **TIMBERLINK AUSTRALIA PTY LIMITED**
ACN 161 713 015
LOT 3B, 1490 FERNTREE GULLY RD
KNOXFIELD VIC 3180

Environmentally Relevant Activity: **The operation of a wood processing works and timber preservation works (ACTIVITY TYPE: Wood Processing Works)**
OLD BELL BAY RD SAWMILL AND TIMBER PRESERVATION PLANT, OLD BELL BAY RD
BELL BAY TAS 7253

GROUNDS

I, Wes Ford, Director, Environment Protection Authority, (the Director), being satisfied in accordance with section 44(1)(d) of the *Environmental Management and Pollution Control Act 1994* (EMPCA) that in relation to the above-mentioned environmentally relevant activity that it is desirable to vary the conditions of a permit (see table below) hereby issue this environment protection notice to the above-mentioned person as the person responsible for the activity.

Permit No.	Date Granted	Granted By
DA 2007/088	19 December 2007	George Town Council
DA 2007/089	07 April 2008	George Town Council

PARTICULARS

The particulars of the grounds upon which this notice is issued are:

1 The permitted quantity of materials processed and/or produced by the activity needs to be varied to reflect proposed future levels.

2 The permit conditions need to be varied to reflect updated terminology and regulatory practice, to reflect continuous improvement consistent with the objectives of EMPCA and/or to clarify the meaning of the conditions.

3 It is necessary to remove condition G5 of permit No. DA 2007/088 and condition G6 of permit No. DA 2007/089 because the requirement is a legal obligation under section 45 of the EMPCA.

4 The conditions of the permits have been consolidated to provide clarity to the meaning of the conditions and to provide consistency between conditions.

5 It is necessary to remove conditions G7, G8, G9, G10, A6, M4, CN1, N2 and N3 of permit No. DA 2007/088 and conditions G9, M4, N2 and N3 of permit No. DA 2007/089 because they detail requirements that have been fulfilled and/or are no longer required.

6 It is desirable to vary the requirement relating to the Environmental Management Plan (EMP) for the activity to reflect the stable nature of the activity and to provide for the Director to require a review of the EMP.

7 It is necessary to add a condition to ensure continuous emissions monitoring equipment in the exhaust stack for the activity is maintained and to ensure stack emissions are reported accurately.

8 The permit does not contain a condition in relation to boiler fuel restrictions. It is necessary to add a condition to restrict the type of boiler fuel to control atmospheric emissions from the activity.

9 It is necessary to add a condition that requires stack testing to be undertaken within the specified frequency to ensure atmospheric emissions from the activity meet the limits specified in this Notice.

10 The permit does not contain conditions in relation to the adequate management of the activity and/or The Land should the activity temporarily suspend operations. It is necessary to add a condition requiring management of the activity during temporarily suspended operations.

11 It is necessary to vary the stormwater monitoring and timber preservatives monitoring requirements to reflect the current settling pond monitoring that is undertaken.

12 Monitoring and reporting requirements set out in the permit conditions need to be varied to reflect current best practice environmental management and to require accurate measurement of emissions and their impact upon the receiving environment and to consistently inform the Director of the results of monitoring.

13 It is desirable to add a condition to permit the use of a chainsaw (powered by an internal combustion engine) in accordance with the Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2014.

14 It is desirable to vary the conditions relating to operation planning and procedures to ensure conditions reflect the activity's current operation.

15 The permit does not contain conditions relating the movement of controlled wastes. It is desirable to add a condition to reflect current best practice environmental management and to ensure the management of controlled waste in accordance with the Environmental Management and Pollution Control (Controlled Waste Tracking) Regulations 2010.

DEFINITIONS

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

REQUIREMENTS

The person responsible for the activity must comply with the varied permit conditions as set out in Schedule 2 of this Notice.

INFORMATION

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

PENALTIES

If a person bound by an environment protection notice contravenes a requirement of the notice, that person is guilty of an offence and is liable on summary conviction to a penalty not exceeding 1000 penalty units in the case of a body corporate or 500 penalty units in any other case (at the time of issuance of this Notice one penalty unit is equal to $154.00).

NOTICE TAKES EFFECT

This notice takes effect on the date on which it is served upon you.

APPEAL RIGHTS

You may appeal to the Appeal Tribunal against this notice, or against any requirement contained in the notice, within 14 days from the date on which the notice is served, by writing to:

The Chairperson
Resource Management and Planning Appeal Tribunal
GPO Box 2036
Hobart TAS 7001

Signed: _____

DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date: 25/7/2016

Table Of Contents

Attachments

Schedule 1: Definitions

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

Adjusted time average A-weighted sound pressure level is as defined in Australian Standard AS1055.1 1997 (Acoustic-description and measurement of environmental noise)

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

Commissioning means the testing of major items of equipment and is taken to be completed when the item(s) are being used or operated in the course of normal commercial operations.

Control Location (Noise) means a location chosen to represent the general ambient sound without contribution from noise sources at the activity.

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 person authorised in writing by the Director to exercise a power or function on the Director's behalf.

DRP means Decommissioning and Rehabilitation Plan.

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 Management Plan means the document titled: *Bell Bay Timber Processing and Preservation Facility Consolidated Environmental Management Plan for Timberlink Australia Pty Ltd 17 December 2013* and includes any amendment to or substitution of these documents which have been approved in writing by the Director. The document most recently approved by the Director has precedence to the extent of any inconsistency.

Environmental Nuisance and **Pollutant** each have the meanings ascribed to them 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 and chemicals.

Groundwater Management Plan means the document titled: *Revised Groundwater Management Plan - 331 Old Bell Bay Road for Forest Enterprises Australia Ltd*, prepared by SEMF Pty Ltd, dated June 2009, and includes any amendment to or substitution of this document approved in writing by the Director.

Leak Detection System means the system designed to direct any leaks from within the Timber Preservation Works' bunded area to inspection ports.

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.

Nominated Exhaust Points means the exhaust stack of the wood fired boiler.

Operations means the period from the date when the person responsible for the activity has certified official acceptance of such equipment as complying with the permit holders performance specifications.

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.

Preservative means the timber preservatives copper-azole (Tanalith-E), Light Organic Solvent Preservative (Vascol-Azure) and permethrin (Vascol-T).

Process Wastewater means any wastewater generated in the Timber Preservation Works area.

Reporting Period means the 12 months ending on **30 June** of each year.

Stack Test means the taking of measurements and the collection of samples for analysis from within a chimney, stack or flue.

Stormwater means water arising from rainfall, that has not subsequently been used in carrying out the activity.

Tasmanian 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.

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 168618/2 PID 3359262; and

2 as shown at Attachment 1.

Treatment Plant Emergency Plan means the document titled: *Treatment Plant Emergency Procedures* for Timberlink Australia Pty Ltd approved by the Director on the 9 July 2013 and includes any amendment to or substitution of these documents which have been approved in writing by the Director. The document most recently approved by the Director has precedence to the extent of any inconsistency.

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

Wastewater means water that is to be discharged from the activity following use.

Wood Waste means any planings, shavings, sawdust, woodfibre and dockings, but does not include treated timber or timber contaminated with other wastes.

Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits

1 The activity must not exceed the following limits (annual fees are derived from these figures):

1.1 250,000 cubic metres per year of product.

1.2 90,000 cubic metres/year of treated product.

General

G1 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.

G2 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.

G3 No changes without approval

1 The following changes, if they may cause or increase the emission of a pollutant which may cause material or serious environmental harm or environmental nuisance, must only take place in relation to the activity if such changes have been approved in writing by the EPA Board following its assessment of an application for a permit under the *Land Use Planning and Approvals Act 1993*, or approved in writing by the Director:

1.1 a change to a process used in the course of carrying out the activity; or

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

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

G4 Complaints register

1 A public complaints register must be maintained and made available for inspection by an Authorized Officer upon request. 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 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.

G5 Compliance with Standard - Timber Preservation Works

Unless otherwise approved in writing by the Director, The Land must be developed and used, and the activity on The Land must be carried out and monitored, in accordance with the Australian/New Zealand Standard *AS/NZS2843 Timber Preservation Plants* unless otherwise specified in these conditions or contrary to EMPCA.

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 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 incidents of non compliance with permit or environment protection notice 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 identification of breaches of limits specified in these conditions and significant variations from predicted results contained in any relevant DPEMP 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;

1.8 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;

1.9 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;

1.10 a summary of any community consultation and communication undertaken during the reporting period; and

1.11 strategic consideration of potential changes to the activity during the next 12 months that may have potential environmental impacts.

G7 Environmental Management Plan

1 Unless otherwise approved writing by the Director, the activity must be undertaken in accordance with the approved Environmental Management Plan (EMP) and any amendment to the plan approved in writing by the Director.

2 A revised EMP must be submitted to the Director for approval where required by notice in writing, by a date specified in writing by the Director.

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 and load dampening.

A2 Dust emissions from traffic areas

Dust emissions from areas of The Land used by vehicles must be limited or controlled by dampening or by other effective measures.

A3 Control of fugitive emissions - Sawdust

The sawdust collection and/or sawdust storage system must be designed and maintained so that fugitive dust emissions are controlled to the extent necessary to prevent environmental nuisance.

A4 Restrictions for burning on-site

Unless otherwise approved in writing by the Director, burning of sawdust, wood chips and other wood wastes must not be undertaken on The Land except in a boiler approved for this purpose.

A5 Boiler fuel restrictions

Unless otherwise approved in writing by the Director, preservative treated timber and other contaminated materials must not be burnt in the wood fired boiler.

A6 Emission limits from the wood-fired boiler

The concentration in gaseous emissions from the wood-fired boiler of the parameters listed in column 1, of the table below, must not exceed the limits specified in column 3 when measured in the units in column 2.

Column 1	Column 2	Column 3
Substance	Unit	Limit
Total particulates	mg/m^3 (corrected to 12% CO_2)	100
Oxides of Nitrogen	mg/m^3 (corrected to 7% O_2)	500

A7 Stack testing facilities

1 The following stack testing facilities must be maintained at all nominated exhaust points:

1.1 sampling positions must be in accordance with Australian Standard AS 4323.1 (*Stationary source emissions - selection of sampling positions*), or as approved in writing by the Director;

1.2 safe sampling platforms must be located to allow access to the sampling positions and safe access to these sampling platforms must be provided; and

1.3 all necessary services required for the test method prescribed must be provided.

A8 Stack testing frequency

1 Stack tests must be carried out by no later than the 15 June 2019 and every three years thereafter unless otherwise approved in writing by the Director.

2 Stack tests must occur when the machinery is operating under full load and normal operating conditions and the results must be provided to the Director within 30 days of receipt of results.

A9 Continuous emissions monitoring (CEM)

1 Unless otherwise specified by the Director in writing, CEM instrumentation must be maintained and calibrated in accordance with the manufacturer's specifications.

1.1 Maintenance and calibration records must be retained for a minimum of three years and must be made available to any authorized officer upon request.

2 CEM in-stack concentration data, when used for data averaging purposes for monitoring, reporting and compliance with this Notice:

2.1 must be acquired (data set/point acquisition), manipulated (averaged over time, which may be a rolling average), and reported in a manner approved by the Director in writing;

2.2 must be stored for a minimum of three years; and

2.3 must be made available in digital form to an authorized officer upon request.

Decommissioning And Rehabilitation

DC1 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.

DC2 Decommissioning and Rehabilitation Plan

1 Unless otherwise approved in writing by the Director, a revised DRP must be submitted to the Director for approval:

1.1 when changes to the conduct of the activity are to occur that will result in significant changes to decommissioning and rehabilitation obligations; and

1.2 within 30 days of the Director being notified of the likely cessation of operations; and

1.3 where required by notice in writing, by a date specified in writing by the Director.

2 The revised DRP must be prepared in accordance with guidelines issued by the Director. If no guidelines have been issued by the Director the measures described in this plan must include, but should not necessarily be limited to, the following:

2.1 completion of a site history, site contamination assessment and contamination remediation plan (including consideration of groundwater);

2.2 removal of all equipment, structures and waste materials unless they are considered by the Director to be beneficial to a future use of The Land;

2.3 grading and levelling/recontouring and revegetating (or other approved method of soil stabilisation) of the surface of the disturbed area;

2.4 management of drainage on The Land so as to reduce erosion and prevent release of a pollutant from The Land;

2.5 maintenance of the rehabilitated area for a period of not less than three years from the date of cessation of operations;

2.6 an itemised estimate of the costs of carrying out the works listed in the DRP and a statement of how these costs will be provided for; and

2.7 any other detail requested in writing by the Director.

DC3 Implementation of the DRP

Following permanent cessation of the activity, rehabilitation of The Land must be carried out in accordance with the most recent Decommissioning and Rehabilitation Plan (DRP) approved by the Director.

DC4 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:

2.1 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; and

2.2 If required by the Director, the person responsible must prepare and implement a Care and Maintenance Plan to the satisfaction of the Director.

3 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.

Effluent Disposal

E1 Process wastewater - Timber Preservation Works

Process wastewater from the Timber Preservation Works must not be discharged from the Timber Preservation Works area, as delineated in **Attachment 2** of this Notice.

E2 Wastewater discharges

1 All wastewater, not including Timber Preservation Works process wastewater, must be collected and disposed of to sewer in accordance with a Trade Waste Agreement with the operator of the sewage system.

2 Wastewater must not be discharged directly to the environment.

E3 Stormwater

1 Stormwater discharged from The Land must be collected and treated via the Stormwater Management System, as identified in **Attachment 3** of this Notice, prior to discharge to the receiving environment.

2 Stormwater must only be discharged from The Land from discharge point DP1 or DP2, as identified in **Attachment 4**.

3 All reasonable measures must be implemented to ensure that solids entrained in stormwater are retained on The Land.

4 The concentration of Total Petroleum Hydrocarbons in stormwater discharged to the receiving environment must not exceed 10mg/L.

Hazardous Substances

H1 Storage and handling of hazardous materials

1 Unless otherwise approved in writing by the Director, all environmentally hazardous materials, including all chemicals, fuels, and oils, held on The Land in volumes exceeding 250 litres must be stored and handled in accordance with the following:

1.1 Any storage facility must be contained within a spill collection bund with a net capacity of whichever is the greater of the following:

1.1.1 at least 110% of the combined volume of any interconnected vessels within that bund; or

1.1.2 at least 110% of the volume of the largest storage vessel; or

1.1.3 at least 25% of the total volume of all vessels stored in that spill collection bund; or

1.1.4 the capacity of the largest tank plus the output of any firewater system over a twenty minute period.

1.2 All activities that involve a significant risk of spillages, including the loading and unloading of bulk materials, must take place in a bunded containment area or on a transport vehicle loading apron.

1.3 Bunded containment areas and transport vehicle loading aprons must:

1.3.1 be made of materials that are impervious to any environmentally hazardous material stored within the bund;

1.3.2 be graded or drained to a sump to allow recovery of liquids;

1.3.3 be chemically resistant to the chemicals stored or transferred;

1.3.4 be designed and managed such that any leakage or spillage is contained within the bunded area (including where such leakage emanates vertically higher than the bund wall);

1.3.5 be designed and managed such that the transfer of materials is adequately controlled by valves, pumps and meters and other equipment wherever practical. The equipment must be adequately protected (for example, with bollards) and contained in an area designed to permit recovery of any released chemicals;

1.3.6 be designed such that chemicals which may react dangerously if they come into contact have measures in place to prevent mixing; and

1.3.7 be managed such that the capacity of the bund is maintained at all times (for example, by regular inspections and removal of obstructions).

H2 Hazardous materials (< 250 litres)

Unless otherwise approved in writing by the Director, each environmentally hazardous material, including chemicals, fuels and oils, held on The Land in discrete volumes not exceeding 250 litres, but not including discrete volumes of 25 litres or less, must, as far as practical and to the reasonable satisfaction of the Director, be located within bunded areas or spill trays which are designed to contain at least 110% of the volume of the largest container.

H3 Spill kits

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

H4 Inventory of hazardous materials

An inventory must be kept of all environmentally hazardous materials stored and handled on The Land. The inventory must specify the location of storage facilities and the maximum quantities of each environmentally hazardous material likely to be kept in storage and must include material safety data sheets for those environmentally hazardous materials.

Monitoring

M1 Dealing with samples obtained for monitoring

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

1.1 Australian Standards, NATA approved methods, the American Public Health Association Standard Methods for the Analysis of Water and Waste Water or other standard(s) approved in writing by the Director;

1.2 samples must be tested in a laboratory accredited by the National Association of Testing Authorities (NATA), or a laboratory approved in writing by the Director, for the specified test;

1.3 results of measurements and analysis of samples and details of methods employed in taking measurements and samples must be retained for at least three years after the date of collection; and

1.4 noise measurements must be undertaken in accordance with the Tasmanian Noise Measurement Procedures Manual.

M2 Leak detection system - Timber Preservation Works

1 During every day of operation, the leak detection system must be visually monitored for the presence of liquid.

2 A log must be kept detailing:

2.1 the date and time of inspection;

2.2 the name and signature of the person carrying out the inspection; and

2.3 the results of the inspection.

3 The log must be retained for a minimum of three years and presented to an Authorized Officer on request.

4 In the event that liquid is observed:

4.1 a sample of the liquid must be collected and analysed for total chromium, copper, arsenic, boron and permethrin content; and

4.2 the Director must be notified of the results within 24 hours of the receipt of the analyses.

M3 Settling pond monitoring

A representative grab sample from water monitoring point SW1, as identified in **Attachment 4** of this Notice, must be collected at the frequency specified in Column 3, of the table below, and must be analysed for the parameters specified in Column 1 and reported annually to the Director in the units specified in Column 2.

Column 1	Column 2	Column 3
Parameter	**Unit**	**Frequency**
Total Suspended Solids	mg/L	Quarterly
Total Petroleum Hydrocarbons	mg/L	Quarterly
pH	pH units	Quarterly
Total Copper	mg/L	Quarterly
Total Boron	mg/L	Quarterly
Permethrin	µg/L	Quarterly

M4 Wetland monitoring

A representative grab sample from water monitoring point DP2, as identified in **Attachment 4** of this Notice, must be collected at the frequency specified in Column 3, of the table below, and must be analysed for the parameters specified in Column 1 and reported annually to the Director in the units specified in Column 2.

Column 1	Column 2	Column 3
Parameter	**Unit**	**Frequency**
Total Copper	mg/L	Annually (September)
Total Boron	mg/L	Annually (September)
Total Petroleum Hydrocarbons	mg/L	Annually (September)
Permethrin	µg/L	Annually (September)

M5 Monitoring investigation limits

1 In the event that the concentration of a parameter listed in Column 1, of the table below, exceeds the investigation concentration level specified in Column 3 when measured in the units specified in Column 2, in any water sample collected at water monitoring points SW1 and DP2, as identified in **Attachment 4** of this Notice:

1.1 the Director must be notified within 24 hours of the person responsible becoming aware of the exceedence;

1.2 a report must be forwarded to the Director within 14 days of the person responsible becoming aware of the exceedence. The report must include, but not necessarily be limited to, the following:

1.2.1 the reported concentration;

1.2.2 an explanation as to why the investigation level was exceeded; and

1.2.3 strategies to limit the concentration to less than its investigation level, or to demonstrate that the reported levels would not cause or threaten environmental harm.

2 The strategies, as amended from time to time with the written approval of the Director, must be implemented as approved by the Director.

Column 1	Column 2	Column 3
Parameter	**Unit**	**Investigation Level**
Total Copper	mg/L	0.1
Total Boron	mg/L	1.3
Permethrin	µg/L	1.0

M6 Groundwater monitoring

1 Unless otherwise approved in writing by the Director, groundwater monitoring must be undertaken at the monitoring points, as identified in **Attachment 4**, in accordance with the Groundwater Management Plan as may be amended from time to time with the written approval of the Director.

2 Unless otherwise approved in writing by the Director, a revised Groundwater Management Plan must be submitted to the Director for approval:

2.1 if changes to the conduct of the activity are to occur that could potentially impact groundwater on The Land; and

2.2 where required by the Director by a date specified in writing.

Noise Control

N1 Noise emission limits

1 Noise emissions from the activity when measured at any domestic premises in other ownership and expressed as the adjusted time average A-weighted sound pressure level must not exceed:

1.1 45 dB(A) between the hours of 0700 and 1800 (Day time); and

1.2 40 dB(A) between the hours of 1800 and 2200 (Evening time); and

1.3 35 dB(A) between the hours of 2200 and 0700 (Night time) and

2 Where the combined level of noise from the activity and the normal ambient noise exceeds the noise levels stated above, this condition will not be considered to be breached unless the noise emissions from the activity are audible and exceed the ambient noise levels by at least 5 dB(A).

3 The time interval over which noise levels are averaged must be between 10 and 20 minutes.

4 Measured noise levels must be adjusted for tonality and impulsiveness in accordance with the *Tasmanian Noise Measurement Procedures Manual.*

5 All methods of measurement must be in accordance with the *Tasmanian Noise Measurement Procedures Manual*, issued by the Director.

N2 Chainsaw operation

1 Unless otherwise specified in writing by the Director, the operation of a chainsaw (powered by an internal combustion engine) on The Land is only permitted between the hours of 0700 to 1900.

2 Notwithstanding the above paragraph, in the event of a disruption in production from the electric pack docking (chainsaw) facility outside the above hours:

2.1 a chainsaw (powered by an internal combustion engine) may be used in accordance with the following:

2.1.1 the Director must be notified within 24 hours. Notification must include expected duration of out of hours chainsaw operation; and

2.1.2 all reasonable and practicable measures are implemented to mitigate nuisance noise from the chainsaw operation.

N3 Noise survey requirements

1 Unless otherwise approved by the Director, a noise survey must be carried out by whichever of the following dates occurs first and at three yearly intervals thereafter:

1.1 in the case of the Director having accepted a previous noise survey of the activity, the third anniversary of that acceptance; or

1.2 within 60 days from the date of any notification under these conditions of a change to the activity which is likely to substantially alter the character or increase the volume of the noise emitted from The Land; or

1.3 a date specified in writing by the Director.

N4 Noise survey method and reporting requirements

1 Prior to undertaking a noise survey as required by these conditions, a proposed noise survey method must be submitted to the Director for approval.

2 Without limitation, the survey method must address the following:

2.1 measurements must be carried out at day, evening and night times (where applicable) at each location; and

2.2 measurement locations, and the number thereof, must be specified, with one location established as a control location (noise).

3 Measurements and data recorded during the survey must include:

3.1 Operational status of noise producing equipment and throughput of the activity;

3.2 subjective descriptions of the sound at each location;

3.3 details of meteorological conditions relevant to the propagation of noise;

3.4 the equivalent continuous (L_{eq}) and L_1, L_{10}, L_{50}, L_{90} and L_{99} A-weighted sound pressure levels measured over a period of 10 minutes or an alternative time interval specified by the Director;

3.5 one-third octave spectra over suitably representative periods of not less than 1 minute; and

3.6 narrow-band spectra over suitably representative periods of not less than 1 minute.

4 A noise survey report must be forwarded to the Director within 30 days from the date on which the noise survey is completed.

5 The noise survey report must include the following:

5.1 the results and interpretation of the measurements required by these conditions;

5.2 a map of the area surrounding the activity with the boundary of The Land, measurement locations, and noise sensitive premises clearly marked on the map;

5.3 any other information that will assist with interpreting the results and whether the activity is in compliance with these conditions and EMPCA; and

5.4 recommendations of appropriate mitigation measures to manage any noise problems identified by the noise survey.

Operations

OP1 Fire Management Plan

The activity must be undertaken in accordance with the Fire Management Plan which has been approved in writing by the Tasmania Fire Service and any amendment to the Plan approved in writing by the Tasmania Fire Service.

OP2 Plant and equipment - Timber Preservation Works

1 All plant and equipment used in the activity must be:

1.1 maintained in accordance with the manufacturer's specifications;

1.2 operated in a proper manner in accordance with the manufacturer's specifications; and

1.3 operated by personnel holding technical qualifications or levels of competency consistent with any relevant standard defined by the Australian National Training Authority or otherwise approved by the Director.

OP3 Contact person - Timber Preservation Works

1 Within 30 days of the issue of this Notice, the Director must be provided with written notification of telephone contact details of a person who can respond to an incident relating to the Timber Preservation Works, at any specified time, 24 hours a day.

2 The Director must be notified within 24 hours if:

2.1 the person who can respond to an incident relating to the Timber Preservation Works ceases to be the person who can respond to an incident relating to the Timber Preservation Works; or

2.2 there are changes to the telephone contact details of the person who can respond to an incident relating to the Timber Preservation Works.

OP4 Emergency Response and Contingency Plan - Timber Preservation Works

The activity must be undertaken in accordance with the Treatment Plant Emergency Plan which has been approved in writing by the Director and any amendment to the Plan approved in writing by the Director.

OP5 Operational Procedures Manual - Timber Preservation Works

1 The person responsible for the activity must ensure that a copy of the Operational Procedures Manual is kept in a location which is accessible to relevant operators at all times;

2 The person responsible for the activity must take all reasonable and practicable measures to ensure that personnel, including contractors, carry out their duties in accordance with the Operational Procedures Manual; and

3 A copy of the Operational Procedures Manual must be submitted to an Authorized Officer upon request.

OP6 Staff training - Timber Preservation Works

1 The person responsible for the activity must ensure that all personnel working in the Timber Preservation Works are trained such that they are:

1.1 competent in the implementation of the procedures documented in the Operational Procedures Manual and the Emergency Response and Contingency Plan that are relevant to their work; and

1.2 if required to operate or maintain plant or equipment, competent in the operation or maintenance of that plant or equipment in accordance with the manufacturer's specifications.

Waste Management

WM1 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.

Schedule 3: Information

Legal Obligations

LO1 EMPCA

The activity must be conducted in accordance with the requirements of the *Environmental Management and Pollution Control Act 1994* and Regulations thereunder. The conditions of this document must not be construed as an exemption from any of those requirements.

LO2 Notification of incidents under section 32 of EMPCA

1 A person responsible for an activity that is not a level 2 activity or a level 3 activity must notify the relevant Council, as soon as reasonably practicable but not later than 24 hours, after becoming aware of the release of a pollutant occurring as the result of any incident in relation to that activity, including an emergency, accident or malfunction, if this release causes or may cause an environmental nuisance.

2 A person responsible for an activity that is a level 2 activity or a level 3 activity must notify the Director, as soon as reasonably practicable but not later than 24 hours, after becoming aware of the release of a pollutant occurring as a result of any incident in relation to that activity, including an emergency, accident or malfunction, if this release causes or may cause an environmental nuisance.

3 A person responsible for an environmentally relevant activity must notify the Director, as soon as reasonably practicable but not later than 24 hours, after becoming aware of the release of a pollutant occurring as a result of any incident in relation to that activity, including an emergency, accident or malfunction, if this release causes or may cause serious or material environmental harm.

4 The Director can be notified by telephoning 1800 005 171 (a 24-hour emergency telephone number).

5 Follow up reports can be emailed.

6 Any notification given by a person in compliance with this section is not admissible in evidence against the person in proceedings for an offence or for the imposition of a penalty (other than proceedings in respect of the making of a false or misleading statement).

7 A person is required to notify the relevant Council or the Director of an incident despite the fact that to do so might incriminate the person or make the person liable to a penalty.

8 Any notification referred to in subsection (1), (2) or (3) must include details of the incident, its nature, the circumstances in which it occurred and any action that has been taken to deal with it.

9 For the purposes of subsections (1), (2) and (3):

9.1 a person is not required to notify the relevant Council of an incident if the person has reasonable grounds for believing that the incident has already come to the notice of the Council

9.2 a person is not required to notify the Director of an incident if the person has reasonable grounds for believing that the incident has already come to the notice of the Director;

LO3 Storage and handling of Dangerous Goods and Dangerous Substances

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

1.1 *Dangerous Goods (Road and Rail Transport) Act 2010*;
1.2 *Dangerous Goods (Road and Rail Transport) Regulations 2010;*
1.3 *Dangerous Substances (Safe Handling) Act 2005;*
1.4 *Dangerous Substances (Safe Handling) Regulations 2009;*
1.5 *Workplace Health and Safety Act 1995*; and
1.6 *Workplace Health and Safety Regulations 1998.*

LO4 Change of responsibility

If the person who is or was responsible for the activity ceases to be responsible for the activity, they must notify the Director in accordance with Section 45 of the EMPCA.

Other Information

OI1 Waste management hierarchy

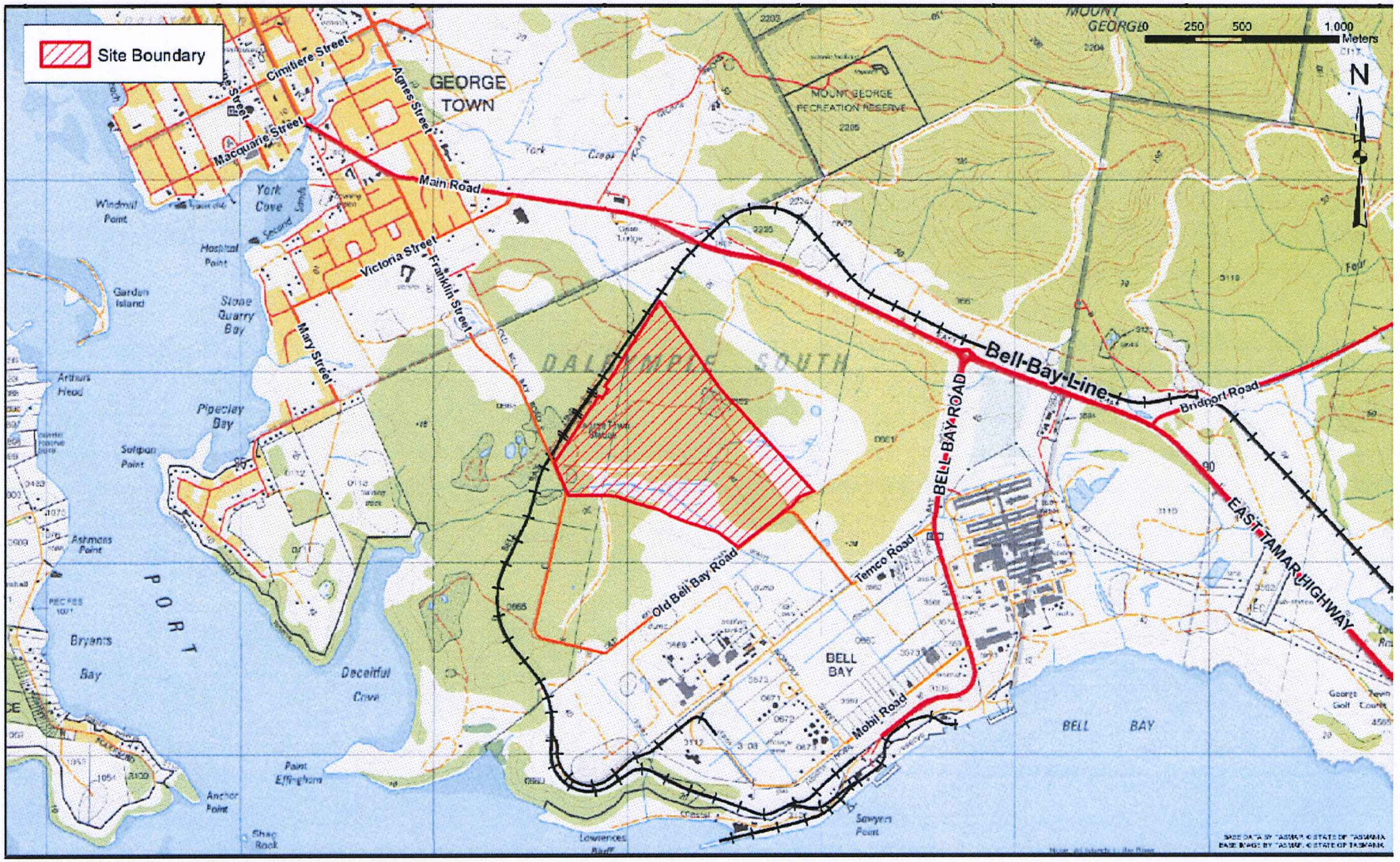
1 Wastes should be managed in accordance with the following hierarchy of waste management:

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.

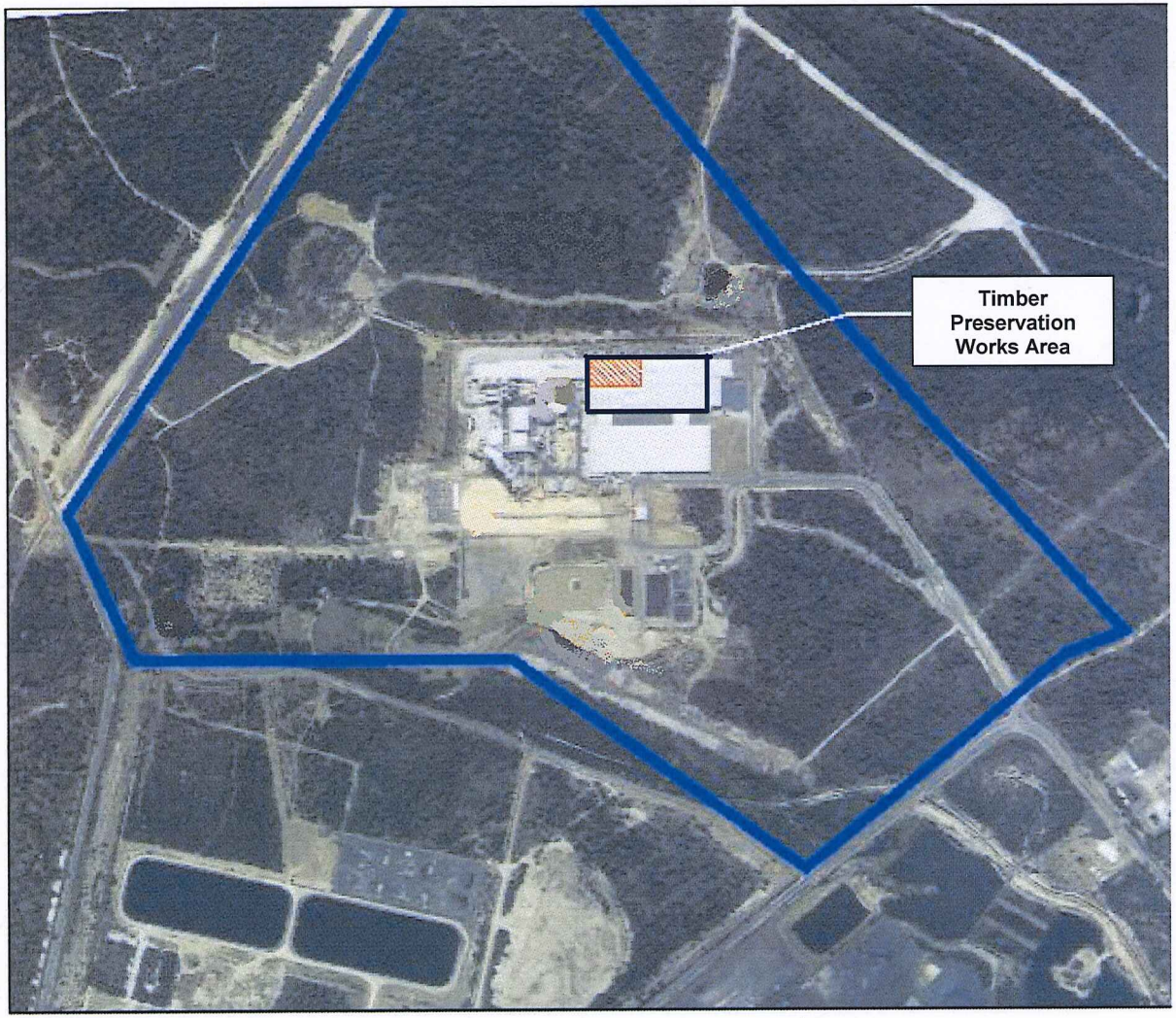
Attachment 1: The Land



DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date of Issue: 25 JUL 2016

Attachment 2: Timber Preservation Works



DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

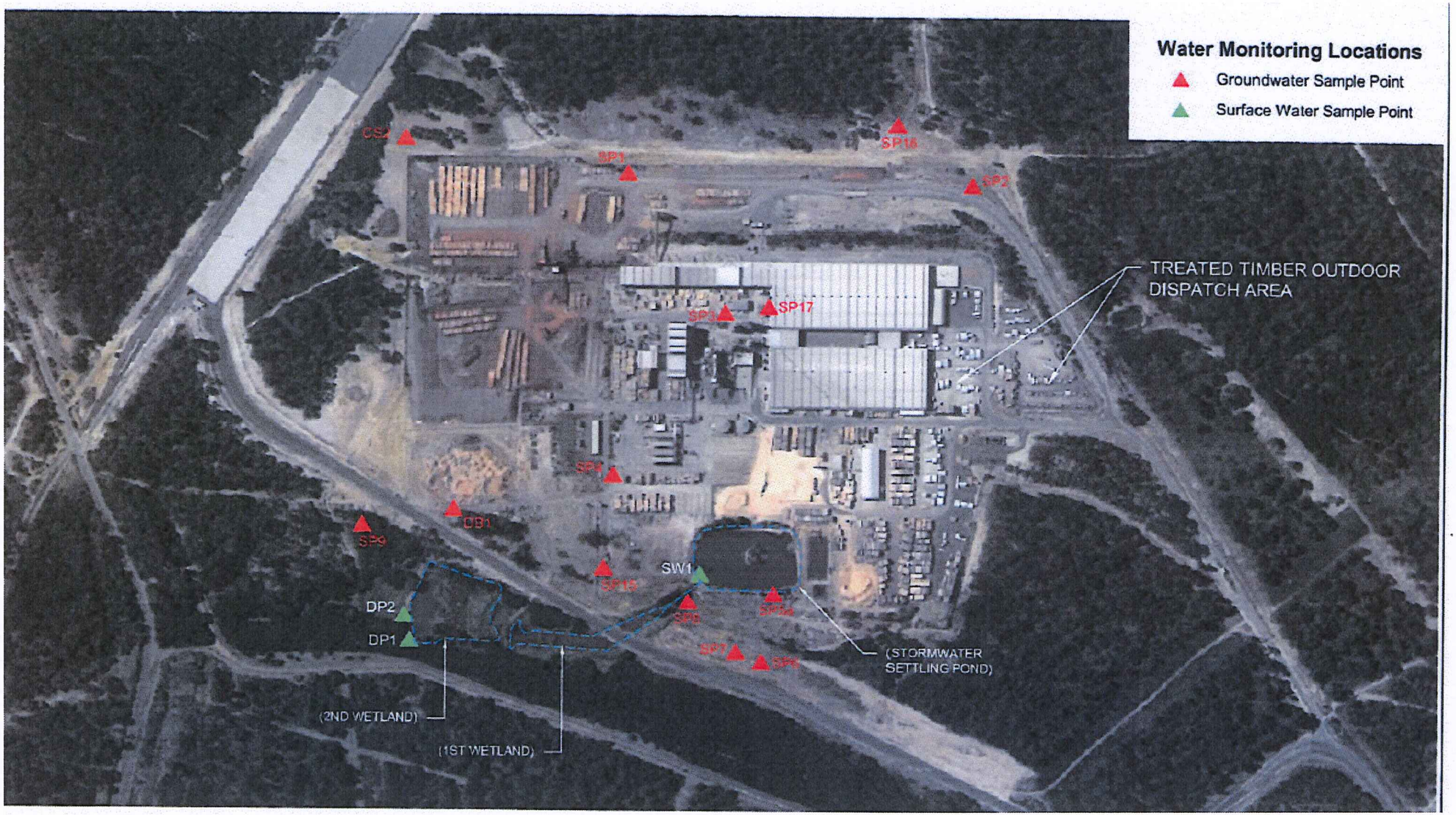
Date of Issue: 25 JUL 2016

Attachment 3: Stormwater Management System

DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date of issue: 25 JUL 2016

Attachment 4: Surface Water and Ground Water Monitoring Points



DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date of Issue: 25 JUL 2016

APPENDIX F

Air Quality Review

Jacobs

Memorandum

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Subject	**WPC Facility - Air Quality Review**	**Project Name**	Timberlink Bell Bay Air Quality
Attention	Nick Lorentzen	**Project No.**	IS373100
From	Michelle Hall		
Date	8 Nov 2021	Previous draft:	19 Oct 2021
Reviewed	Matthew Pickett, 05 Nov 2021		

2. Introduction

The Timberlink Australia Pty Ltd (Timberlink) timber mill in Bell Bay, Tasmania, is a large softwood sawmill facility, commissioned in 2008. The sawmill processes approximately 400,000 cubic metres (m^3) of plantation log each year (approximately 400,000 tonnes per annum–wet density). The plant currently produces a wide range of structural framing, fencing, landscaping, decorative and industrial timber products from renewable plantation pine.

Timberlink is proposing the construction of a new facility at the Bell Bay timber mill site for the production of wood plastic composite (WPC) boards. This plant would represent the first integrated WPC manufacturing facility in Australia. The WPC Facility would use plastic waste and plantation timber residue for the production of products including decking and screening. The initial facility would be expected to generate approximately 4,000 tonnes of product per year. The facility would incorporate provisions for future expansion i.e. from the initial single production line to 2-3 production lines in future. The proposed WPC Facility:

- Has no associated increase in the timber product throughput for the sawmill.
- Will process the equivalent of approximately 1% of the plantation log throughput by mass used by the sawmill i.e., the WPC represents a small component of the operation.

The objectives of the air quality review work are to identify the potential air emissions from the WPC Facility and carry out a qualitative assessment of the potential for air emissions by the WPC Facility (only) to cause air quality impacts in the local area.

The focus of the review is the change to current air quality emissions and potential air quality impact attributable to the proposed WPC Facility. The review does not incorporate assessment of the existing emissions at the timber mill.

3. Project Description

The current timber mill facility at Bell Bay consists of 5 key areas:

- Log yard
- Green Mill

- Kilns / boiler
- Dry Mill
- Timber Preservation Plant

The proposed WPC Facility will upcycle plastic waste and timber residue to produce the final WPC products. The WPC Facility will be housed in a new proposed building of dimensions 73m long x 30m wide x 8m tall, located on site to the west of the existing maintenance building, as shown in Figure 3-1 below and Attachment B.

Figure 3-1: Bell Bay timber mill site layout – including proposed WPC Facility building (shaded blue)

The raw feedstock for the WPC Facility will consist of:

a. Plantation pine (radiata pine) residue, provided at the WPC Facility in the form of small wood pellets – 55%

b. Upcycled high-density polyethylene (HDPE), primarily agricultural and aquaculture waste and domestic milk bottles – 35%

c. Colours and additives – 10%

The pine wood pellets are produced on site in a separate area of the mill. The environmental assessment of this facility is not included in the current WPC Facility approval application (JMG, 2021). The recycled HDPE will be sourced from Tasmanian post-consumer waste and industrial facilities and will be supplied by a third party in the form of recycled HDPE pellets.

The wood pellets would be dried on site, in the WPC Facility, and then combined with the HDPE to create a molten material mix. This mix is passed through the main core extruder to create the WPC product in the desired shape. The product is immediately drawn through the cooling tanks which cool the product to a stable temperature. The cooled product is embossed to impress the pattern into the surface of the product, and then brushed with metal or plastic brushes to remove shine from the surface. The product is then cut to standard lengths and packaged for transportation and sale.

A schematic of the production process is shown in Figure 3-2. Note that the boundary of works for the current assessment are the inputs to the final drier, the rHDPE (recycled HDPE) through to the end products. The wood pelletizer and upstream operations are not included in this assessment.

Figure 3-2: WPC Facility process schematic

A layout of process units within the WPC Facility building is shown in Attachment B and Attachment C.

4. Project Site

A vertical image showing the Timberlink sawmill location in relation to Bell Bay, George Town, River Tamar, and other geographical features, is provided in Figure 4-1 (Bing image; see also Attachment A).

Figure 4-1: Tamar Valley Geographical Setting

The industrial area south-east of George Town includes the Timberlink sawmill. By inspection of vertical imagery of the area, the main neighbouring industries/industrial activities and their positions in relation to the Timberlink site include:

- A wastewater treatment plant located between 700-1000 m to the southwest.
- Liberty Bell Bay manganese smelter site (formerly TEMCO) including open stockpiles centred approximately 1 km to the south.
- Sims Metal site (smaller site than Liberty Bell Bay) 1.3 km to the SSE.
- A group of large fuel storage tanks approximately 1.7 km to the SSE.
- Shipping berths 2.2 km SSE around to SE.
- Rio Tinto Alcan Bell Bay Aluminium plant centred approximately 1.7 km to the ESE.
- Bell Bay Power Station 5.1 km approximately to the SE.

As will be seen in Section 5.2, Bell Bay winds are predominantly westerly and north-westerly, which aids in the dispersion of pollutants away from George Town receptors. Sea breezes in the Tamar River valley would assist to ventilate the George Town / Bell Bay localities and disperse pollutants.

In relation to the potential for air quality impact, the nearest sensitive receptors to the Timberlink sawmill include (refer Attachment A):

- Urban residential area Secret Park centered approximately 2.0 km W (closest individual residence approximately 1.4 km W).
- South George Town Primary school approximately 1.5 km NW.
- An isolated dwelling approximately 1.2 km NNE
- Southern parts of George Town urban areas centred approximately 1.7 km NW.

No isolated residences are apparent in the proximity of the Timberlink sawmill, which is surrounded by Eucalypt forest and scrub. Trees and thick scrub can be important for dispersing air pollutants in two ways: (1) the vegetation traps some of the pollutants, especially the larger airborne particles; and (2) during conditions of higher wind speeds the vegetation increases turbulence and mixing near ground level leading to better dispersion.

The Tamar Valley near Bell Bay is surrounded by hills, and terrain influences the dispersion of emissions. The influences of terrain on pollutant dispersion vary and are complex. The closest high terrain to the Timberlink sawmill rises approximately 140 metres in height from 1.5 km to 3.0 km NE of the site.

5. Local Air Environment

5.1 Existing Air Quality

The major contributor to air pollution in Tasmania is smoke, with sources including domestic wood heaters in winter, agricultural, hazard–reduction and forest industry burns in autumn primarily, and bushfires in the summer months. The small particles or aerosols in smoke are measured as $PM_{2.5}$ (particles with sizes up to 2.5 microns) and PM_{10} (particle sizes up to 10 microns). Naturally occurring sea–salt aerosols and wind–raised dust contribute more strongly to PM_{10} concentrations (EPA, 2021a).

The main pollutants of interest for Timberlink are particulate matter i.e. PM_{10} and $PM_{2.5}$, also hydrocarbons or volatile organic compounds (VOCs), so these indicators remain the focus of this section. An air monitoring station has been operating on the southern edge of George Town since July 2007 and would be representative of the Timberlink site in Bell Bay. The George Town Air Monitoring Station, established in 2007 by the EPA and local industries, monitors several pollutants including PM_{10} and $PM_{2.5}$ using Low Volume Air Samplers. The EPA (2021a) reports that "winter woodsmoke levels appear low to moderate, which is likely to be due to the coastal location and associated winds, as woodheater use appears common in the town."

EPA's results for George Town for 24-hour average PM_{10} and 24-hour average $PM_{2.5}$ for 2019, 2020 and 2021 are shown in the following three figures (EPA, 2021b). The figures show that even including the effects of emissions from all industrial facilities around Bell Bay the PM_{10} and $PM_{2.5}$ levels are most commonly lower than their 24-hour average standards; i.e., 50 $\mu g/m^3$ (PM_{10}) and 25 $\mu g/m^3$ ($PM_{2.5}$), the latter standard shown by the red horizontal lines in the plots. However, emissions of particulate matter in the Bell Bay locality are still a matter of concern for all domestic and industrial sources, and the application of best practice emissions controls remains important.

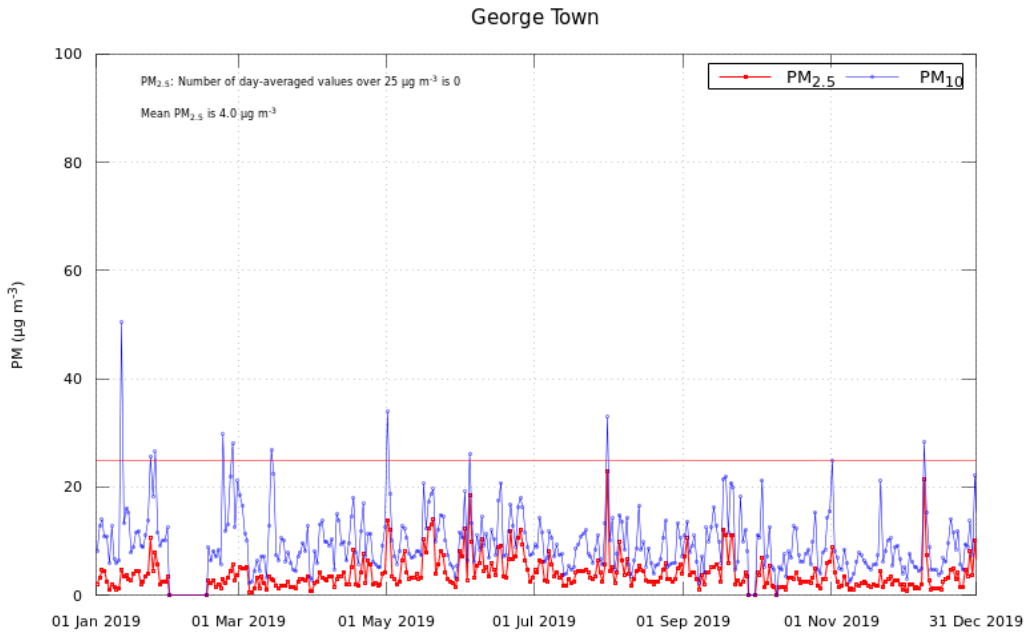

Figure 5-1: EPA BLANkET 2019: 24-hour Average $PM_{2.5}$ and PM_{10} (µg/m³)

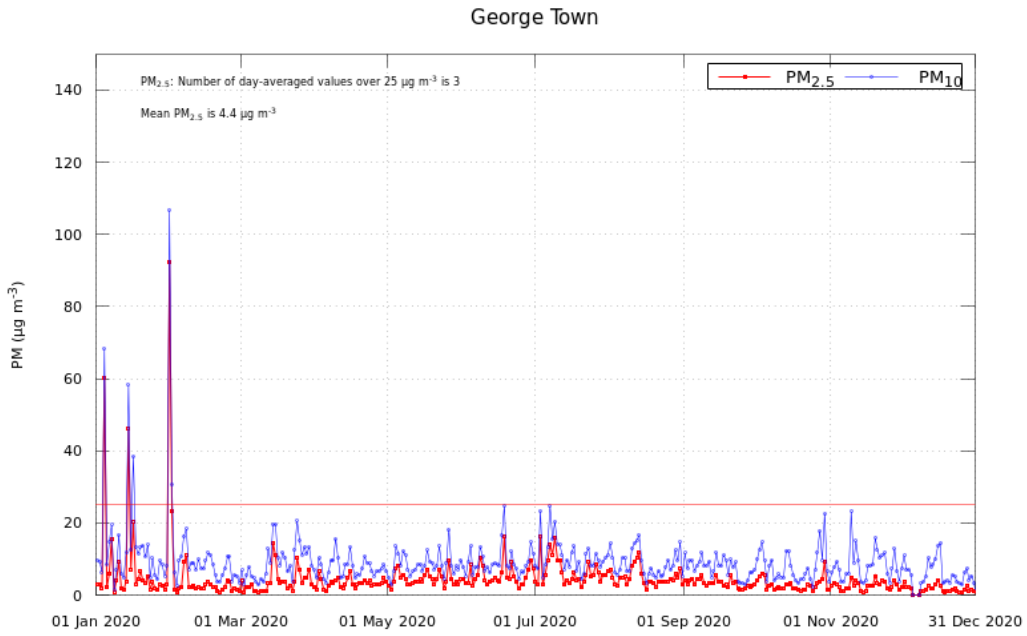

Figure 5-2: EPA BLANkET 2020: 24-hour Average $PM_{2.5}$ and PM_{10} (µg/m³)

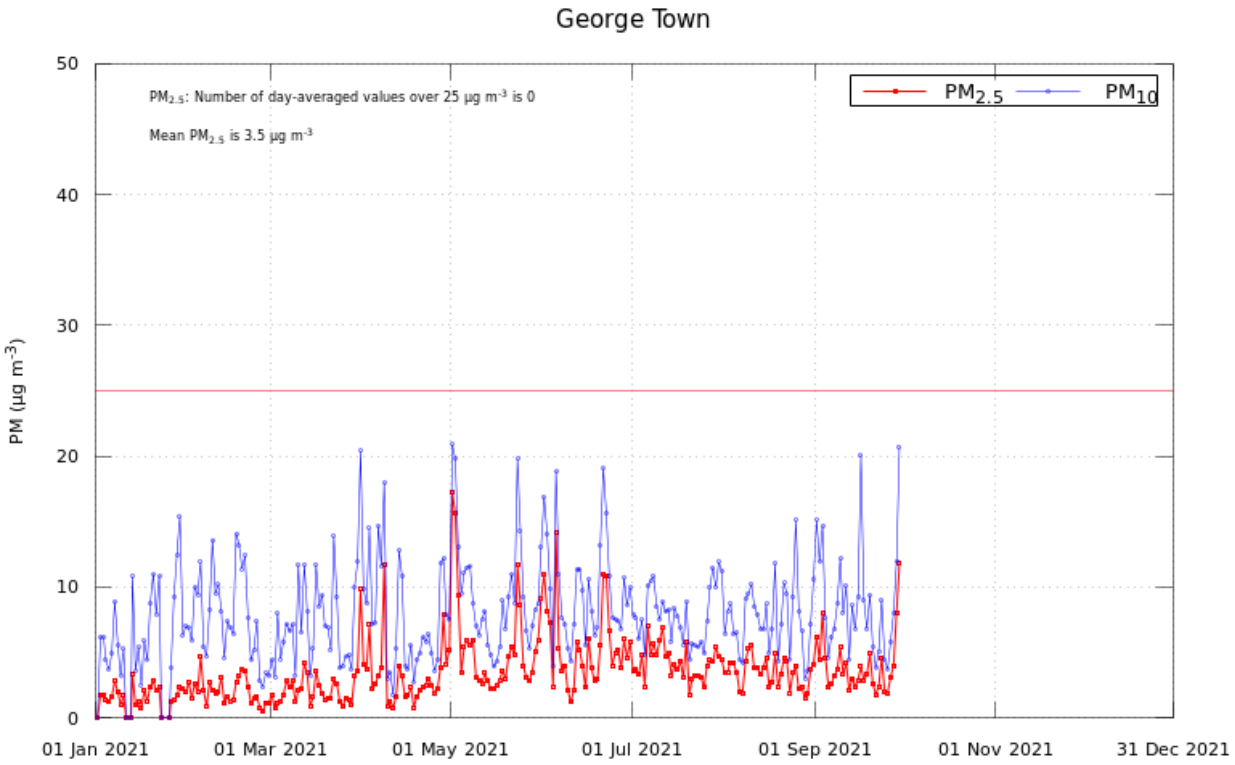

Figure 5-3: EPA BLANkET 2021: 24-hour Average $PM_{2.5}$ and PM_{10} (µg/m³)

There are no ambient monitoring data publicly available for VOCs in the Tamar Valley region. Information from previous Victoria EPA monitoring campaigns indicates that VOC levels are typically low. A study for the Corio (Geelong) area in 2003 – 2005 (Vic EPA, 2005) indicated that the peak 24-hour average benzene level detected was approximately 4 ppb. Average levels in metropolitan Melbourne in 2003 (Alphington and Footscray EPA monitoring stations) were less than 1 ppb.

5.2 Local Meteorology

The meteorology of the Tamar Valley region has been studied in detail e.g. Ross and Lewis (1993), Stephenson EMF (1995), and Power (2001). The coast, meandering river valley, and hilly terrain means the winds and air pollutant dispersion in the valley is complex, from Low Head on the coast through to Launceston. Because of this complexity, Bureau of Meteorology observations of winds at the Low Head weather station are only partly representative of Bell Bay. The dominant wind directions are W-NW as shown by the annual wind roses provided in Figure 5-4 (DPIW, 2001).

A statistical summary of Bell Bay winds is provided in Table 5-1; based on the results of Power (2001).

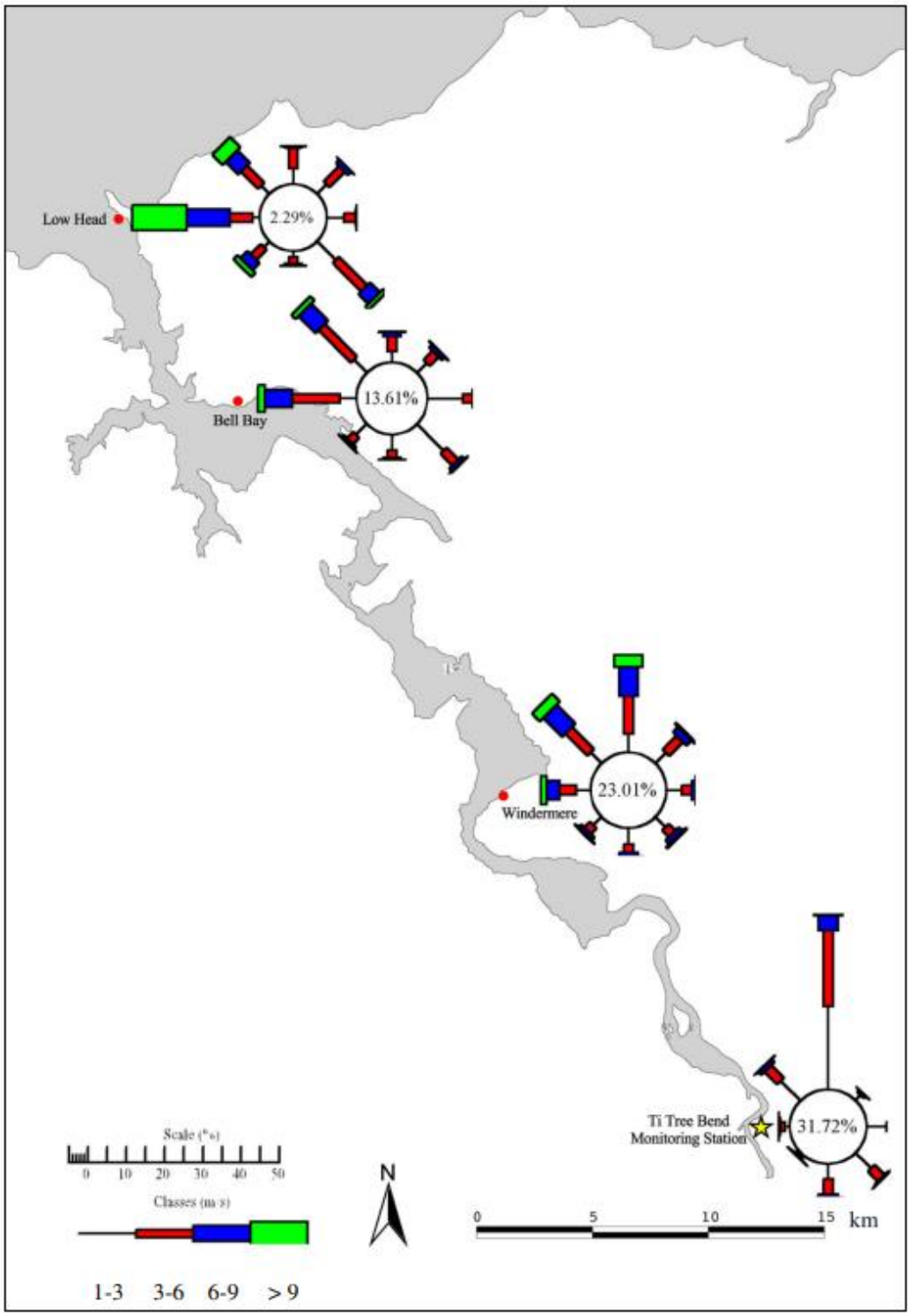

Figure 5-4: Tamar Valley Geographical Setting and Winds

Table 5-1 Statistical Summary of Bell Bay Winds

Parameter	Annual	Summer	Autumn	Winter	Spring
Mean velocity (m/s)	3.6	3.9	3.3	3.4	4
Fraction calm	6.3%	3.3%	8.2%	8.9%	2.2%
Prevailing wind directions	W-NW	W-NW	W-NW	NW-W and SE	W-NW

6. Air Emissions

6.1 Operations

Descriptions of the proposed new process units as part of the WPC Facility and associated air emissions for each are provided below. All WPC Facility operations will be located with the proposed new building.

Operation of the proposed WPC Facility would be 24 hours per day, 5 days per week.

Dryer

The wood pellets will be treated by the dryer to reduce the moisture content of the woodfibre. This will be achieved by heating the pellets at 80 to 100 degrees Celsius for a period of 4 hours. Note that the pellets have already been dried at the existing kilns at site, where moisture content is reduced from 90 – 100% down to 10% on a dry wood basis[1]. The additional drying step as part of the WPC process is required to further condition the woodfibre prior to extrusion, with the moisture content reduced from 10% to less than 4%.

The WPC drying equipment will consist of:

i. A hot air dryer unit – supplies air to the drying hopper unit. It includes a blower with twin filter system.

ii. A drying hopper unit – temperature controlled hopper, connected to the hot air dryer unit, for batch drying of the wood pellets.

The two units would be interconnected with warm air recirculated back through the system.

The dryer will produce predominantly water vapour emissions, which will be vented to atmosphere via a stack located on the roof; refer Figure 6-1 and Attachment D. The height of this stack will 3 to 5 metres above the roof height (roof height is 8 – 10 metres).

The rate of moisture release will be approximately 40 - 60 kg/hr. This is very small compared to that for the existing kilns which is approximately 8,500 kg/hr. The total exhaust gas flow rate to atmosphere will

[1] Moisture contents shown are on dry wood basis per industry convention, e.g. if wood weighing 100 kg contains 50 kg water, the reported moisture content is 100% on dry wood basis.

be approximately 2,000 m^3/hr. For a typical stack velocity of 10 - 12 m/s, the dryer stack diameter would be approximately 250 mm internal diameter.

It is anticipated that there may be small levels of dust (PM_{10} and $PM_{2.5}$) and volatile organic compounds (VOCs) which are released from the wood pellets during the drying phase. Based on typical kiln dryer emissions, VOCs which may occur are aldehydes (e.g. formaldehyde, acetaldehyde), turpenes (e.g. pinene, camphene), formic acid, acetic acid and others. The quantity of the dust and VOC emissions is expected to be low, based on:

- The low exhaust rate from dryer, i.e. predominantly water vapour at 40 – 60 kg/hr, which is less than 1% of the water vapour rate from the existing kilns on site[2], and
- The wood has already been dried at similar or higher temperatures in the upstream kiln dryers, at either 140 deg.C for the high temperature kilns or at 90 deg.C in the medium temperature batch kilns. The majority of the volatile material, including moisture, is expected to be removed at this step.
- Lignin degradation at the dryer temperature of pre-dried pine is expected to be very low and significantly below that of the current kilns. From review of a study by Shen et al (2020), the release rate of total VOCs decreased to low levels in the final stages of drying of plantation grown pine wood using a conventional drying process (at 90 degrees C). The study showed a continual reduction of total VOC emission rate from around 28 mg/m^3.hr at 13.7% moisture content, down to less than 1 mg/m^3.hr at 8.8% moisture content.

It is recommended that stack testing of the dryer emissions at the stack be undertaken following commissioning of the WPC Facility. This should include measurement of:

- Individual VOCs including but not limited to aldehydes (e.g. formaldehyde, acetaldehyde, propanal, hexanal, valeraldehyde, acraldehyde), turpenes (e.g. pinene, camphene, limonene), formic acid, acetic acid, alkanes and alkenes
- Total VOCs
- Particulate matter – total particulate matter, PM_{10} and $PM_{2.5}$
- Gas flow rate, gas temperature, and moisture content

Timberlink has spoken with stack testers who have indicated that stack sampling of small diameter stacks as expected for the dryer exhaust will be possible. The design of the dryer exhaust stack should incorporate sample points, in accordance with Australian Standards (AS 4323.1 – 1995) where practicable.

[2] Comparisons of the dryer water vapour emissions with those of the kiln have been provided as measurement data for total exhaust rate from kilns is not readily available. These emissions are typically fugitive rather than a point source.

The dryer is electrically powered and therefore there will be no combustion emissions.

Figure 6-1: Dryer stack location (approximate) on roof of WPC Facility building

Main core extruder

The main core extruder combines both wood residue (in the form of pellets) produced on site combined with HDPE sourced from off site to produce the extruded product. The raw materials will be fed into the extruder via vacuum feed systems from small and large bulk bags. The extruder operating temperature will be 160 – 180 degrees C, which is above the melting temperature of HDPE (120 - 135 degrees C).

The emissions from the feed end of the main core extruder will be subject to vacuum extraction of moisture and gasses to wet ring vacuum pumps and the gasses collected will be solidified via a condenser unit.

Some air emissions are expected at the downstream end of the extruder where the extruded WPC product is discharged. As outlined in a study of volatile emissions from polymer processing (Patel, 2000), the

extrusion process operation has the potential to release either particulate matter and/or volatiles. Types and amounts of VOCs emitted would depend on a variety of material-related factors such as the material composition (purity, additives, etc.), degree of thermal stabilization, choice of processing conditions (in particular residence time and temperature), and the design of the equipment. The study reports that principal volatiles from air collected above the die under extrusion conditions when processing polyethylene were carbon monoxide, formaldehyde and acrolein.

Although the presence and potential emission rate of particulate matter and volatiles are not known for the proposed WPC extruder, it is noted that the extruder operation temperature of 160 – 180 degrees C is well below the decomposition temperature range for HDPE of 335 – 450 degrees C (PSLC, 2021). In addition, Patel (2000) reports that from a previous study of VOCs emitted during injection molding and extrusion processing for different thermoplastics which included HDPE, the data showed that "…*in none of the situations studied was any VOC formed at a concentration above the occupational exposure limit in United Kingdom*".

Brushing unit

The brushing unit is deigned to remove the shine from the surface by brushing with plastic or steel brushes.

Small amounts of the surface are removed and captured by integral dust extraction equipment. This waste material will be reground and recycled back into the process as part of the raw material feed. The captured dust will not be released to atmosphere and the clean treated air exiting the dust extractor will enter the general building space.

Cutting saw

The cutting saw will cut the product to the desired size prior to packaging.

Small amounts of dust will be produced that will be captured by local dust extraction at the saw and the material would be recycled back into the process. It is expected that the quantity of dust generated at the saw will be very small (estimated at 0.01 m^3 per day) due to the very thin cuts required. As for the brushing unit, the clean treated air from the dust extractor will enter the general building space.

Other

Other process units within the WPC Facility building would include:

- Cooling Tanks – used to cool the extruded WPC product using rainwater which is harvested off the building roof.
- Embossing unit – deigned to impress the pattern into the surface of the product.
- Packaging machine - applies packaging to the final product prior to being dispatched offsite via truck to market.

There are no air emissions expected from these unit operations.

Transport movements

There will be a small increase of approximately four additional truck movements per day from the site, from the current operation of 113 trucks per day, i.e. an increase of 3.5% (JMG, 2021). Existing access and circulation routes will be used by these additional heavy goods vehicle movements. Existing onsite carparking facilities will be utilised by the new employees. All new vehicle movements will be on sealed roads, therefore changes to dust generation due to transport movements are not anticipated.

6.2 Construction

During construction, key air emissions are expected to be particulate matter generated as a result of civil works. Potential activities that will cause dust emissions include:

- Demolition of existing infrastructure and site establishment
- Earth movement for installation of foundations, e.g. excavations, truck loading and unloading operations
- Wind erosion of any stockpiles on site
- Wheel generated dust from:
    - Movement of heavy vehicles and plant – for civil works and delivery of materials/equipment
    - Movement of utility and light vehicles

The construction period will be a total of 7 months, with construction expected to commence during 2022 and complete in 2023. These emissions will be of short duration, i.e. with the excavation and slab construction of approximately 1 month, and sources will be confined to the site boundary. It is anticipated that the dust emissions can be adequately controlled using dust mitigation measures as typically applied for construction sites.

Dust from construction activities will be managed using a range of mitigation measures in accordance with the *EPA Standard Conditions and Definitions*, which contains more details about controlling dust emissions (EPA, 2021c). Examples of measures are:

- Spraying of water on roads and open areas which are dust generating surfaces e.g. unsealed areas
- Locating stockpiles where they will be least susceptible to wind erosion
- Minimising stockpile size and length of time exposed
- Dust suppression from concrete cutting and construction and demolition activities
- Use of wind fences wherever appropriate e.g. shade cloth as a wind break
- Minimising vehicle routes along unsealed roads/access ways and minimising speeds

- Adjusting construction activities as appropriate in windy weather to reduce risk of dust blown off site and towards sensitive receptors

- Regular monitoring of any dust emissions and the effectiveness of dust control measures and maintaining a community complaints database

7. Summary

Key air emissions associated with the construction of the WPC Facility are expected to be particulate matter, generated through civil works, material movement, wheel generated dust from traffic movement and wind erosion of stockpiles and open areas. The duration of the construction period is expected to be relatively short, approximately 7 months. Dust emissions would be effectively managed using a variety of mitigation measures typical for a construction site, e.g. water sprays on unsealed roads and open areas, avoiding dust intensive activities during wind conditions.

Air pollutant emissions associated with operation of the proposed WPC Facility also would include airborne particulate matter emissions from the dryer stack, released via a short stack mounted on the roof of the WPC Facility building. The dryer stack emissions are expected to be predominantly water vapour and minor amounts of VOCs and dust. The emissions will be dispersed to atmosphere via a stack above roof height. These emissions are not anticipated to have a material impact on local ambient air quality (would not be detectable in the existing background levels).

There will be no forced ventilation of the general building space. The only point source emission associated with the building will be the dryer emissions. As outlined above, where there is dust generated, the specific unit operation will be equipped with a dedicated dust collection system. As a result, fugitive dust emissions from the building are not anticipated.

Emissions from the proposed WPC Facility are expected to represent a small fraction of the total existing emissions from the sawmill, likely to be less than approximately 1% of existing emissions, based on throughput estimates. The emissions from the dryer stack are not anticipated to impact the nearest sensitive receptor site which is located approximately 1.2 km from the proposed WPC Facility. In addition, the dominant wind direction at the site is from the north-west or from the west; i.e., not in the direction of the sensitive receptor sites. This reduces the likelihood for any adverse air quality impact at the receptor sites. However, as for any industrial facility, monitoring of potential changes to emissions and implementing actions to minimise these risks as far as practicable is important for avoiding potential harm to the environment.

References

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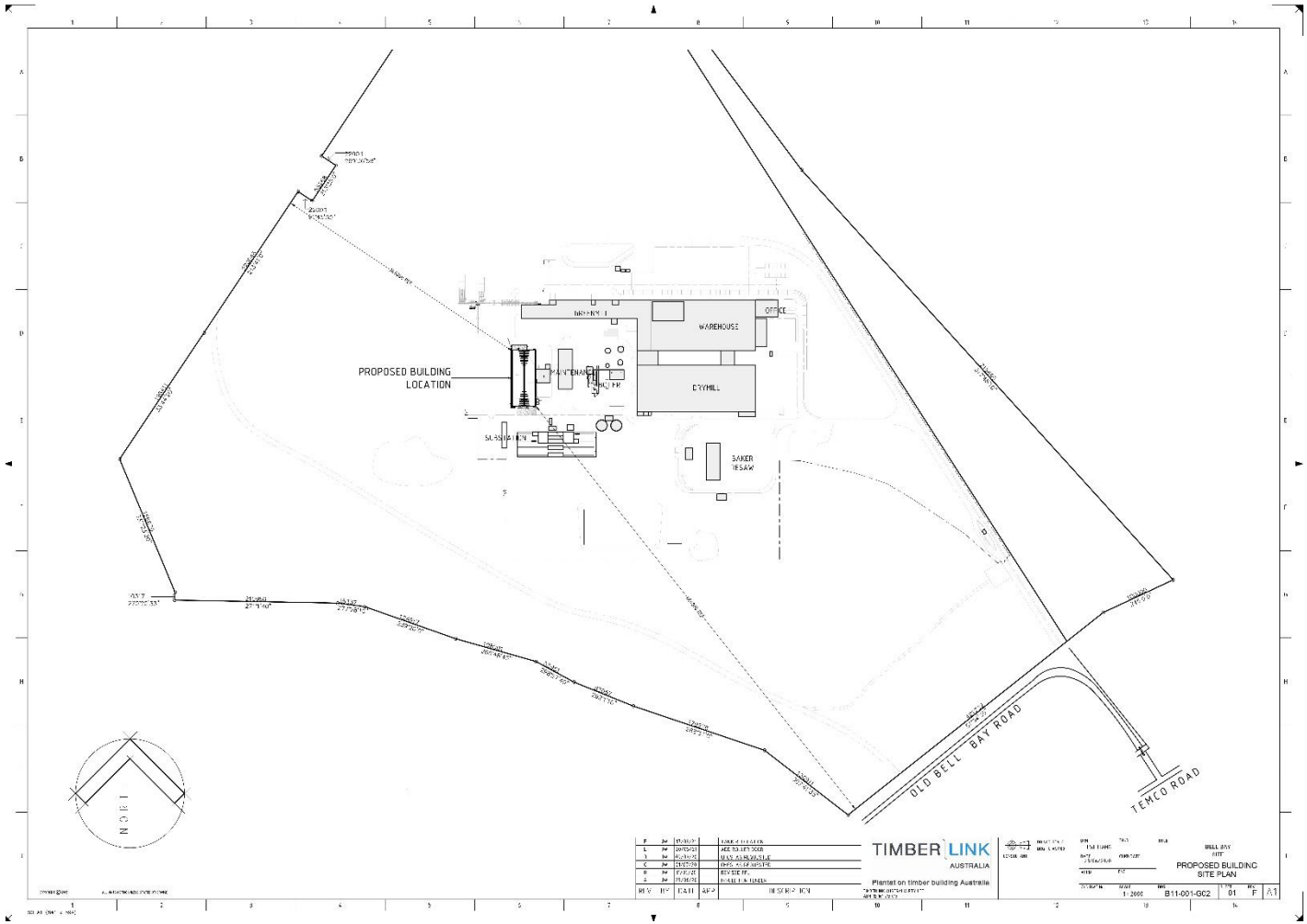
Vic EPA, 2005: EPA Victoria, *Benzene Air Monitoring in Corio 2003 – 2005*, EPA Victoria, Publication 999, June 2005

Attachment A: Vertical Images of Timberlink Sawmill in Bell Bay Region

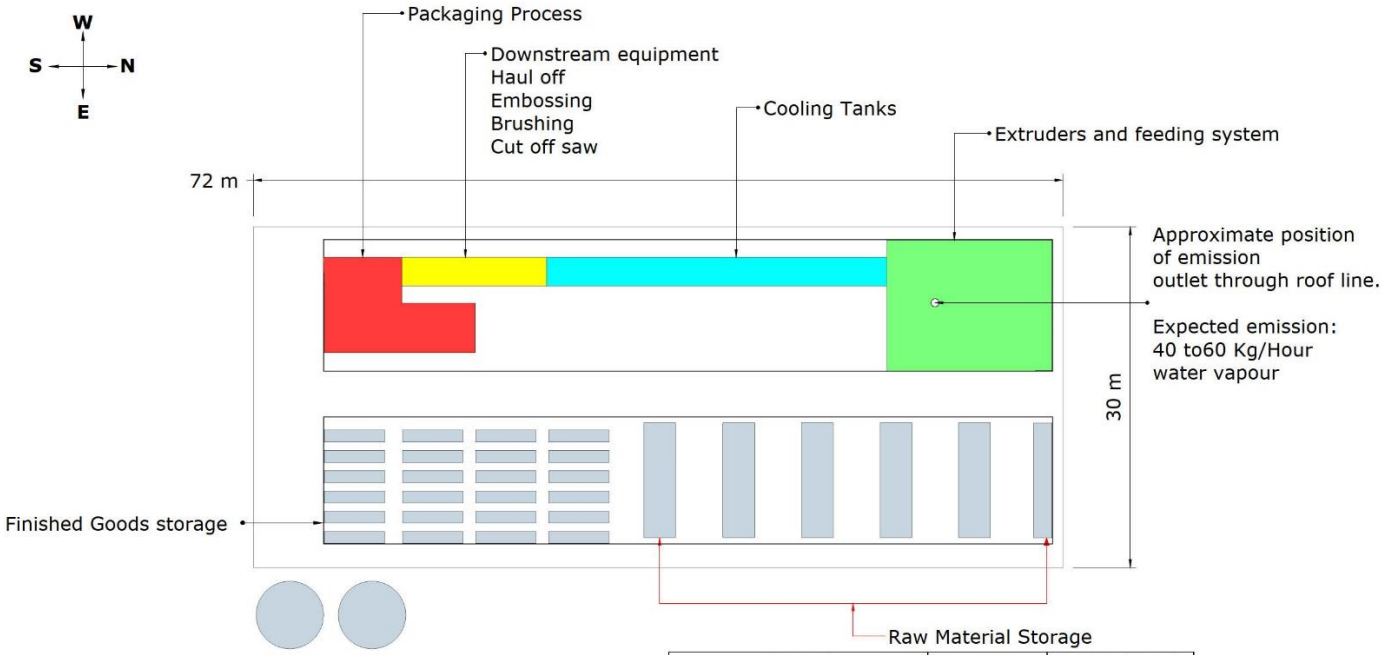
Figure A-1: Timberlink Sawmill in Bell Bay Region (Bing Maps)

Figure A-2: Timberlink Bell Bay timber mill site and surrounds

Attachment B: Site Layout



Attachment C: WPC Facility Building Layout

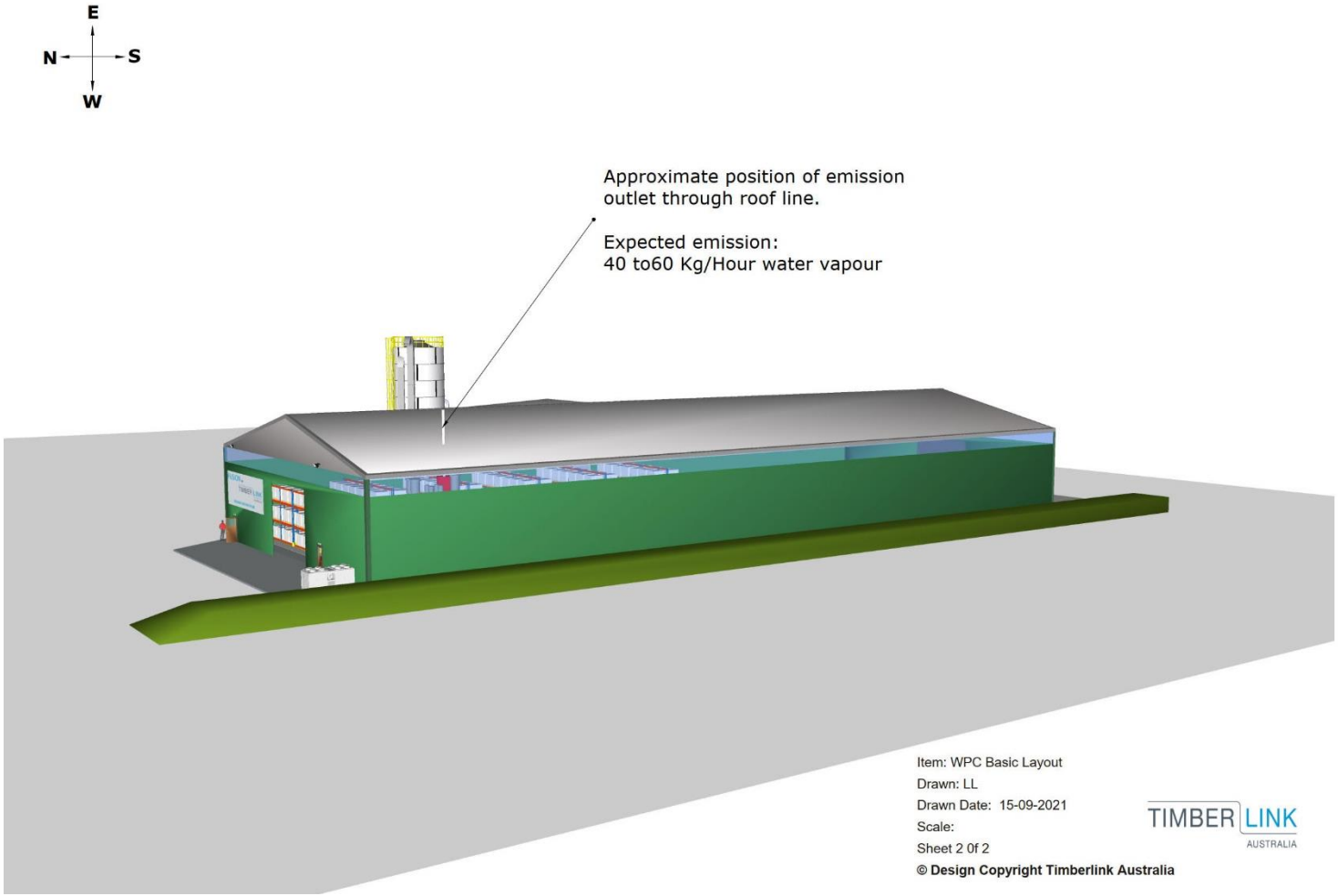


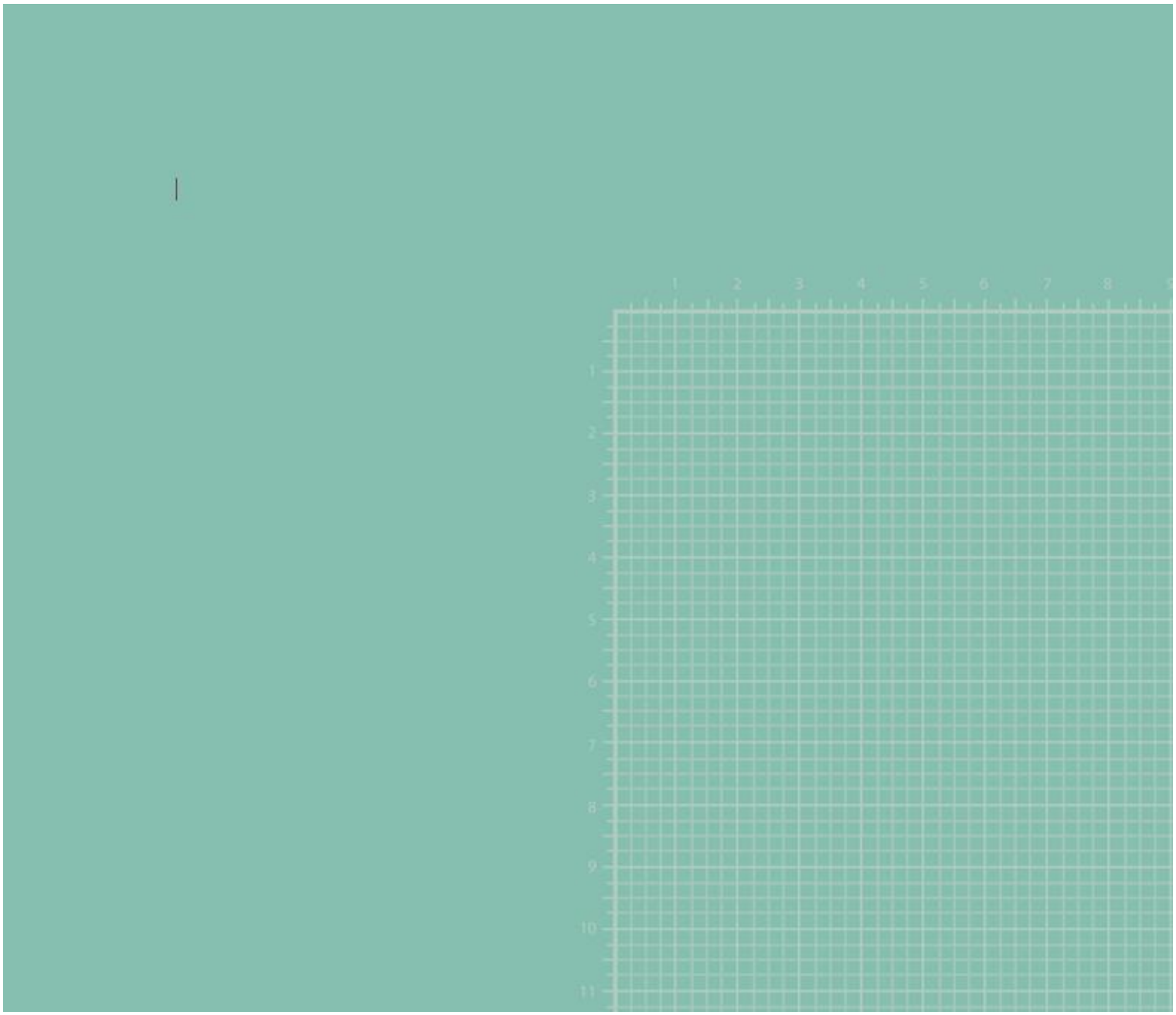
Material	Material State	Stock Holding Kg
Wood Fibre	Pellets	25000
Lubricant	Granules	12000
Coupling Agent	Granules	6000
Capping HDPE Clear Master Batch	Granules	45000

Item: WPC Basic Layout
Drawn: LL
Drawn Date: 15-09-2021
Scale:
Sheet 1 0f 2

TIMBER LINK AUSTRALIA

Attachment D: WPC Facility Building and Dryer Exhaust Stack

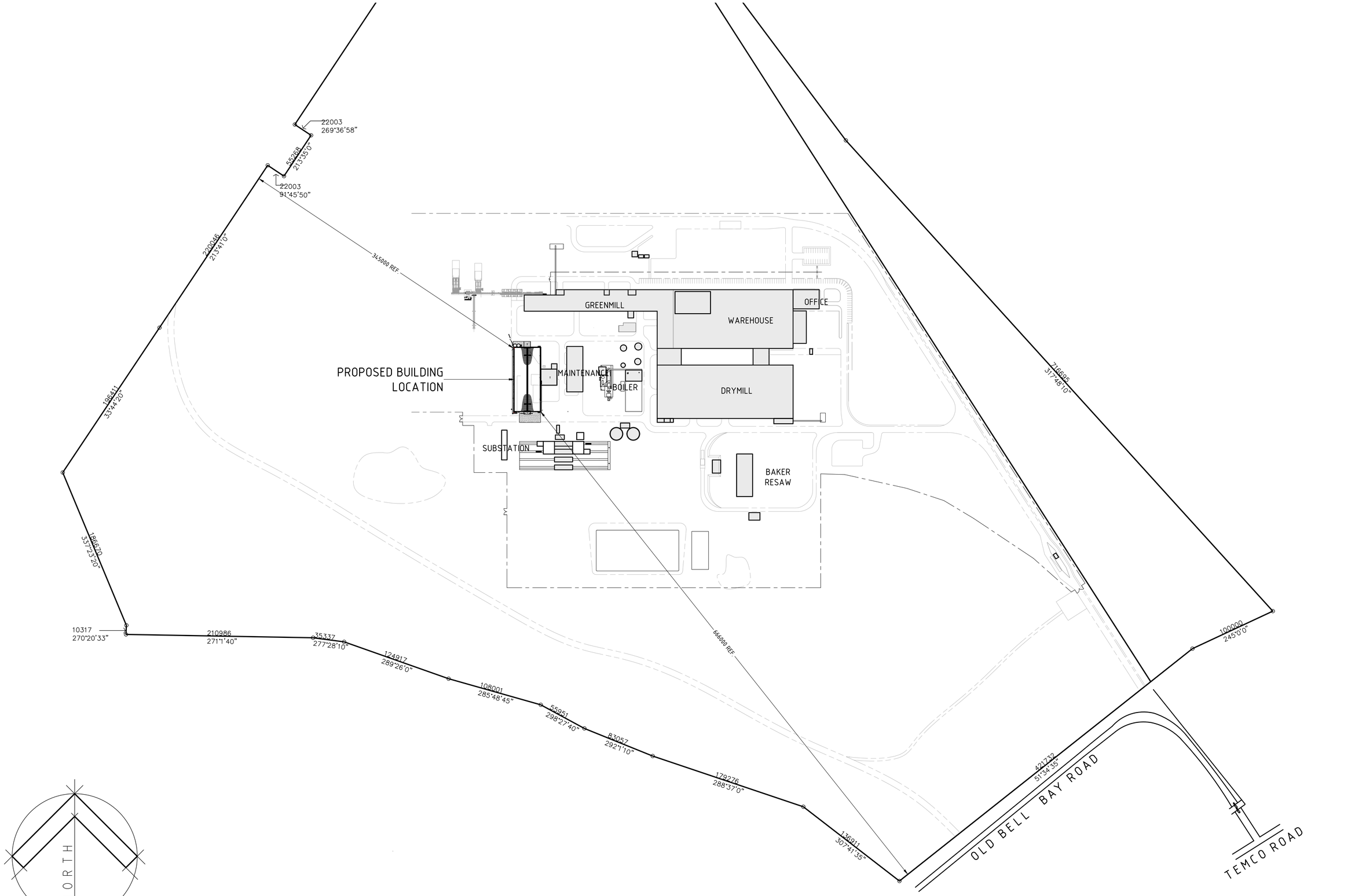




HOBART OFFICE
117 Harrington Street
Hobart TAS 7000
Phone (03) 6231 2555
infohbt@jmg.net.au

LAUNCESTON OFFICE
49-51 Elizabeth Street
Launceston TAS 7250
Phone (03) 6334 5548
infoltn@jmg.net.au

Engineers & Planners



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C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	11/06/20		REVISED FFL
A	JW	23/06/20		ISSUED FOR TENDER

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Plantation timber building Australia
TIMBERLINK AUSTRALIA PTY LTD
ABN: 12 161 713 015

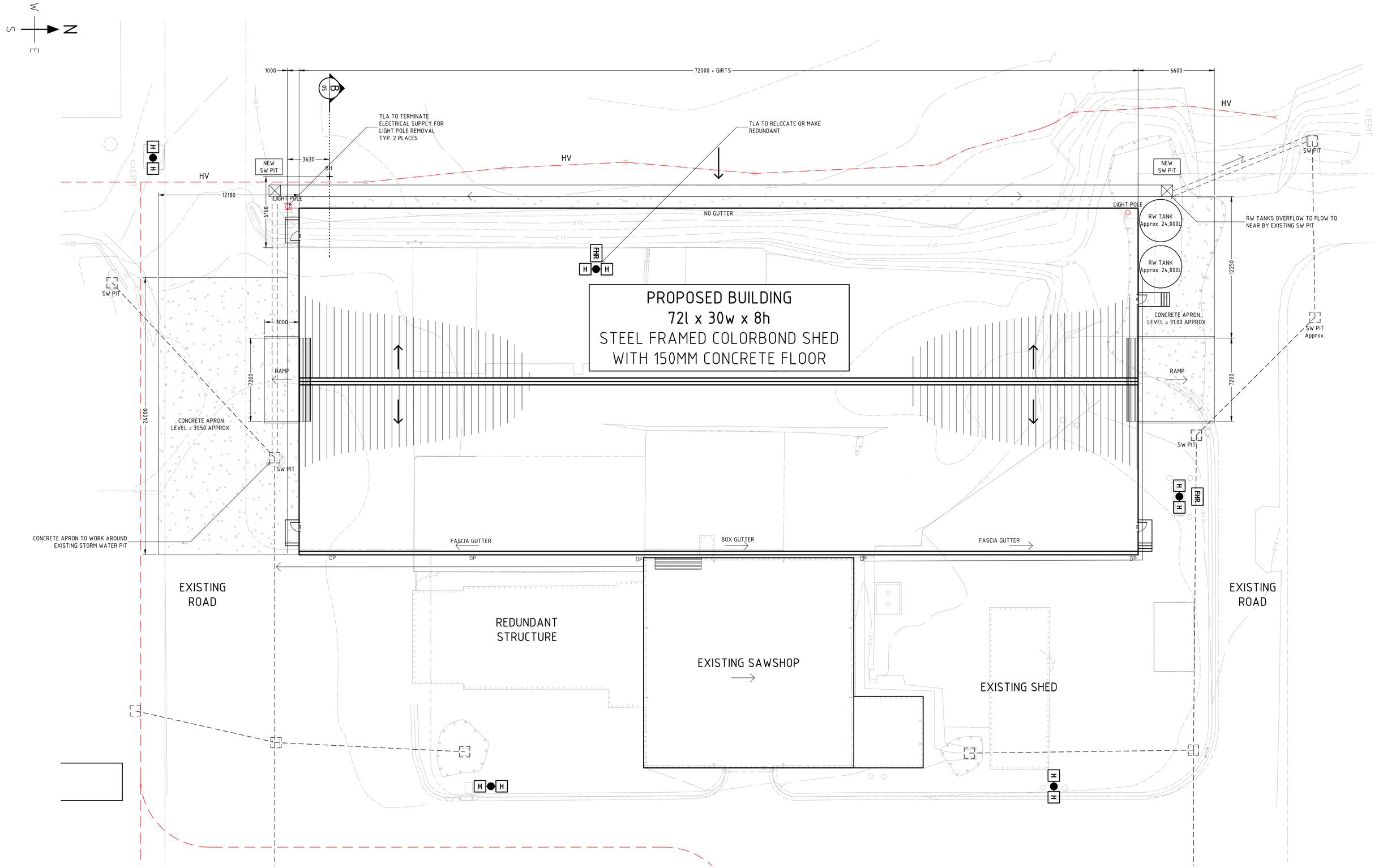
DO NOT SCALE
DRG TO AS1100

CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING SITE PLAN
DATE 23/06/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1 : 2000	DRG # B11-001-G02	SHEET 01 / REV E / A1

ALL UNITS METRIC UNLESS STATED OTHERWISE

ISO A1 (841 x 594)



PRELIMINARY DRAWING ONLY

NOT TO BE USED FOR MANUFACTURE

REV	BY	DATE	APP	DESCRIPTION
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D	JW	09/07/20		CHGS. AS REQUESTED
C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	01/07/20		REVISED FFL
A	JW	23/06/20		ISSUED FOR TENDER

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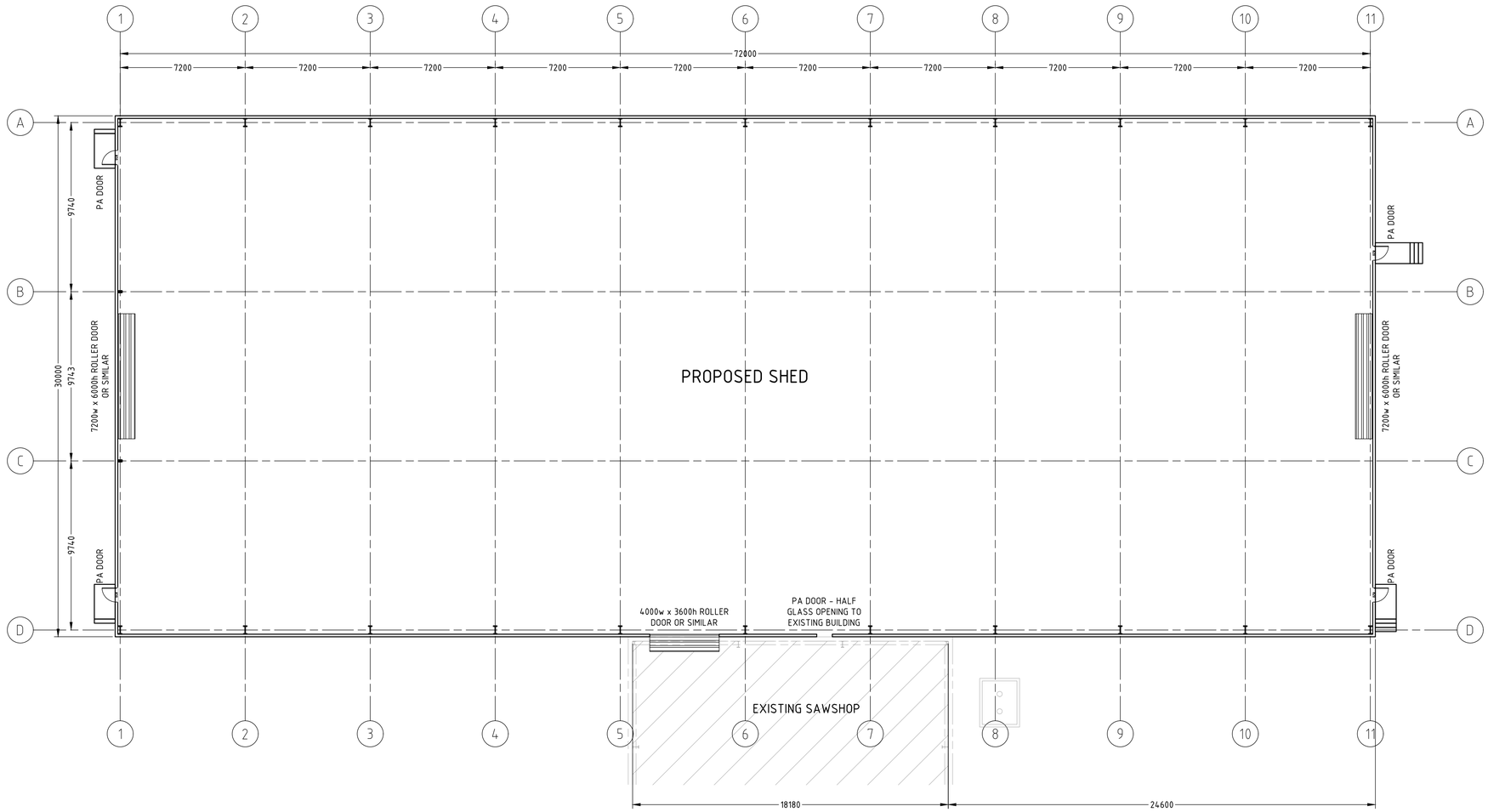
CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING ENLARGED SITE PLAN
DATE 23/06/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1 : 200	DRG # B11-001-G02	SHEET 02 REV E A1

ISO A1 (841 x 594)



PLAN VIEW

SCALE 1 : 150

NOTES,

1. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
2. ALL WELDS SHALL BE CONTINUOUS FILLET UNLESS NOTED OTHERWISE.
3. ALL WELDING SHALL BE IN ACCORDANCE WITH AS1554 S.A.A. STRUCTURAL WELDING CODE.
4. TOLERANCE ±2.0 UNLESS NOTED OTHERWISE.

PRELIMINARY DRAWING ONLY

NOT TO BE USED FOR MANUFACTURE

REV	BY	DATE	APP	DESCRIPTION
E	JW	20/05/21		ADD ROLLER DOOR
D	JW	09/07/20		CHGS. AS REQUESTED
C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	11/06/20		REVISED FFL
A	JW	23/06/20		ISSUED FOR TENDER

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DRG TO AS1100

CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING BUILDING FLOOR PLAN
DATE 23/06/2020	CHKD DATE		
APPD	ENG		
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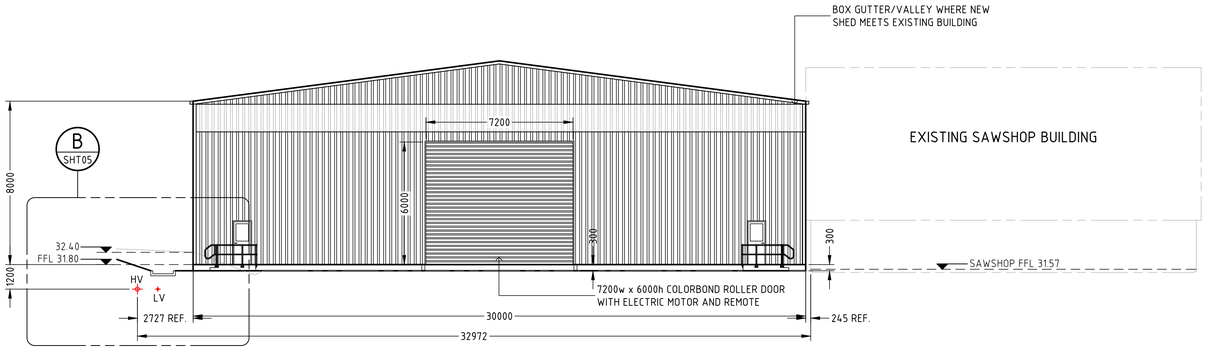
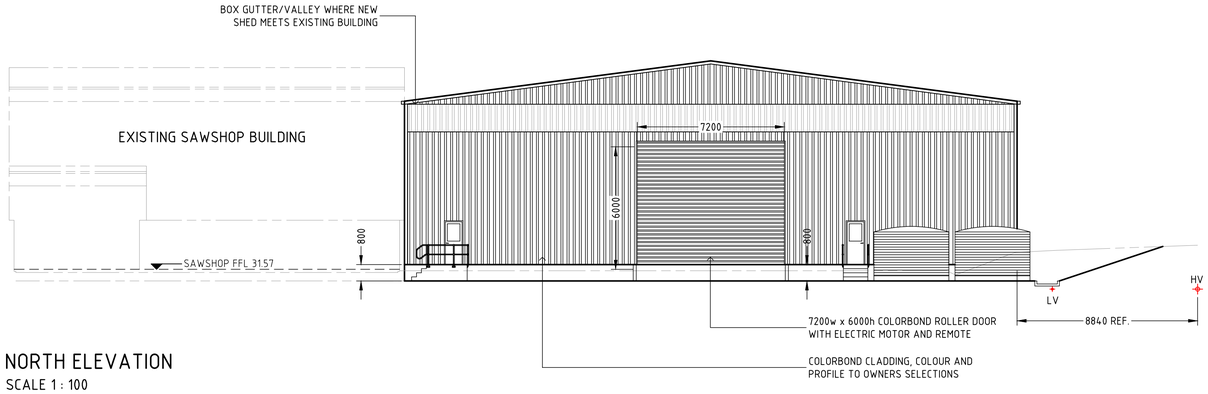
ISO A1 (841 x 594)



SOUTH ELEVATION
SCALE 1 : 100



NORTH ELEVATION
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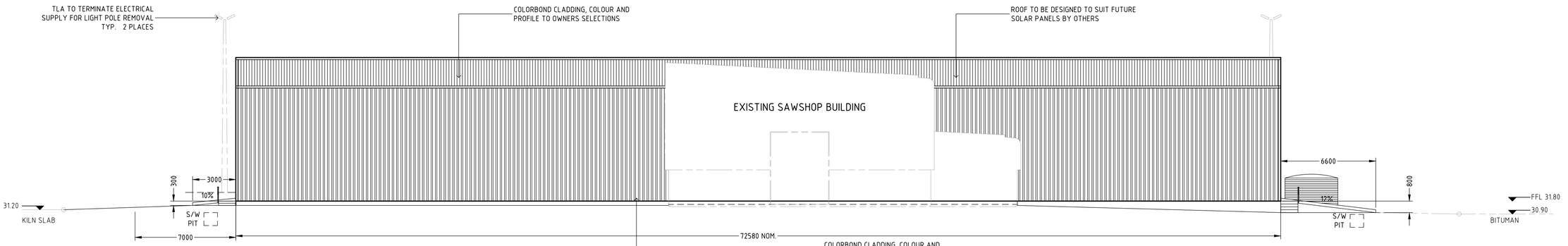

EAST ELEVATION
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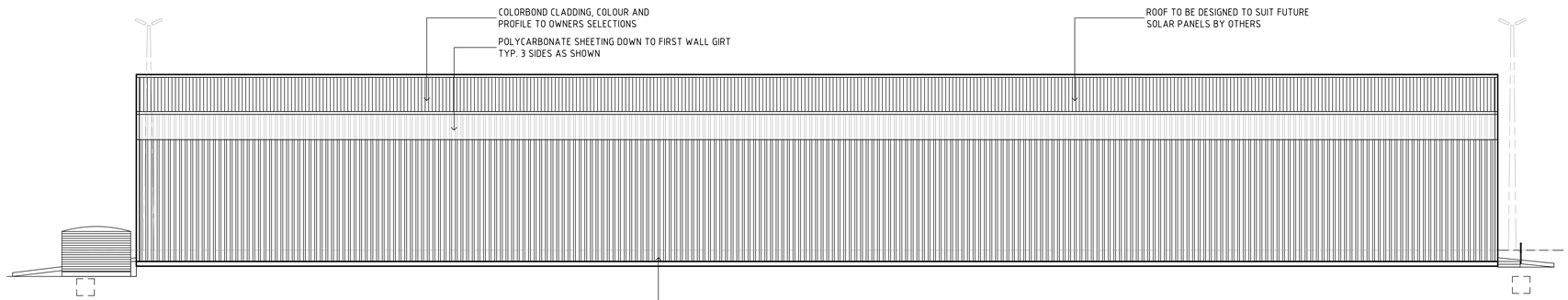

WEST ELEVATION
SCALE 1 : 100

NOTES,

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4. TOLERANCE ±2.0 UNLESS NOTED OTHERWISE.

ALL UNITS METRIC UNLESS STATED OTHERWISE

PRELIMINARY DRAWING ONLY
NOT TO BE USED FOR MANUFACTURE

REV	BY	DATE	APP	DESCRIPTION
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C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	01/07/20		REVISED FFL
A	JW	23/06/20		ISSUED FOR TENDER

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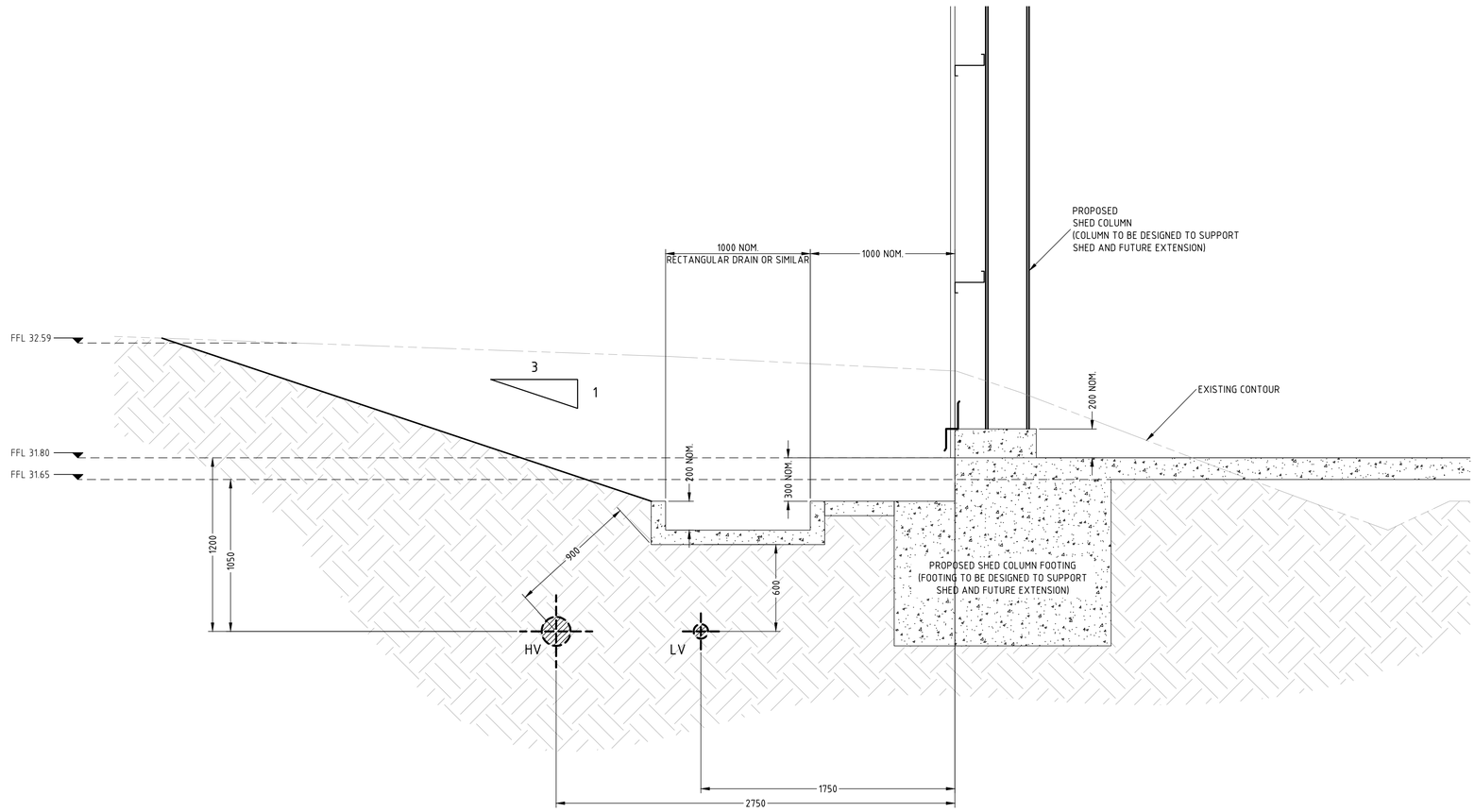
CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING BUILDING ELEVATIONS
DATE 23/06/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1 : 150	DRG # B11-001-G02	SHEET 04 / REV E / A1

ISO A1 (841 x 594)



B SHT02 ENLARGED DETAIL 'B'
SCALE 1 : 20

NOTES,

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3. ALL WELDING SHALL BE IN ACCORDANCE WITH AS1554 S.A.A. STRUCTURAL WELDING CODE.
4. TOLERANCE ±2.0 UNLESS NOTED OTHERWISE.

PRELIMINARY DRAWING ONLY

NOT TO BE USED FOR MANUFACTURE

ALL UNITS METRIC UNLESS STATED OTHERWISE

REV	BY	DATE	APP	DESCRIPTION
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D	JW	09/07/20		CHGS. AS REQUESTED
C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	11/06/20		REVISED FFL
A	JW	01/06/20		PRELIMINARY ISSUE

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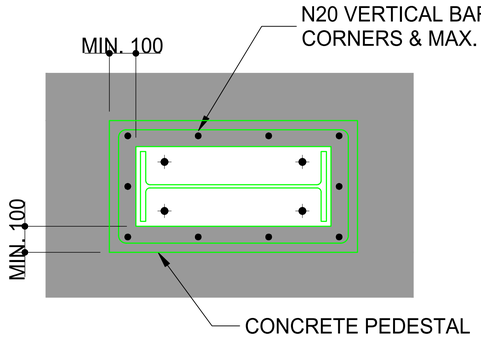
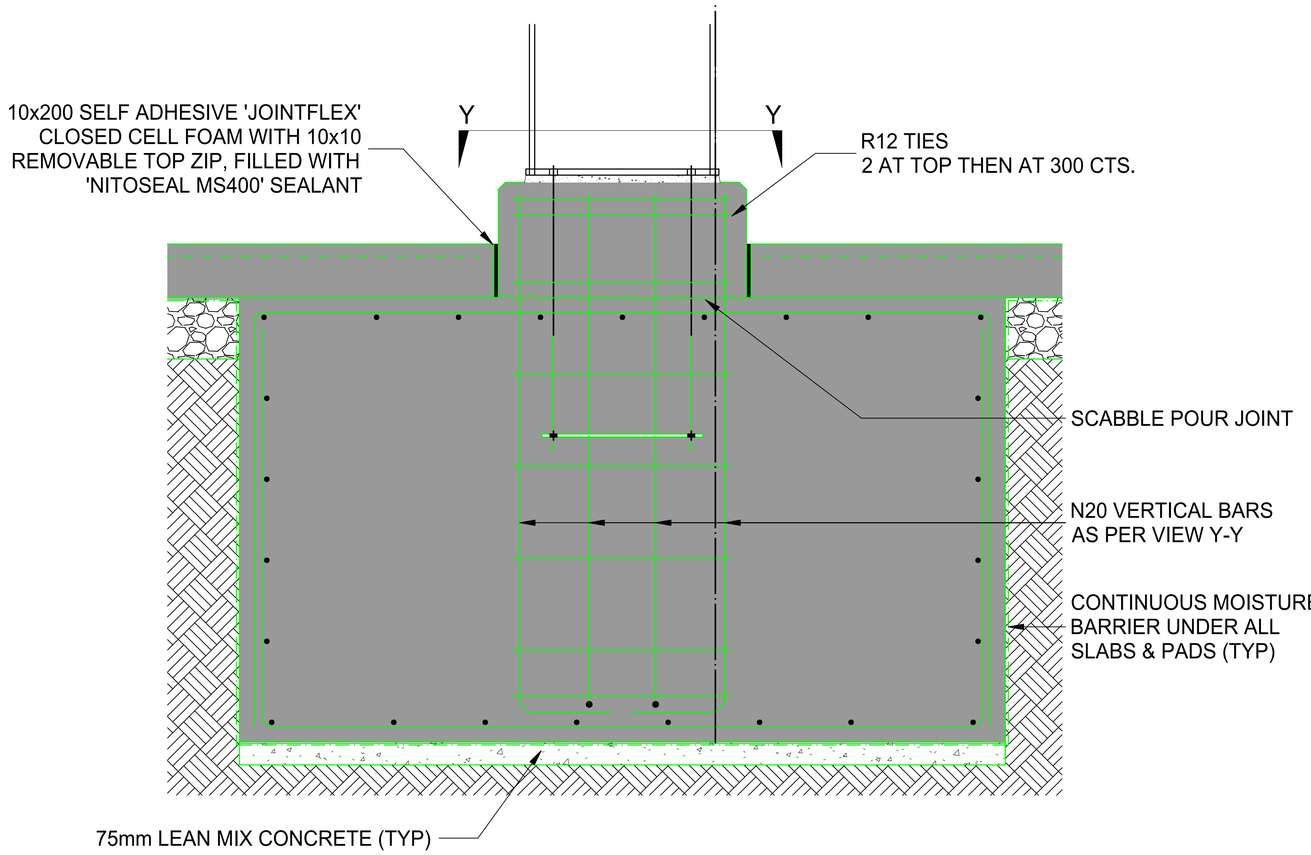
DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING HV CABLE CLEARANCE
DATE 31/03/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1 : 20	DRG # B11-001-G02	SHEET 05 / REV E / A1

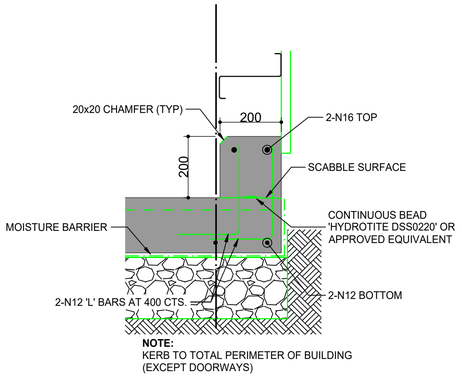
ISO A1 (841 x 594)



VIEW Y-Y
SCALE 1 : 10



TYPICAL COLUMN PEDESTAL DETAIL
SCALE 1 : 10



NOTE:
KERB TO TOTAL PERIMETER OF BUILDING
(EXCEPT DOORWAYS)

TYPICAL KERB DETAIL
SCALE 1 : 10

NOTES,

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3. ALL WELDING SHALL BE IN ACCORDANCE WITH AS1554 S.A.A. STRUCTURAL WELDING CODE.
4. TOLERANCE ±2.0 UNLESS NOTED OTHERWISE.

PRELIMINARY DRAWING ONLY

NOT TO BE USED FOR MANUFACTURE

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C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	11/06/20		REVISED FFL
A	JW	01/06/20		PRELIMINARY ISSUE

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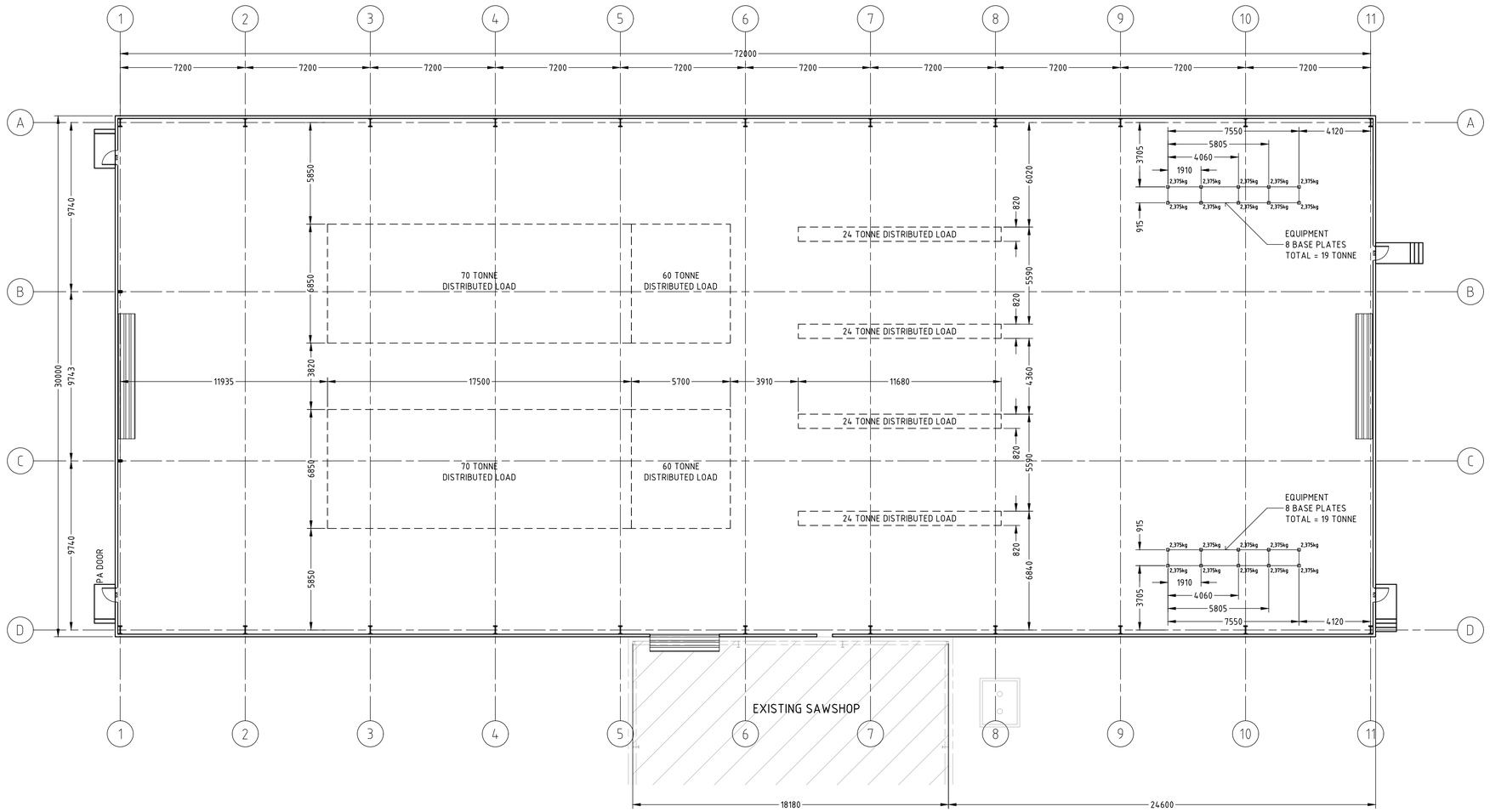
CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING PEDESTAL & KERB DETAIL
DATE 31/03/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1 : 10	DRG # B11-001-G02	SHEET 06 / REV E / A1

ISO A1 (841 x 594)



PLAN VIEW

SCALE 1 : 150

NOTES,

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ALL UNITS METRIC UNLESS STATED OTHERWISE

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C	JW	01/07/20		CHGS. AS REQUESTED
B	JW	11/06/20		REVISED FFL
A	JW	23/06/20		ISSUED FOR TENDER

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TIMBERLINK AUSTRALIA PTY LTD
ABN: 12 161 713 015

CONSULTANT

DO NOT SCALE
DRG TO AS1100

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE
DATE 23/06/2020	CHKD DATE		PROPOSED BUILDING STORAGE & BASE PLATE LAYOUT
APPD	ENG		
OLD DWG No	SCALE 1 : 150	DRG # B11-001-G02	SHEET 07 / REV E / A1

ISO A1 (841 x 594)

GROUND WATER

1.0m WIDE x 0.3m DEEP RECTANGULAR CHANNEL BUILT INTO OR UP AGAINST THE FOOTING OF THE NEW BUILDING (CASE IN-SITU)

ROOF TO DISCHARGE TO ADJACENT RECTANGULAR CHANNEL WITH OR WITHOUT DOWN PIPES. GROUND WATER ALSO COLLECTED.

NEW UNDERGROUND PIPE TOO FLOW INTO EXISTING DRAINAGE SYSTEM

NEW SW PIT

0.3%

NO ROOF GUTTER

RW TANK Approx. 24,000L

RW TANK Approx. 24,000L

RW TANKS OVERFLOW TO FLOW TO NEAR BY EXISTING SW PIT

SW PIT

SW PIT Approx.

NEW UNDERGROUND PIPE TOO FLOW INTO EXISTING DRAINAGE SYSTEM

SW PIT

ROOF CATCHMENT 1187m²

ROOF CATCHMENT 490m²

ROOF CATCHMENT 697m² TO RW TANKS

FASCIA GUTTER

BOX GUTTER

FASCIA GUTTER

DP

EXISTING ROAD

REDUNDANT STRUCTURE

EXISTING SAWSHOP

STORMWATER PIPE TO FLOW ABOVE GROUND TO RAINWATER TANKS

EXISTING SHED

EXISTING ROAD

PRELIMINARY DRAWING ONLY

NOT TO BE USED FOR MANUFACTURE

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TIMBER LINK AUSTRALIA

Plantation timber building Australia

TIMBERLINK AUSTRALIA PTY LTD
ABN: 12 161 713 015

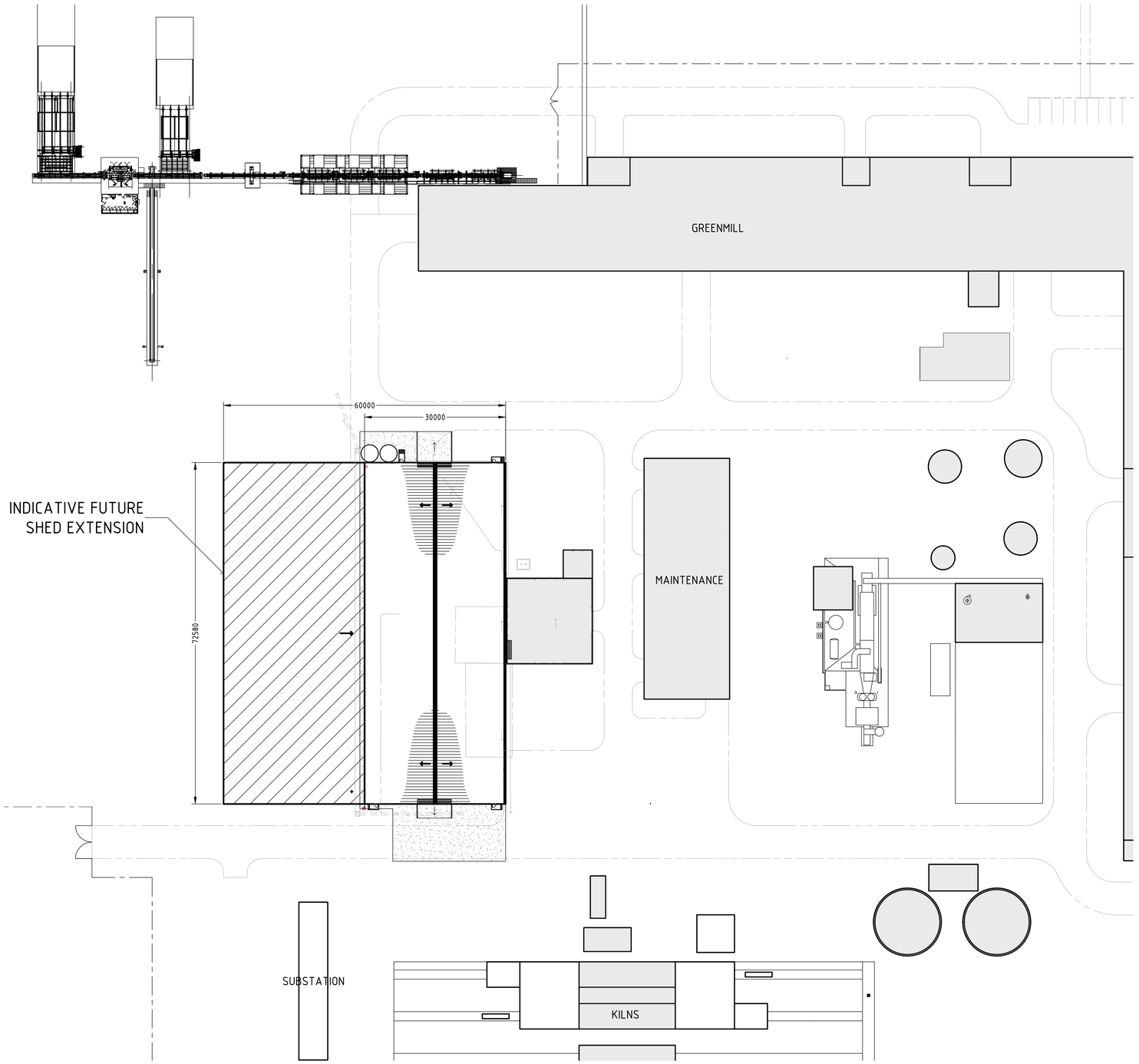
DO NOT SCALE
DRG TO AS1100

CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING DRAINAGE PLAN
DATE 23/06/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1 : 200	DRG # B11-001-G02	SHEET 08 REV E A1

ALL UNITS METRIC UNLESS STATED OTHERWISE

ISO A1 (841 x 594)



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A	JW	01/06/20		PRELIMINARY ISSUE

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TIMBERLINK AUSTRALIA PTY LTD
ABN: 12 161 713 015

DO NOT SCALE
DRG TO AS1100

CONSULTANT

DRN J.WILLIAMS	CHKD	TITLE	BELL BAY SITE PROPOSED BUILDING INDICATIVE EXTENSION
DATE 31/03/2020	CHKD DATE		
APPD	ENG		
OLD DWG No	SCALE 1:500	DRG # B11-001-G02	SHEET 20 / REV E / A1

ISO A1 (841 x 594)

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
168618	2
EDITION	DATE OF ISSUE
1	31-Mar-2015

SEARCH DATE : 27-Jul-2021
SEARCH TIME : 01.39 PM

DESCRIPTION OF LAND

Parish of CRANBOURN Land District of DORSET
Lot 2 on Plan 168618
Derivation : Part of Lot 281, 878 Acres & 500 Acres Gtd. to W. E. Lawrence
Prior CT 122164/1

SCHEDULE 1

M404435 & D119155 TIMBERLINK AUSTRALIA PTY LIMITED
Registered 06-May-2014 at 12.02 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP122164 EASEMENTS in Schedule of Easements
SP122164 COVENANTS in Schedule of Easements
SP122164 FENCING COVENANT in Schedule of Easements
C442035 BURDENING EASEMENT: Right of Carriageway(apputenant to Lot 1 on Plan 168618) over the land marked Right of Way Variable Width shown passing throught the said land within described.
D128836 CAVEAT by Rio Tinto Aluminium (Bell Bay) Limited
Registered 25-Jun-2014 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER: Timberlink Australia Pty. Limited.
~~The Crown~~

FOLIO REFERENCE C.T.122164/1, ~~C.T.11370/19 & C.T.11370/21~~

GRANTEE Part of Lot 281, 878 Ac. and 500 Ac. Granted to William Effingham Lawrence. ~~Part of 300 Ac. Granted to Theodore B. Bartley, Charles Shum, Henty, John Sinclair & Ronald C. Gunn.~~

PLAN OF SURVEY

BY SURVEYOR JOHN WILLIAM DENT of PDA SURVEYORS 3/23 BRISBANE STREET, LAUNCESTON

LOCATION LAND DISTRICT OF DORSET
PARISH OF CRANBOURNE

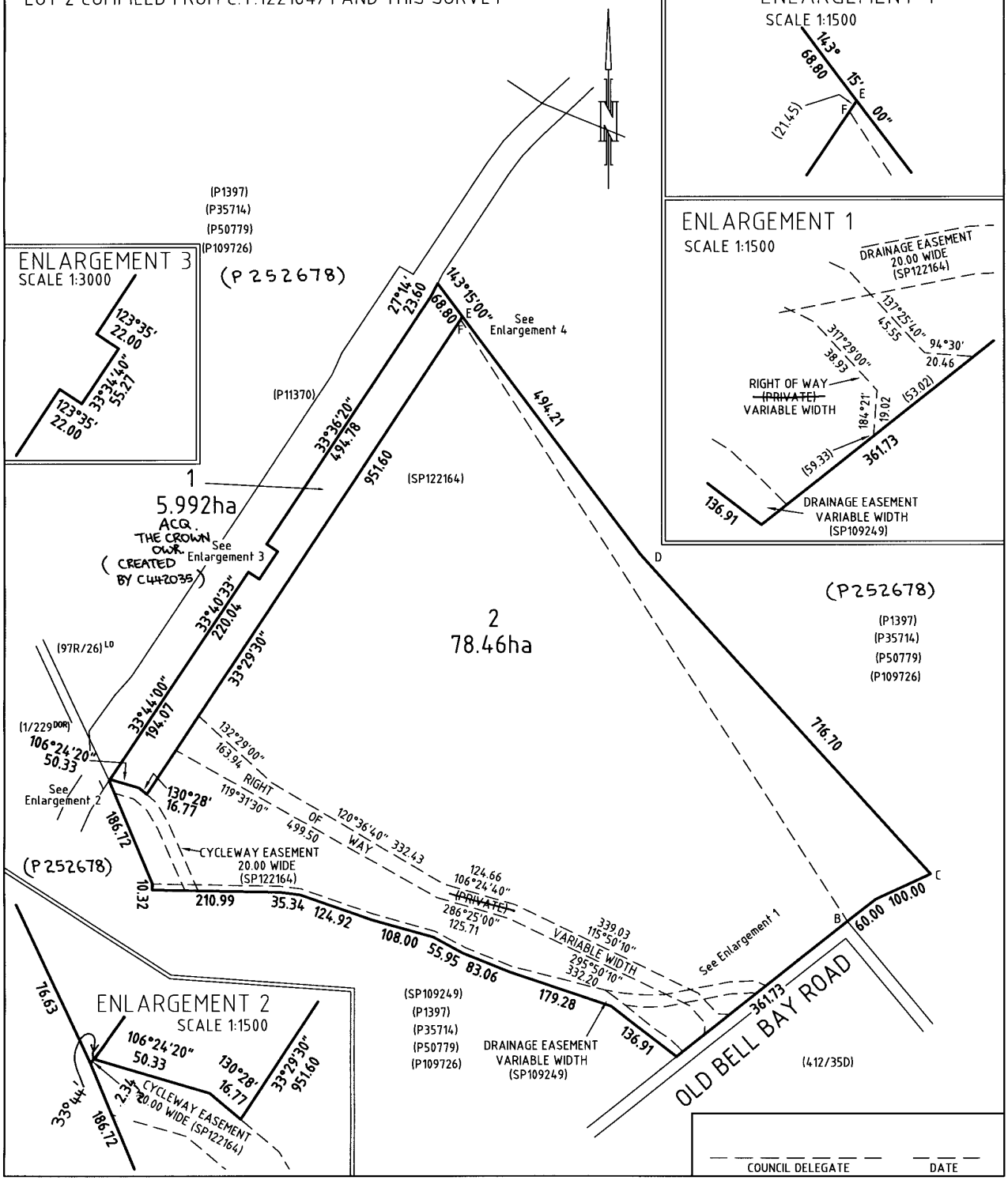
REGISTERED NUMBER
P168618

~~APPROVED~~ ~~EFFECTIVE FROM~~ 2 FEB 2015
Alice Kawa
Recorder of Titles

SCALE: 1:6000	LENGTHS IN METRES	SURVEYORS REF: 214-14

MAPSHEET MUNICIPAL CODE No. 111 (4844)	LAST UPI No	LAST PLAN No.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 2 COMPILED FROM C.T.122164/1 AND THIS SURVEY



COUNCIL DELEGATE DATE

OWNER: Timberlink Australia Pty. Limited. ~~The Crown~~

FOLIO REFERENCE C.T.122164/1, ~~C.T.11370/19 & C.T.11370/21~~

GRANTEE Part of Lot 281, 878 Ac. and 500 Ac. Granted to William Effingham Lawrence. ~~Part of 300 Ac. Granted to Theodore B. Bartley, Charles Shum Henty, John Sinclair & Ronald C. Gunn.~~

PLAN OF SURVEY

BY SURVEYOR JOHN WILLIAM DENT of PDA SURVEYORS 3/23 BRISBANE STREET, LAUNCESTON

LOCATION LAND DISTRICT OF DORSET
PARISH OF CRANBOURNE

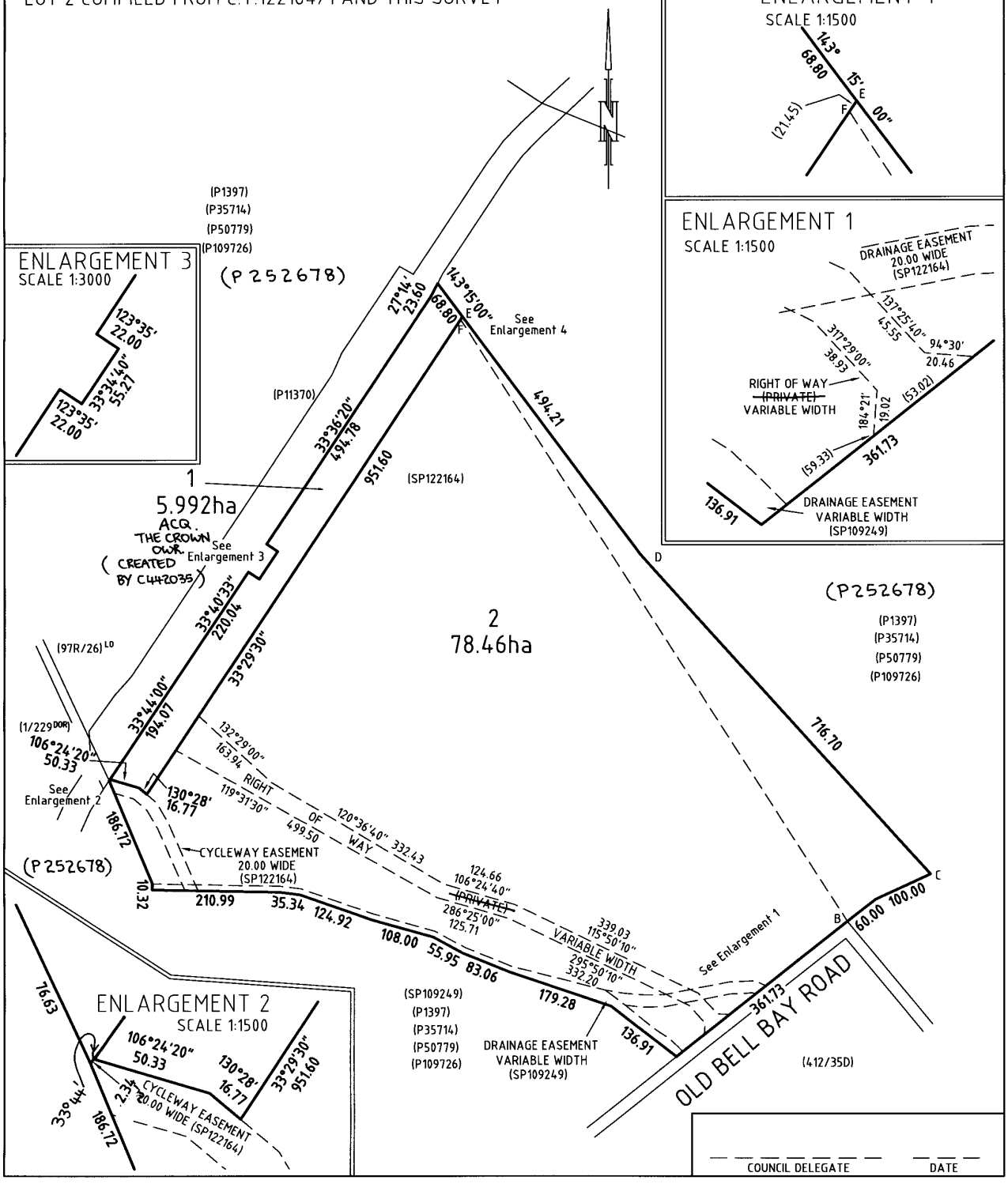
REGISTERED NUMBER
P168618

~~APPROVED~~ ~~EFFECTIVE FROM~~ 2 FEB 2015
Alice Kawa
Recorder of Titles

SCALE: 1:6000	LENGTHS IN METRES	SURVEYORS REF: 214-14

MAPSHEET MUNICIPAL CODE No. 111 (4844)	LAST UPI No	LAST PLAN No.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 2 COMPILED FROM C.T.122164/1 AND THIS SURVEY



COUNCIL DELEGATE DATE