DEVELOPMENT APPLICATION

PDPLANPMTD-2025/056817

PROPOSAL: Level 2B Activity – Logie Farm quarry modification (addition of blasting and increase in processing capacity)

LOCATION: 440 Prossers Road, Richmond (CT 175765/12) and Lot 3 Logie Farm Road, Orielton (CT 174101/3)

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 09 February 2026

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 09 February 2026. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 09 February 2026.

To enable Council to contact you if necessary, would you please also include a day time contact number in any correspondence you may forward.

Any personal information submitted is covered by Council's privacy policy, available at www.ccc.tas.gov.au or at the Council offices.

Clarence City Council

Clarence... a brighter place

APPLICATION FOR DEVELOPMENT / USE OR SUBDIVISION

*The personal information on this form is required by Council for the development of land under the Land Use Planning and Approvals Act 1993. We will only use your personal information for this and other related purposes. If this information is not provided, we may not be able to deal with this matter. You may access and/or amend your personal information at any time. How we use this information is explained in our **Privacy Policy**, which is available at www.ccc.tas.gov.au or at Council offices.*

Proposal: Blasting & Processing at Mining Lease 1722P/M & 2044P/M

Location:
Address: 440 Prossers Rd
Suburb/Town: Richmond Postcode: 7025

Current Owners/s:

Applicant:

Personal Information Removed

Tax Invoice for application fees t
be in the name o
(if different from applicant)

(if yes, we recommend you discuss your proposal with Heritage Tasmania prior to lodgement as exemptions may apply which may save you time on your proposal)

If you had pre-application discussions with a Council Officer, please give their name

Current Use of Site: Existing Mining Lease

Does the proposal involve land administered or owned by the Crown or Council? Yes [ ] No [X]

Declaration:

- *I have read the Certificate of Title and Schedule of Easements for the land and am satisfied that this application is not prevented by any restrictions, easements or covenants.*
- *I authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation. I agree to arrange for the permission of the copyright owner of any part of this application to be obtained. I have arranged permission for Council's representatives to enter the land to assess this application*
- *I declare that, in accordance with Section 52 of the Land Use Planning and Approvals Act 1993, that I have notified the owner of the intention to make this application. Where the subject property is owned or controlled by Council or the Crown, their signed consent is attached. Where the application is submitted under Section 43A, the owner's consent is attached.*
- *I declare that the information in this declaration is true and correct.*

Acknowledgement:

- *I acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process; for display purposes during public consultation; and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.*

Applicant's Signature:

Personal Information Removed

PLEASE REFER TO THE DEVELOPMENT/USE AND SUBDIVISION CHECKLIST ON THE FOLLOWING PAGES TO DETERMINE WHAT DOCUMENTATION MUST BE SUBMITTED WITH YOUR APPLICATION.

Clarence City Council

DEVELOPMENT/USE OR SUBDIVISION CHECKLIST

Clarence... a brighter place

Documentation required:

1. **MANDATORY DOCUMENTATION**

This information is required for the application to be valid. An application lodged without these items is unable to proceed.

- ☑ Details of the location of the proposed use or development.
- ☑ A copy of the current Certificate of Title, Sealed Plan, Plan or Diagram and Schedule of Easements and other restrictions for each parcel of land on which the use or development is proposed.
- ☑ Full description of the proposed use or development.
- ☑ Description of the proposed operation.

  May include where appropriate: staff/student/customer numbers; operating hours; truck movements; and loading/unloading requirements; waste generation and disposal; equipment used; pollution, including noise, fumes, smoke or vibration and mitigation/management measures.
- ☐ Declaration the owner has been notified if the applicant is not the owner.
- ☐ Crown or Council consent (if publically-owned land).
- ☐ Any reports, plans or other information required by the relevant zone or code.
- ☐ Fees prescribed by the Council.

  Application fees (please phone 03 6217 9550 to determine what fees apply). An invoice will be emailed upon lodgement.

2. **ADDITIONAL DOCUMENTATION**

In addition to the mandatory information required above, Council may, to enable it to consider an application, request further information it considers necessary to ensure that the proposed use or development will comply with any relevant standards and purpose statements in the zone, codes or specific area plan, applicable to the use or development.

- ☐ **Site analysis plan and site plan**, including where relevant:
  - *Existing and proposed use(s) on site.*
  - *Boundaries and dimensions of the site.*
  - *Topography, including contours showing AHD levels and major site features.*
  - *Natural drainage lines, watercourses and wetlands on or adjacent to the site.*
  - *Soil type.*
  - *Vegetation types and distribution, and trees and vegetation to be removed.*
  - *Location and capacity of any existing services or easements on/to the site.*
  - *Existing pedestrian and vehicle access to the site.*
  - *Location of existing and proposed buildings on the site.*
  - *Location of existing adjoining properties, adjacent buildings and their uses.*
  - *Any natural hazards that may affect use or development on the site.*
  - *Proposed roads, driveways, car parking areas and footpaths within the site.*
  - *Any proposed open space, communal space, or facilities on the site.*
  - *Main utility service connection points and easements.*
  - *Proposed subdivision lot boundaries.*

- ☐ Where it is proposed to erect buildings, **detailed plans** with dimensions at a scale of 1:100 or 1:200 showing:
  - *Internal layout of each building on the site.*
  - *Private open space for each dwelling.*
  - *External storage spaces.*
  - *Car parking space location and layout.*
  - *Major elevations of every building to be erected.*
  - *Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites.*
  - *Relationship of the elevations to natural ground level, showing any proposed cut or fill.*
  - *Materials and colours to be used on rooves and external walls.*
- ☐ Where it is proposed to erect buildings, a plan of the proposed **landscaping** showing:
  - *Planting concepts.*
  - *Paving materials and drainage treatments and lighting for vehicle areas and footpaths.*
  - *Plantings proposed for screening from adjacent sites or public places.*
- ☐ Any additional reports, plans or other information required by the relevant zone or code.

This list is not comprehensive for all possible situations. If you require further information about what may be required as part of your application documentation, please contact Council's Planning Officers on (03) 6217 9550 who will be pleased to assist.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
175765	12
EDITION	DATE OF ISSUE
2	22-Mar-2022

SEARCH DATE : 14-Oct-2022
SEARCH TIME : 10.42 AM

DESCRIPTION OF LAND

City of CLARENCE
Lot 12 on Plan 175765
Being the land described in Conveyance 71/0315
Excepting thereout Lot 1 (SP172560) 20.00ha, Lot 101 (SP172560) 18.6m2, Lots 2-4 & 102 (SP175137) 62.50ha & Lots 5-11, 301, 302, 401 & 402 (SP175765) 142.8ha
Derivation : Part of 3,243 Acres Gtd. to William Thomas Parramore
Prior CT 175513/1

SCHEDULE 1

M950932 TRANSFER to GOWING BROS LIMITED Registered 22-Mar-2022 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER: TORONTO PASTORAL COY PTY LTD

FOLIO REFERENCE: CT.175513-1

GRANTEE: PART OF 3243-0-0 GRANTED TO WILLIAM THOMAS PARRAMORE

PLAN OF TITLE

COMPILED BY:

ROGERSON AND BIRCH SURVEYORS

PH 6248-5898 MOB. 0419-594-966

CONVERTED BY P.127745

CITY OF CLARENCE

NOT TO SCALE LENGTHS IN METRES

REGISTERED NUMBER

P175765

APPROVED ~~EFFECTIVE FROM~~ 17 OCT 2018

Alice Kaw

Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 107(5227)

LAST UPI No. JVX15

LAST PLAN ~~SP175764~~ No. P.175513

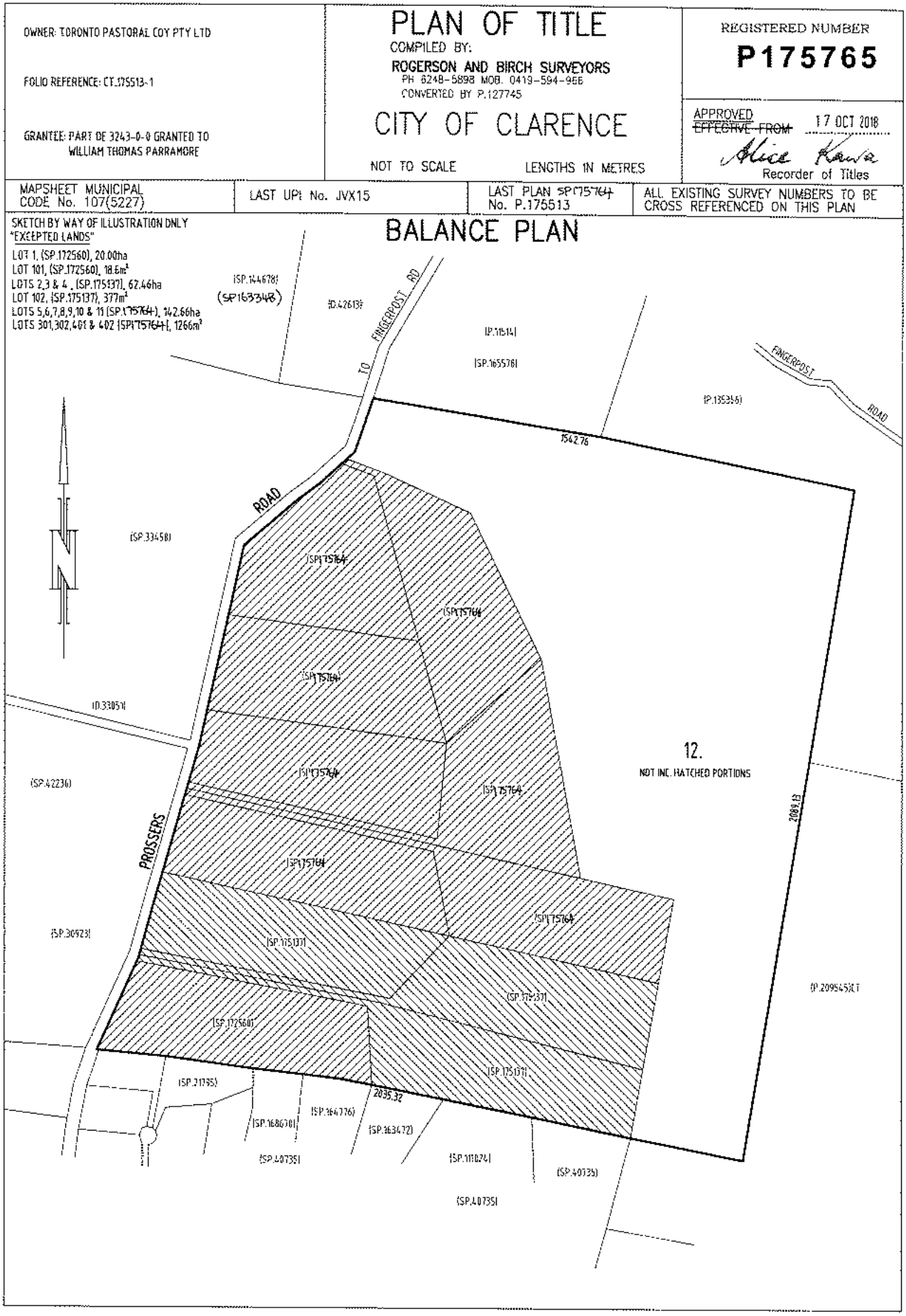
ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

SKETCH BY WAY OF ILLUSTRATION ONLY

"EXCEPTED LANDS"

LOT 1, (SP.172560), 20.00ha
LOT 101, (SP.172560), 18.6m²
LOTS 2,3 & 4 , (SP.175137), 62.46ha
LOT 102, (SP.175137), 377m²
LOTS 5,6,7,8,9,10 & 11 (SP.~~175764~~), 342.66ha
LOTS 301,302,401 & 402 (SP~~175764~~), 1266m²

BALANCE PLAN



Environmental Effects Report (Extractive Industry) Gowing Bros Ltd Logie Farm Quarry Modification, Orielton & Richmond

Version 1

12.11.2025

Enriching People's Lives, since 1868

Contents

Part A – Proponent Information

Proponent Entity Name	Gowing Bros Ltd	
Proponent Trading Name	Gowing Bros Ltd	
Registered Address of Proponent	303/35-61 Harbour Dr, Coffs Harbour, 2450	
Postal Address of Proponent	PO Box 2042, Coffs Harbour, 2450	
ABN/ACN of Proponent	6800 0010 471	
Contact Person's Details	Name	Byron Gowing
	Telephone Number	0488 166 205
	Email Address	byron@gowings.com
Contractor Details	Name	Tony Jones
	Telephone Number	0418 149 434
	Email Address	tonyjonesrepairs@bigpond.com

PartB–Proposal Description

1 – Description of Proposed Activity

Proposed Activity – Blasting in relation to exiting mining leases 1722P/M & 2044P/M and and increasing the processing quantity to 15,000 m3 to match the extraction amount.

The proposed activity is to add blasting to the existing mining leases 1722P/M & 2044P/M. The activity is classified as an Extractive Activity under Schedule 2 of the EMPCA. The mining lease is an existing activity with the proposed blasting a modification of that activity. The product being extracted is dolerite to be used in construction particularly in road base, the product will be used on site and will be for sale.

Because the quarry unfortunately strides two local council areas two Development Application were made for this modification; the DA application number for Clarence Council is PDPLANPMTD-2025/056817, and for Sorrell Council it is DA 2025/302-1.

Maximum extraction quantity is currently 15,000 m3 per annum (5,000 for 1722P/M & 10,000 for 2044P/M). Conversion factor – 1.65 tonnes per m3. There is no planned seasonal variation. Estimated material on site is 225,000m3 giving the quarry a potential lifetime of 15 years. The maximum processing quantity is currently 5,000 m3 per annum. We propose to increase the processing to match the extraction amount of 15,000 m3.

Extraction method will involve intermittent blasting (maximum four times a year) after which the dolerite can be processed with a crusher and screener. The blasting process involves drilling cores, this will take up to a week, the explosives are then loaded into the cores taking approximately half a day, all relevant parties are notified and the area made safe, after which the blasting occurs lasting only a minute or two.

The quarry is accessible for transport by Prossers Road. The contractor will use trucks and truck and dog trailers. If using trucks only there would be 6-7 trucks per day, if using Truck and Dog Trailers it would be 2-3 per day while operational, see below for operating hours. This means the maximum of movements if the quarry is operating at capacity would be 12-14 if using trucks or 4-6 if using the Dog Trailers. Loading will not occur while blasting is being actioned.

Stockpiling of gravel on site will be limited to approximately 8,500 m3.

The area of disturbance is approximately 3 hectares (being the existing quarry) with the total combined lease area being 11 hectares, no clearing is planned initially. Any clearing that occurs at a later date will be of the area to the south of the existing quarry within the mining lease, see Figure 5.2 on page 12, the area is approximately 4 hectares. Note any clearing is of sparse shrubs and limited to the lease area.

Major Equipment proposed used on site includes:

- Excavator; Hitachi Zaxis 200-3LC 164 Hp
- Crusher; Powerscreen Metrotrack 169 Hp
- Power screen; Portifill 5000CT 53 Hp
- Wheel loader; Komatsu WA250-5 135 Hp
- Trucks; Various

No fuels of oils will be stored on-site. Only minor servicing to be done on site, with major repairs offsite, a spill kit will be provided.

There is no *existing equipment* on site as it has not been worked since transferral of the lease from the previous owner.

Infrastructure includes access to the site by an existing private road on Logie Farm, the dolerite can leave the property by Prossers Road. A generic 6mx3m demountable site office will be situated at the Quarry as well a portable toilet, the waste of which will be removed from the site suitable as necessary.

We don't have a firm *proposal timeline* as it depends on gaining this approval and then lodging a new mining plan with Mineral Resources Tasmania, once all necessary approvals are obtained, we expect the quarry could be operational within a month.

Operating hours are proposed as follows:

Monday to Friday	7am -5pm
Saturday	8am-12pm

Location and planning context

The location of the quarry is Prossers Rd 175765/12 PID 9142347 & Logie Farm Rd 174101/3 PID 3546578.

A *planning permit* is required, the relevant planning applications have been lodged with Sorrell and Clarence Councils which also form the local provision schedules of Sorrell and Clarence. The land is *zoned Rural* and *tenure is freehold land*.

The use class is part of the State Planning Provisions and is *Extractive Industry* being; the use of land for extracting or removing material from the ground, other than Resource Development, and includes the treatment or processing of those materials by crushing, grinding, milling or screening on, or adjoining the land from which it is extracted. Examples include mining, quarrying, and sand mining. As there is an existing mining lease the *activity is permissible*.

The leases are 1722P/M & 2044P/M they have been granted but are contingent on a new mining plan being produced. 5 hectares for 1722P/M and 6 hectares for 2044P/M for a total of 11 hectares.

Description of Site and Surrounds

The *land use* immediately around the site is rural farming land, the nearest residence is the farmhouse on the property. There are multiple neighbours the closest being on Logie Farm Rd. Please refer to the Map and Site Plans in Section 2 to see the

neighbouring properties and their owners.

The site eats into the side of a hill with the area north flattening whilst to the south the land rising into hills, please see the FPP Map in Section 2 for a visual representation of the *topography*. The base of the quarry sits at 85 m above sea level with the immediate affected area rising to 150 m above sea level, for reference see figure 5.2 on page 12.

The site has *temperate maritime climate*; annual mean rainfall is 479.3mm, mean maximum temperature is 18.7'C and the minimum is 7.3'C, and the predominant wind direction is North Westerly with less frequent winds from other directions.

The site's *geology* is shallow glaciomarine and fluvial sedimentary rocks, intruded by Jurassic dolerite. The likelihood of acid forming is low as dolerite has alkaline properties. There are no nearby geoconservation values that could be affected by the quarry. See figure 11 on page 19 for a map showing the geology.

The *soils* on Logie Farm include black soils on dolerite, brown soils on dolerite, black cracking soils on basalt among others. Where the quarry is located it is brown soil on dolerite see page 17 for an illustration of the soil types. The potential to encounter acid sulphate is low the only local areas noted to be predisposed to acid formation are along the coal river and north of the property along the Inverquharity Rivulet please refer to Figure 10 on page 18 for a map showing where acid sulphate occurs offsite.

Hydrologically the nearest water body is Logie Farm's main dam around 850 metres away, the quarry adjacent to a watercourse that has had a drainage line constructed by the previous owner for the quarry. It only flows with significant rain. For reference, please see Figure 6, page 14. The watercourses affected all flow into the Coal River approximately 3.2 kilometres away. The run-off from the quarry however is directed into existing sediment retention basins to mitigate any impacts downstream.

The vegetation types surrounding the quarry are dry eucalypt forest/woodland (TASVEG code DVG), agricultural land (TASVEG code: FAG), and regenerating cleared land (TASVEG code FRG). There are several threatened flora and fauna species present in the vicinity, but none will be directly affected by the quarry, see below in Part C Section 4 for more detailed information on the *Natural Values*.

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UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

2 - Maps and Site Plan

Figure 1 General Location Map

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B				
A				

OWNER:	GOWING BROS LIMITED
TITLE REFERENCE:	C.T.174101/3
LOCATION:	59 LOGIE FARM ROAD, **ORIELTON**

Location Plan

Date: 29/07/2024	**Reference:** GOWIN01 15645-01
Scale: 1:25,000 (A3)	**Municipality:** SORELL

ROGERSON & BIRCH SURVEYORS
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

Figure 2 Map of the Land & its Boundaries

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B				
A				

OWNER: GOWING BROS LIMITED
TITLE REFERENCE: C.T.174101/3
LOCATION: 59 LOGIE FARM ROAD, ORIELTON

Site & Surrounds Plan

Date:	Reference:
29/07/2024	GOWIN01 15645-01
Scale: 1:15,000 (A3)	**Municipality:** SORELL

ROGERSON & BIRCH SURVEYORS
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

Figure 3
Quarry Site Plan

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B				
A				

OWNER: GOWING BROS LIMITED
TITLE REFERENCE: C.T.174101/3
LOCATION: 59 LOGIE FARM ROAD, ORIELTON

Quarry Site Plan

Date:	Reference:
29/07/2024	GOWIN01 15645-01
Scale: 1:7,500 (A3)	**Municipality:** SORELL

Figure 4
FPP Map

Prosser Road

Fingerpost Road

Logie Farm Road

Section #1
6 ha

Section #2
20ha

Section #3
32 ha

538000 539000 540000 541000 542000

5273000 5272000 5271000 5270000

Legend

- Management Constraint
- Stream Reserve
- 10m MEZ
- Track
- FPP Boundary
- Property Boundary
- Operation Area
- Native Forest
- Quarry
- Dam
- Building
- Stream Crossing

1:12,500 (when printed @A3)

Area: 58 ha
Co-ordinates: 539144E. 5271481N
EMP: 179 (Junction Arthur Highway & Pawleena Road

Initials:
Landowner

Applicant

FPO

0 250 500 750 1,000 m

Figure 5.1 Quarry Sitemap

This sitemap shows the Quarry in its current state as well as the existing mining leases, the northern area of the site is the staging area as well as where stock and overburden will be stored, to the south is the hill face that the quarry digs into. Any clearing as the project moves forward will be of the sparse shrubs within the bounds of the mining lease to the south of the quarry. See below figures of the previous mining plan, which we aim to follow, showing the benching from above and as a cross section. Figure 5.2 below shows approximately the area that could be cleared in the future in green.

20 0 20 40 60 80 100 m

SCALE 1:2000

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LEGEND

- NEW MINING LEASE BOUNDARY
- CURRENT MRT LEASE
- TITLE BOUNDARY
- SEASONAL DRAINAGE LINE
- EXISTING QUARRY

EXISTING VEGETATION TO BE RETAINED

EXISTING VEGETATION TO BE RETAINED

EXISTING SOIL BUND

VIBRATING SCREEN

OVERBURDEN

A E02

CURRENT 2017

5 YEAR

10 YEAR

15 YEAR

20 YEAR

80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00

OVERFLOW TO ONSITE DAM

EXISTING CULVERT

SEDIMENT DETENTION BASIN

PARKING

EXISTING ACCESS ROAD

TO PROSSERS ROAD

SITE OFFICE

MOBILE CRUSHER

NO EXCAVATION WITHIN 20m OF DRAINAGE LINE

450m (APPROX.)

20m

FOR CONSTRUCTION

REV	DATE	REMARK
A	06.10.17	CONSTRUCTION ISSUE

Accepted (Discipline Head)	G.ATHERTON	Date	SCALES @ A3	DESIGNED BY	DRAWN BY
Accepted (Team Leader)	C.PARKER	Date 06-10-17	1:1000	C.PARKER	J.BALDOCK
Approved (Group Manager)	R.BESSELL	Date 06-10-17		PLOT DATE	06/10/2017

This document must be signed "Approved" by JMG to authorise it for use. JMG accept no liability whatsoever for unauthorised or unlicensed use.

DO NOT SCALE. Use only figured dimensions. Locations of structures, fittings, services etc on this drawing are indicative only. CONTRACTOR to check Architects & other project drawings for co-ordination between structure, fabric, fixtures, fittings, services etc. CONTRACTOR to site check all dimensions and exact locations of all items. JMG accepts no responsibility for dimensional information scaled or implied, derived from this document.

JMG Engineers & Planners

Johnstone McGee & Gandy Pty. Ltd.
Incorporating Dale P Luck & Associates
ACN 009 547 139 ABN 76 473 834 852
117 Harrington Street, Hobart, Tas (03) 6231 2555
49-51 Elizabeth Street, Launceston, Tas (03) 6334 5548
www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

PROJECT
326 PROSSERS ROAD
ORIELTON
LOGIE FARM QUARRY

Figure 5.2
MINING PLAN

PROJECT NO. J169010EL
DWG NO. E01
REVISION A
PLOT DETAILS J169010EL.DWG

10 0 10 20 30 40 50 m

SCALE 1:1000

THIS IS A COLOR A3 DRAWING AND MUST BE REPRODUCED IN COLOR AT ALL TIMES

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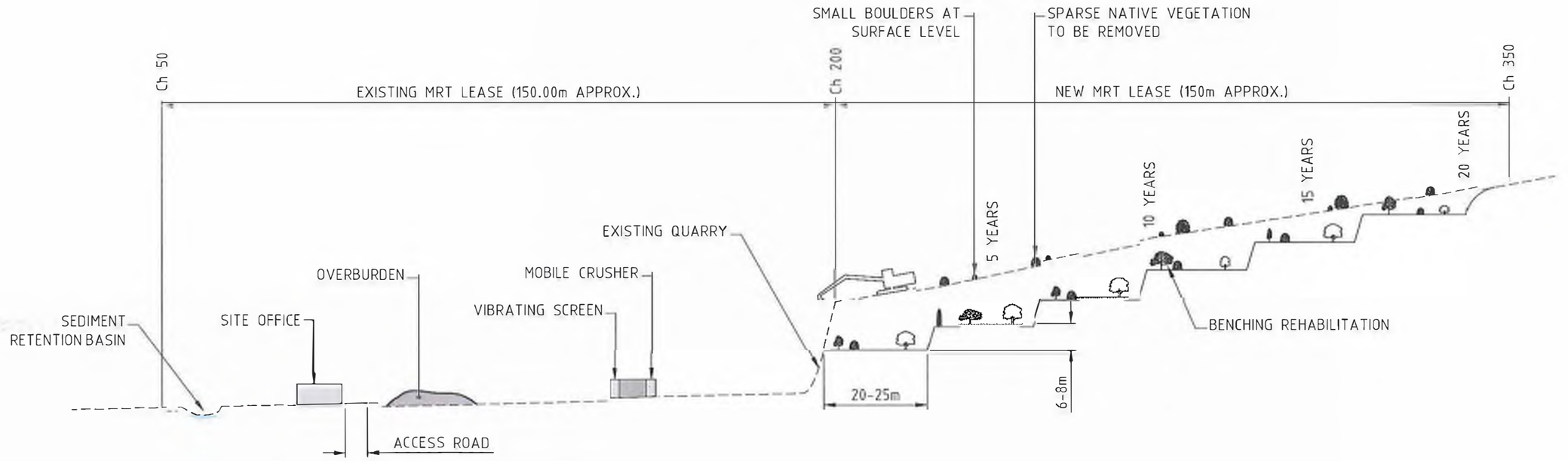
BEFORE YOU DIG



SECTION A
SCALE 1:1000 E01

EXTRACTION & REHABILITATION PLAN

REV	DATE	REMARK
A	06.10.17	CONSTRUCTION ISSUE

Accepted G.ATHERTON (Discipline Head)	Date	
Accepted C.PARKER (Team Leader)	Date	06-10-17
Approved R.BESSELL (Group Manager)	Date	06-10-17

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SCALES @ A3	DESIGNED BY	DRAWN BY
1:1000	J.BALDOCK	J.BALDOCK
	PLOT DATE	06/10/2017

DO NOT SCALE. Use only figured dimensions. Locations of doorways, fittings, services etc on this drawing are indicative only. CONTRACTOR to check Architects & other project drawings for co-ordination between structural, fabric, fixtures, fittings, services etc. CONTRACTOR to site check all dimensions and exact locations of all items. JMG accepts no responsibility for dimensional inaccuracies arising directly or indirectly from this document.

Engineers & Planners

Johnstone McGee & Gandy Pty. Ltd.
incorporating Dale P Luck & Associates
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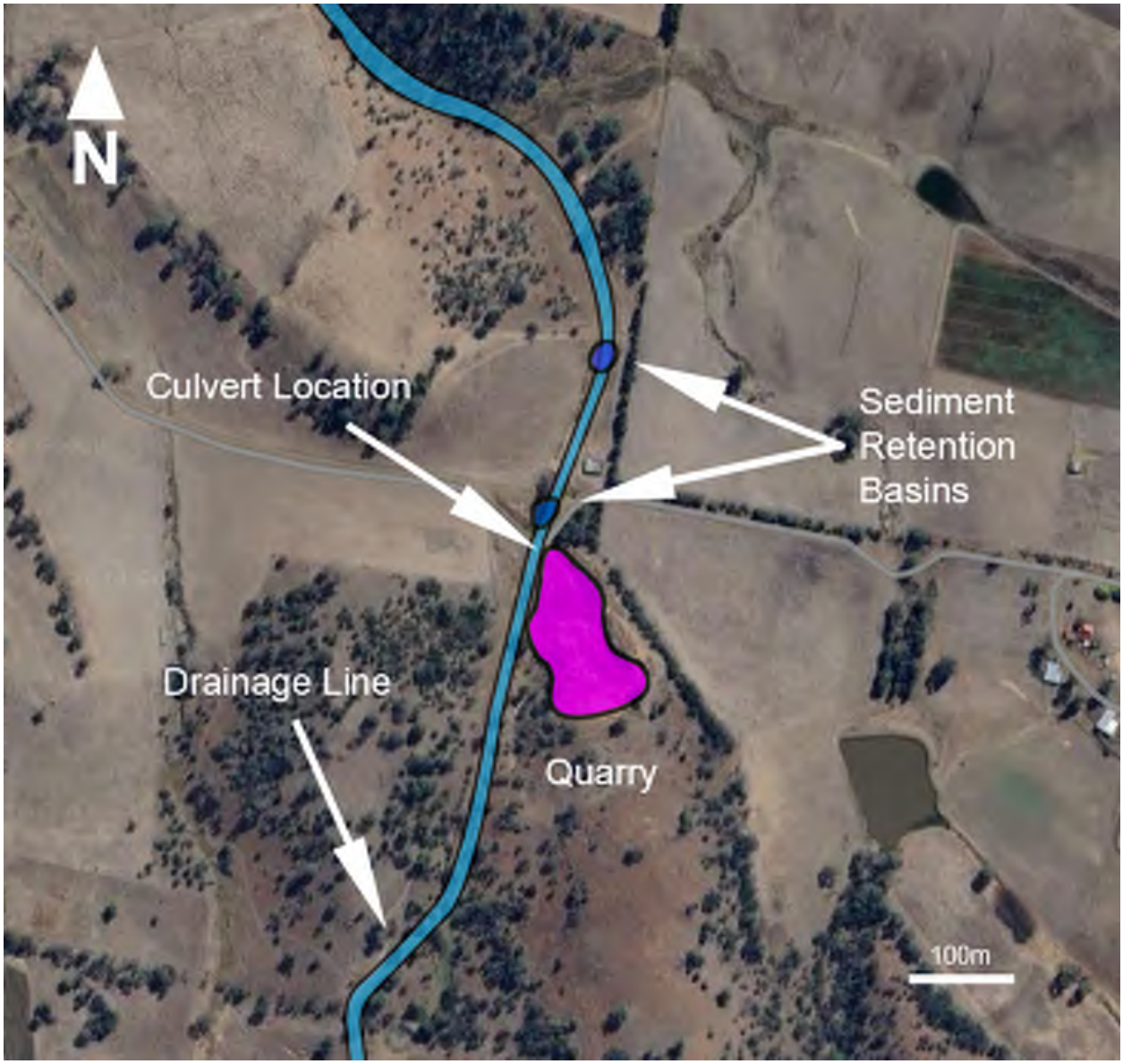
www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

PROJECT
326 PROSSERS ROAD
ORIELTON
LOGIE FARM QUARRY

Figure 5.3
SITE CROSS SECTION

PROJECT NO. J169010EL
DWG NO. E02
REVISION A
PLOT DETAILS J169010EL.DWG

Figure 6 Affected Watercourse



The watercourse that any sediment will flow into runs just to the west of the Quarry and runs to the north following the topography, the watercourse was used as a drainage line by the previous owner, and only flows when there is high volume rain. Currently there are two existing sediment retention basins. We are proposing to maintain these sediment retention basins, with a focus on the one nearest the quarry, drainage will also be maintained directing the water to the culvert, so it goes into the settlement retention basin.

Figure 7 Threatened Flora

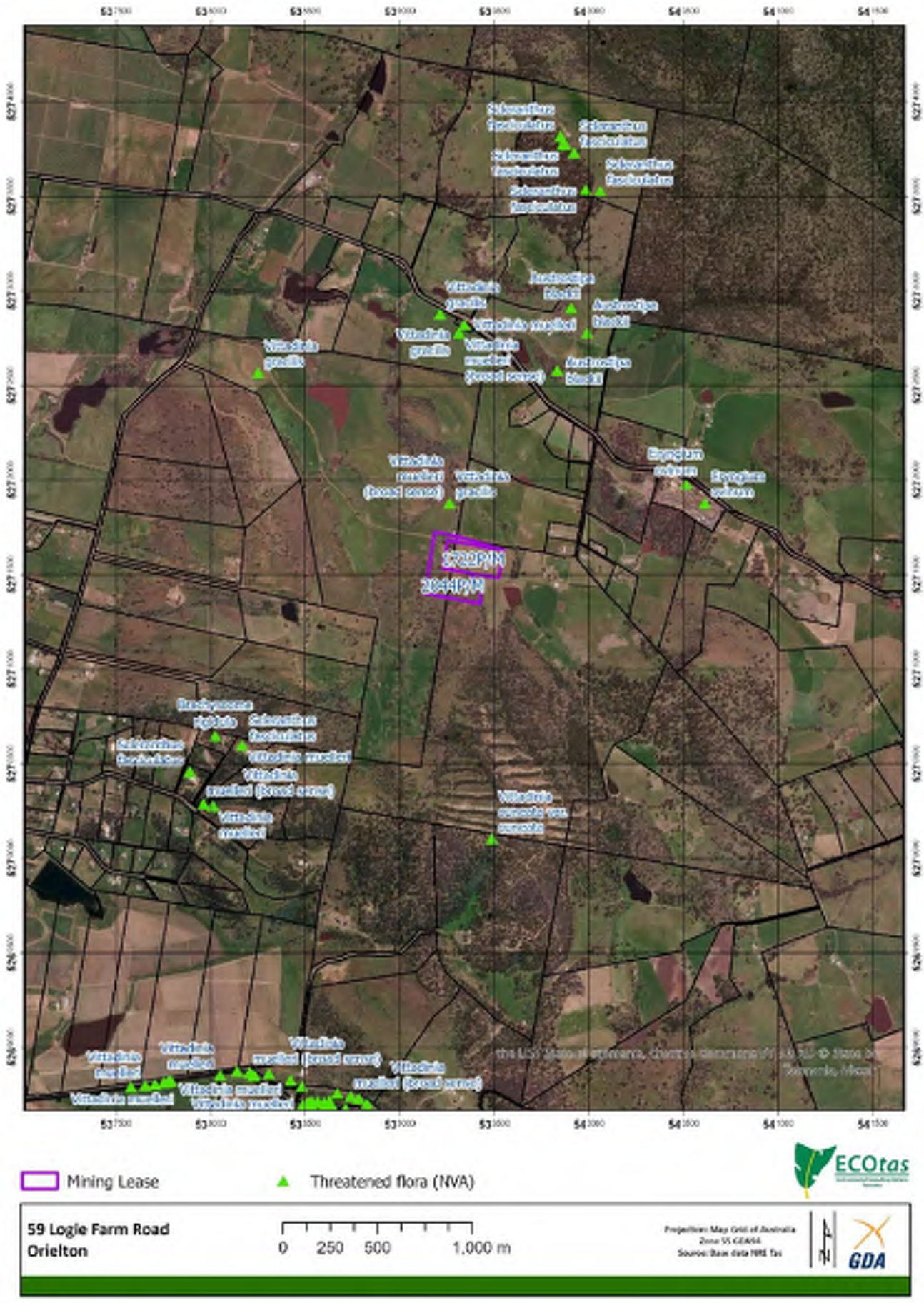
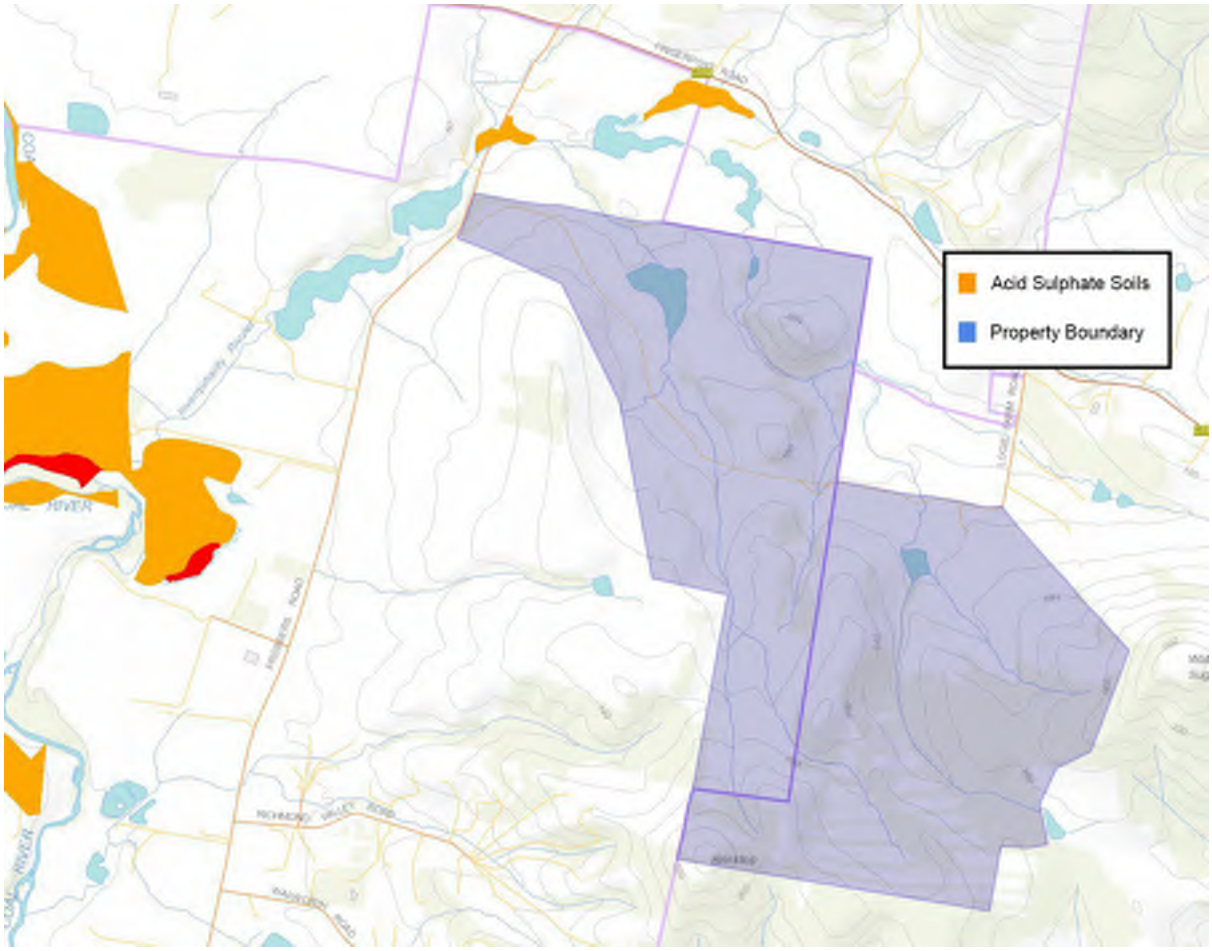


Figure 8 Threatened Fauna

Figure 9 Soil Types

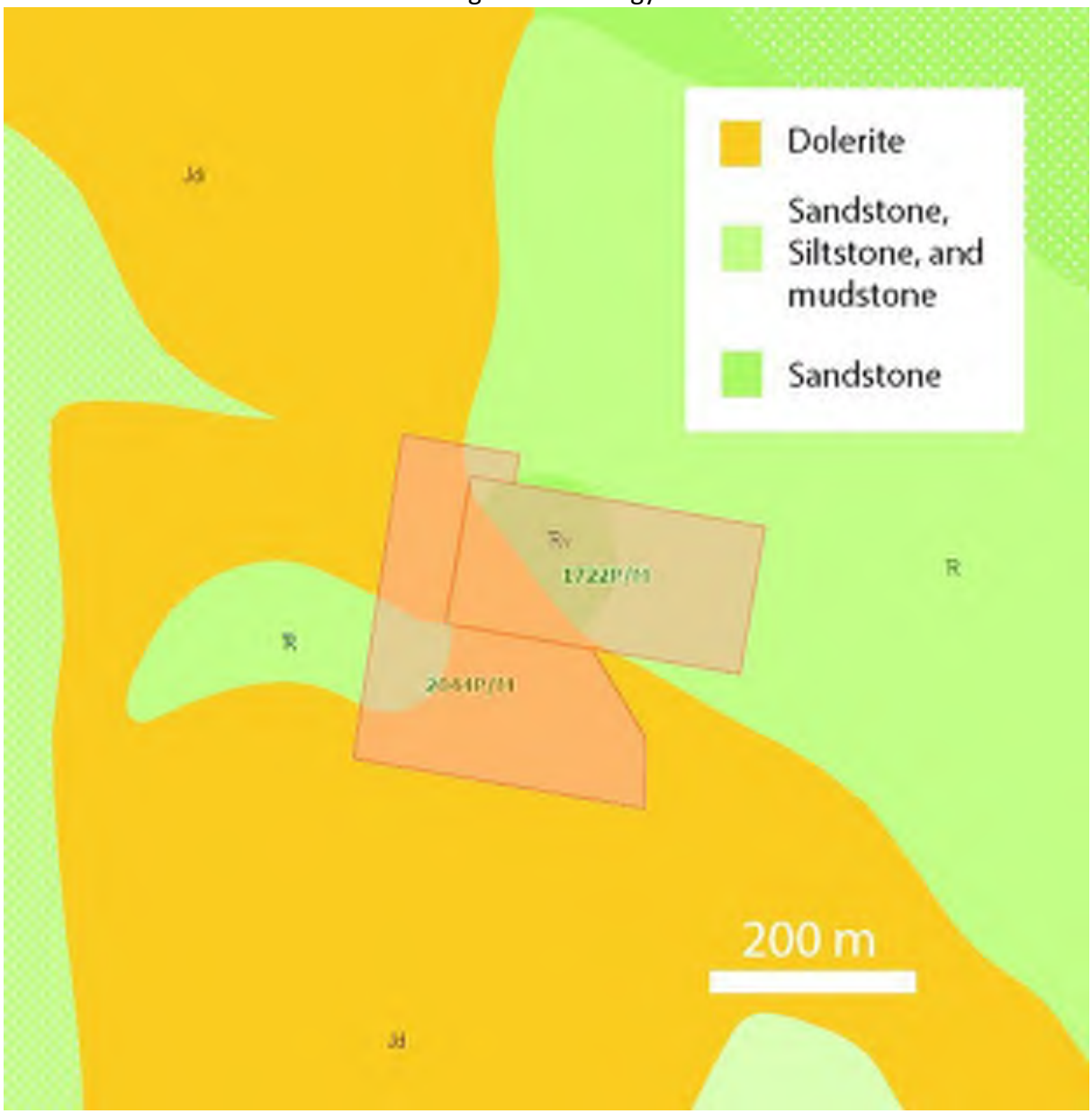
The property has several different soils, the affected area of operation is categorised on ListMap as Brown Soils on Dolerite. This topsoil will be kept onsite as overburden and be compacted to make the side walls safe and used in the future rehabilitation.

Figure 10 Acid Sulphate



As shown above there are no Acid Sulphate soils on the property. The nearest affected soils are along the Inverquhanty Rivulet and along the Coal River.

Figure 11 Geology



The geology of the site is a mix of Dolerite, Sandstone, Siltstone and Mudstone. The material being extracted is Dolerite and future operation will be within the 2044P/M lease.

3 - Project Rationale and Alternatives

The rationale for the proposed blasting is to access the dolerite. Advice from our contractor was that blasting is needed to break up the dolerite and this was not feasible with a crusher, the dolerite being too hard. Blasting will also help with benching the site.

The only realistic alternative to blasting is to return the mining licence and cease operations as using machinery to break up the dolerite would be too costly in machinery wear and tear, time taken, and fuel costs.

We wish to increase the processing amount to match the extraction amount as our contractor advised that he would get through the existing 5,000m3 amount within four months and then the quarry could not technically operate until the next year as market demand for unprocessed material is low.

4 – Existing Activity

Regarding the existing activity Gowing Bros Ltd has at no stage mined the site, the land was purchased from Toronto Pastoral Coy Ltd in 2022 who last operated the quarry. As a condition of the transferral of the mining lease Gowing Bros Ltd are required to produce a new mining plan.

For us to create a new mining plan advice from our contractor was that blasting would be required to bench the site for safety and to access the dolerite being mined.

No environmental monitoring has been undertaken as the site has not been operational since the previous owners operated the quarry, to the best of our knowledge no complaints have been received, no breaches of conditions of current regulatory approvals have occurred, and there have been no contraventions of environmental law.

Part C – Information about potential environmental impacts

1 – Air Quality

The potential sources of air emissions include fuel fumes from the crusher, screener, excavator, and trucks used on site. Dust particles from the blasting, crushing and screening could eventuate. Dust could also come from the approximately 8,500m3 stockpile and even from truck movements along the access road. Emissions will also result from the blasting i.e. from the chemicals that create the explosion.

Blasting is expected to occur intermittently, to a maximum of 4 times per year, if any additional blasting is required, we expect an application would be necessary. Blast charges are proposed to be either ANFO 56kg or Emulsion 76kg. The blasting will be focused on core holes in the quarry face located to align with the plan to bench the site. Explosive Engineering Australia (EEA) is our nominated contractor to undertake the blasting.

Their process involves drilling the core holes for the explosives which can take up to a week, this is critical as the location of the core holes affects any chance of fly rock, the topography is considered to minimise this. The shotfirer ensures suitable precautions are taken before the blasting occurs:

- Neighbours notified by phone (or by written notice if deemed necessary) prior to the set date for blasting.
- Property entrances closed and guards placed to prevent entry.
- Signage put in place on public roads leading into the property.

Generally, if the weather conditions are adverse e.g. storming or extreme winds the blasting would be delayed until more suitable weather presents itself. This will minimise any effect the blasting will have on air quality.

Proposed measures to mitigate the impacts of dust generated from trucks travelling to and from the quarry are for the trucks to travel at reasonable speeds, practice load dampening if necessary, and have a covered canopy or tarpaulin to trap dust from the back of the trucks.

The potential for environmental nuisance or harm to air quality is low considering the rural setting of the quarry. The nearest residence not on the property is approximately 545 metres away at 54 Logie Farm Road. Access to the quarry will be from Prossers Road to minimise any effect on neighbours. Further to this the prevailing North Westerly winds mean that any dust created from both the activity and transportation is likely to end up on the property as any dust would need to get over the higher lands to the south of the quarry with the hills behind rising to at their lowest approximately 150m to highest at 279m above sea level. The quarry wall itself rises from approximately 90m to 100m above sea level.

Following the acceptable standards as described in Section 7 of the Quarry Code of Conduct dust is to be minimised leaving the site with extra care taken in windy weather, with the

access roads to be watered as necessary.

In general, a water cart would be hired when needed by the contractor during operations, if a water cart was unavailable or an unforeseen wind event occurred the farm possesses a firefighting cart and irrigation equipment that could be repurposed if necessary and act in place of a water cart.

Dust from the extraction processes, including the use of the crusher, will be controlled to the satisfaction of the EPA with load dampening and watering of the undertaken as necessary to mitigate dust. In the case of a high wind event barriers can set up to prevent dust leaving the site especially if the wind persists outside of operational hours.

The prevailing winds are North Westerly see below for the Bureau of Meteorology wind roses. The other main climatic factor is the dry summers as the lack of moisture encourages dust, as suggested load dampening and watering of the access road will be done as necessary.

The material being extracted is dolerite. The method of extraction proposed is for intermittent blasting to loosen the material, after which it will be crushed and screened before being transported off site.

As outlined briefly above the measures that will be employed to reduce the potential for environmental nuisance or harm to air quality are for watering of the access roads and load dampening when necessitated by adverse wind directions, tarpaulins for the trucks, and barrier erection if weather persists outside of operation. The assessment is consistent with the requirements of the Tasmania Environment Protection Policy (Air Quality) 2004 in that all unnecessary dust pollution is to be avoided and minimised in line with best practices in the industry

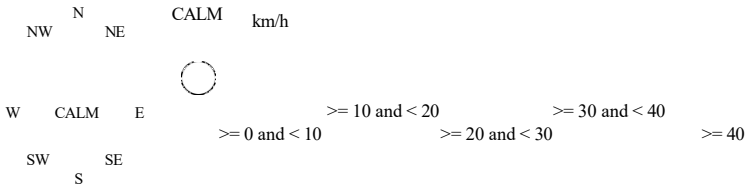
Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 09 Aug 2019)

Custom times selected, refer to attached note for details

HOBART AIRPORT

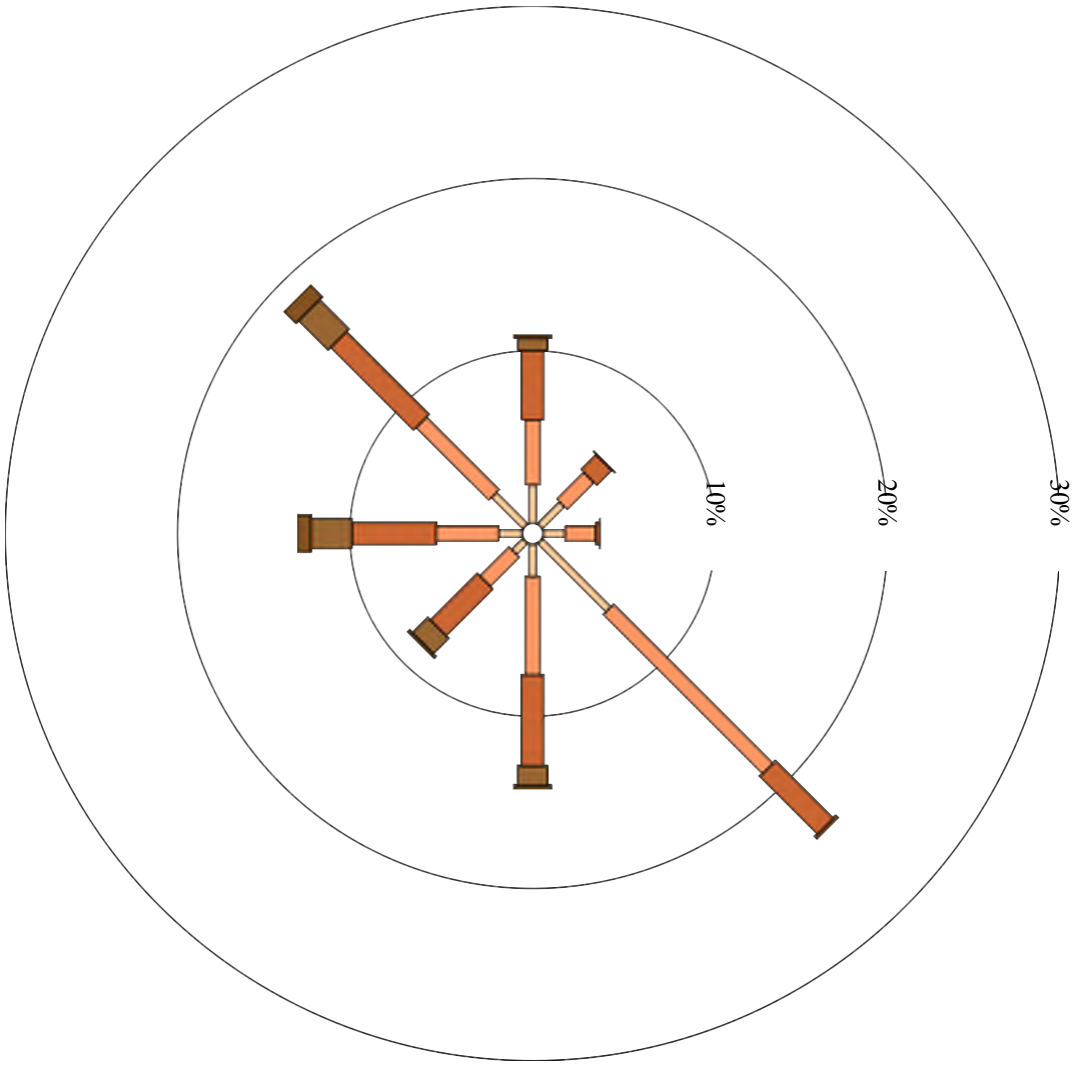
Site No: 094008 • Opened Jan 1958 • Still Open • Latitude: -42.8339° • Longitude: 147.5033° • Elevation 4m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm Autumn
5535 Total Observations

Calm 3%



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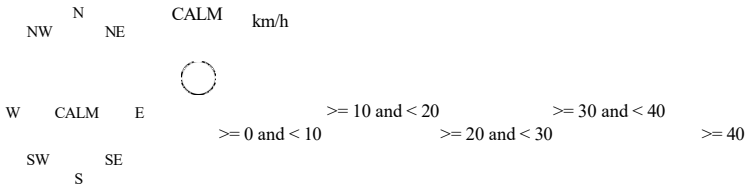
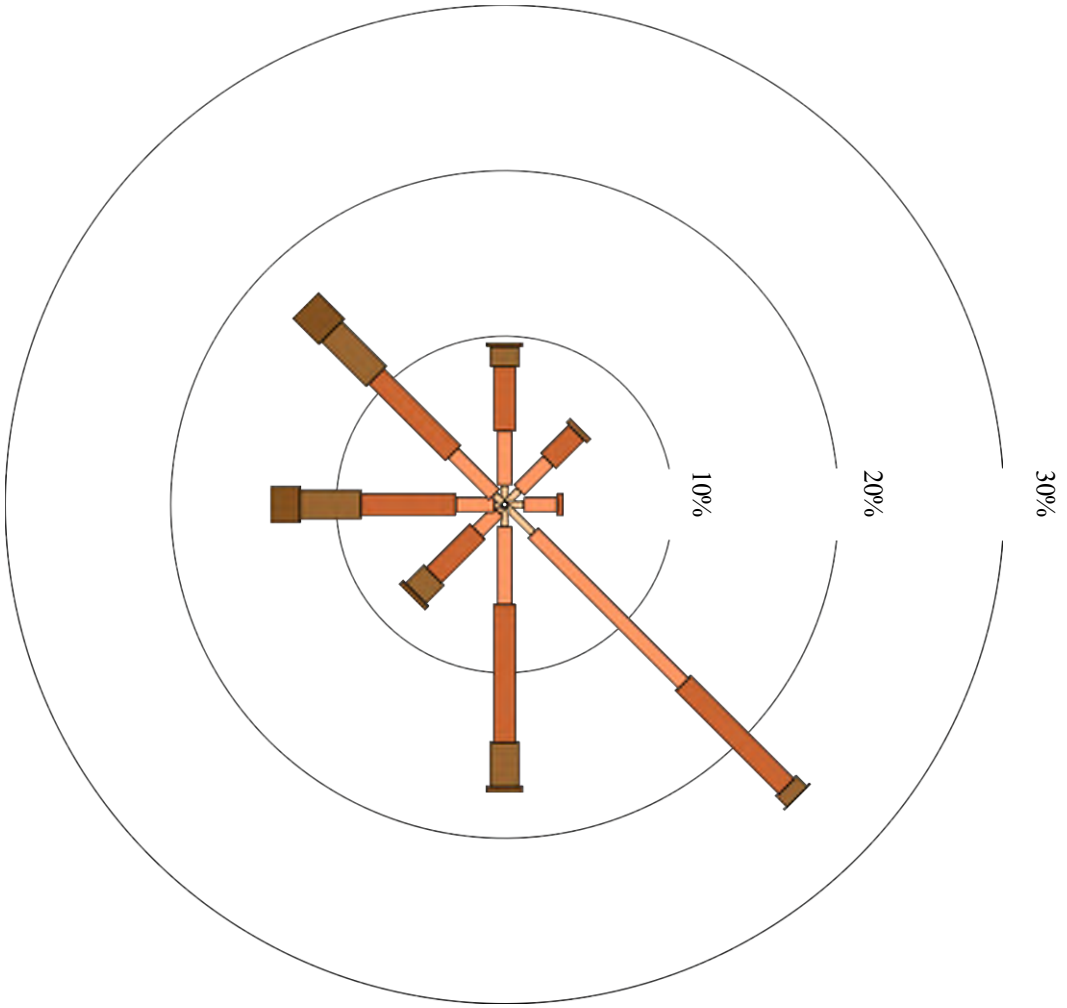


3 pm Spring
5321 Total Observations

Calm 1%



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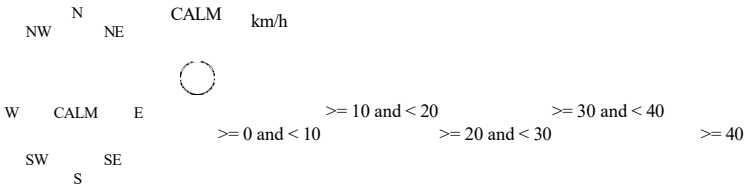
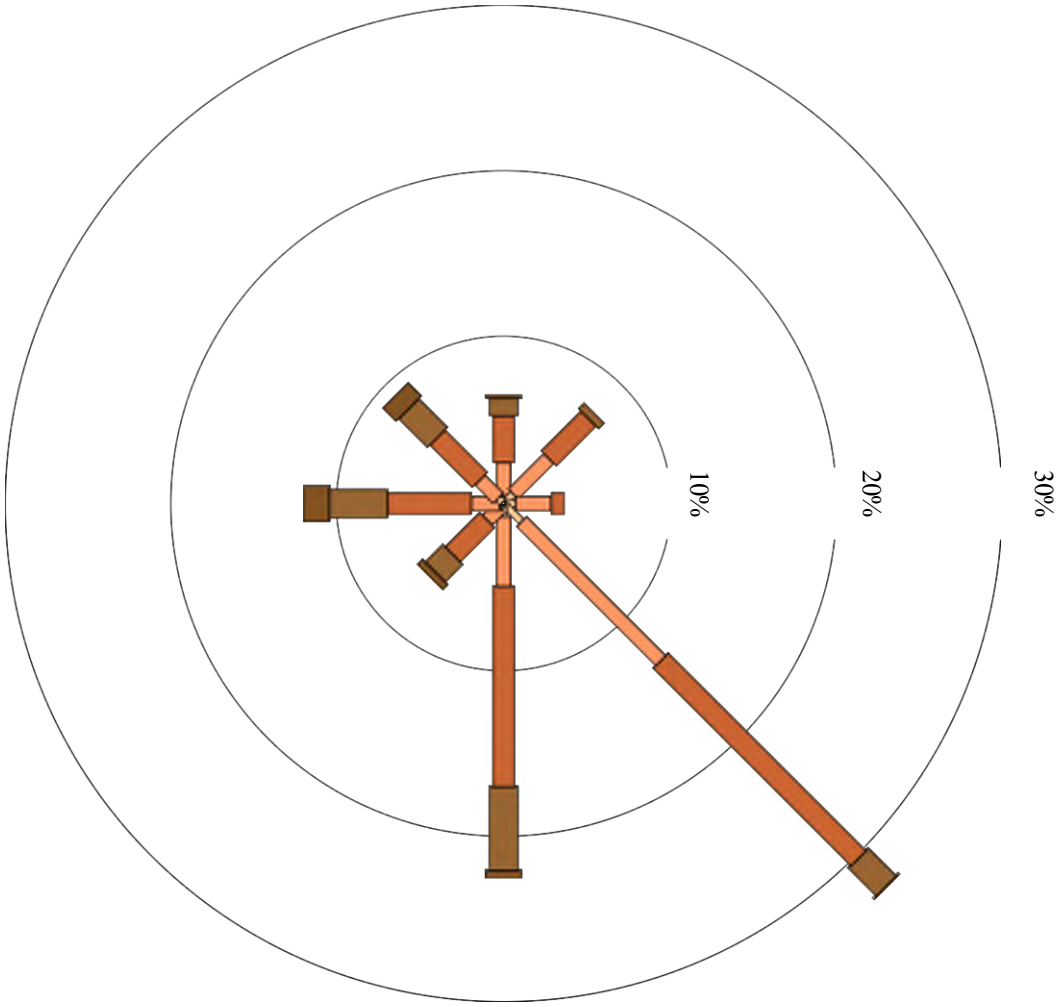


3 pm Summer
5044 Total Observations

Calm *



Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 09 Aug 2019)

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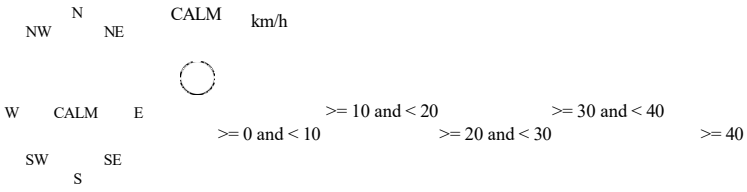
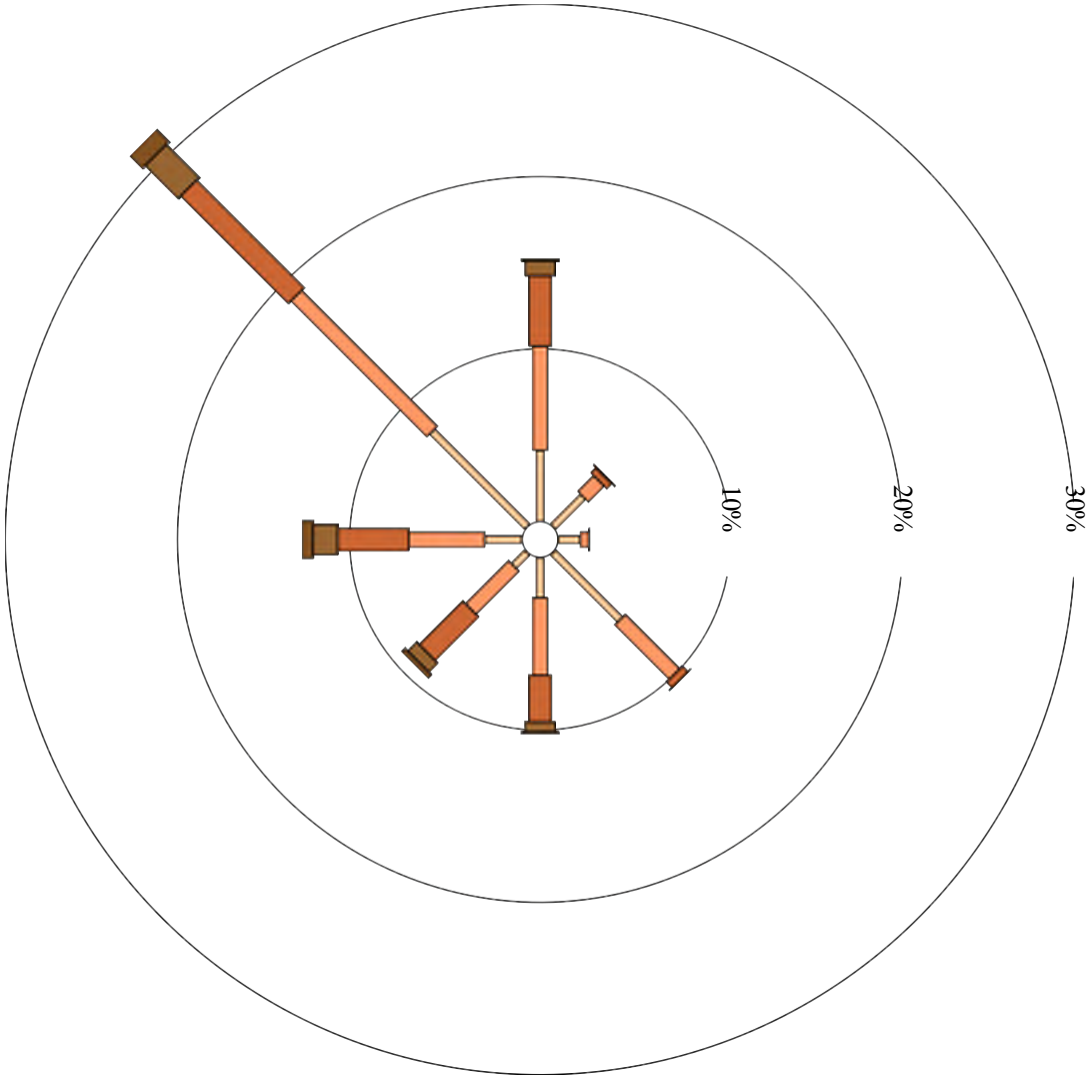


3 pm Winter
5674 Total Observations

Calm 5%



Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 09 Aug 2019)

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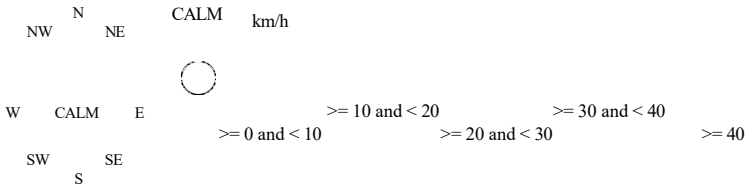
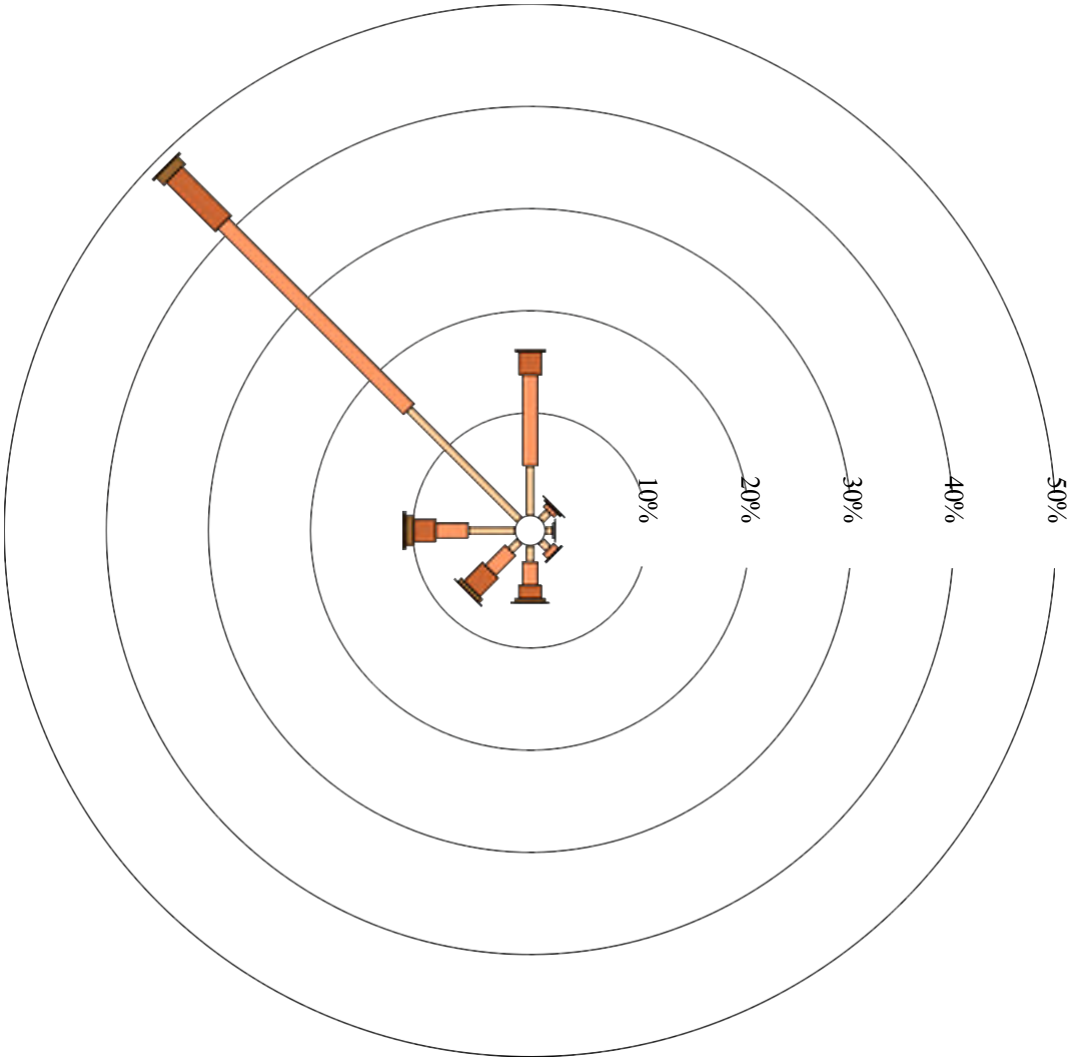


9 am Autumn
5537 Total Observations

Calm 7%



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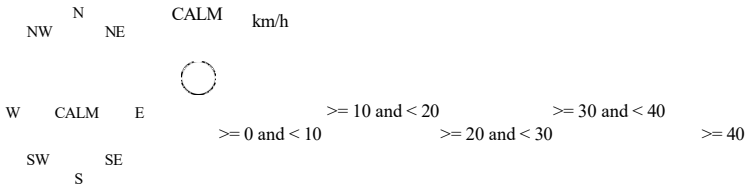
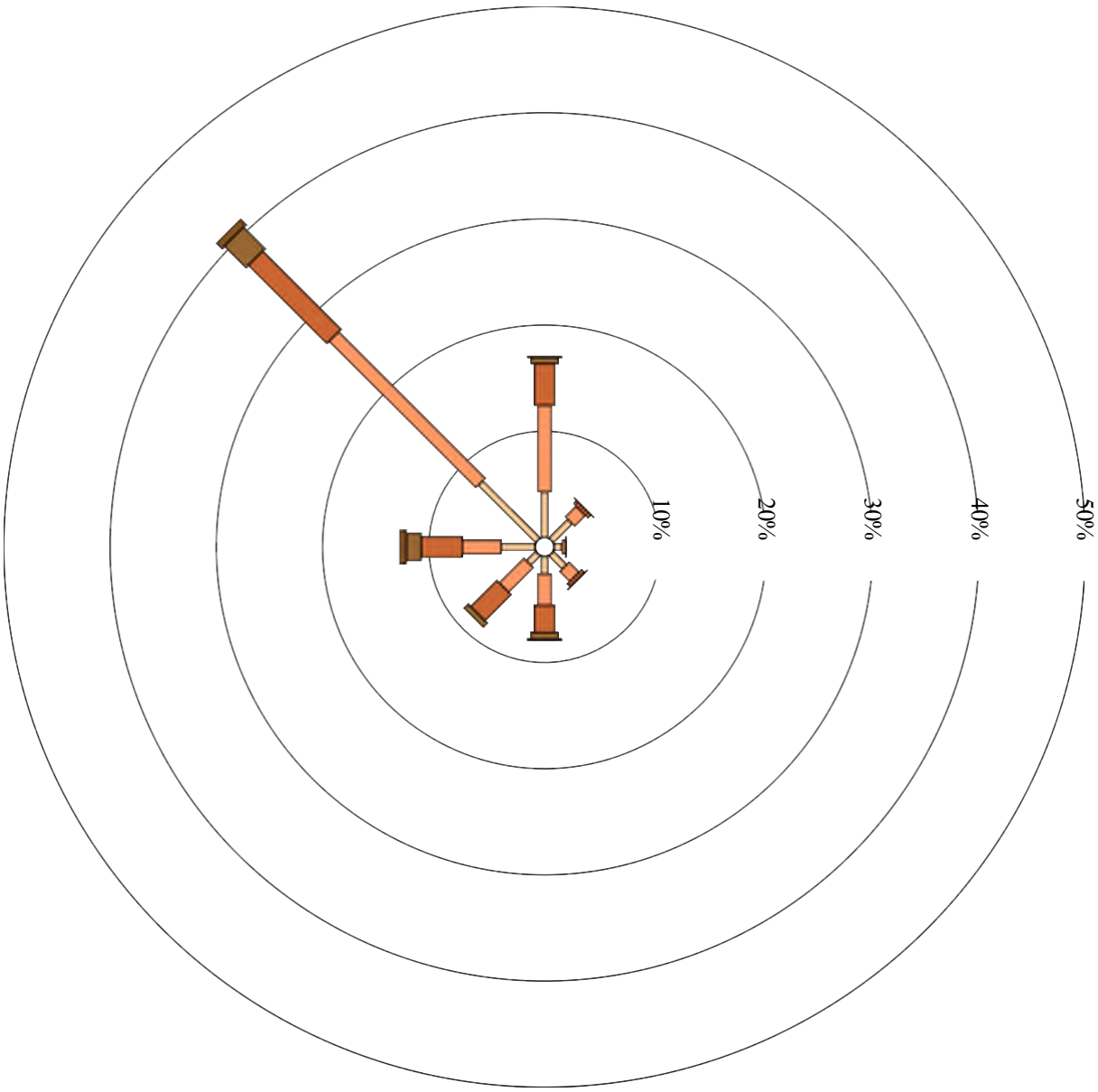


9 am Spring
5323 Total Observations

Calm 4%



Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 09 Aug 2019)

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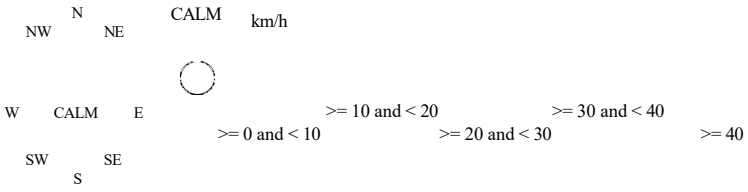
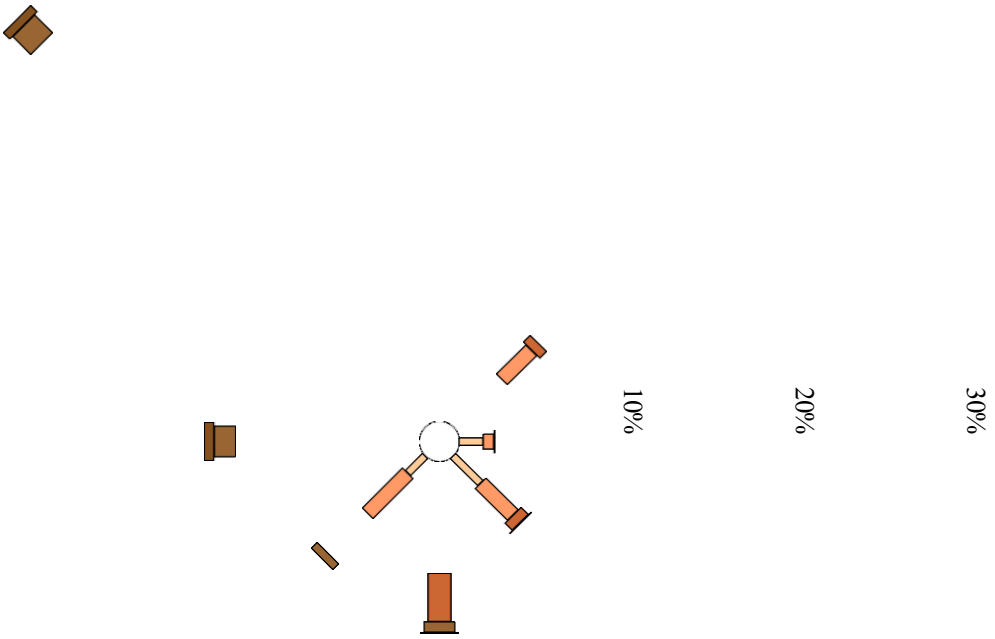


9 am Summer
5046 Total Observations

Calm 6%



Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 09 Aug 2019)

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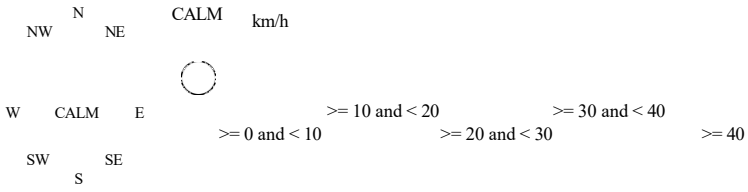
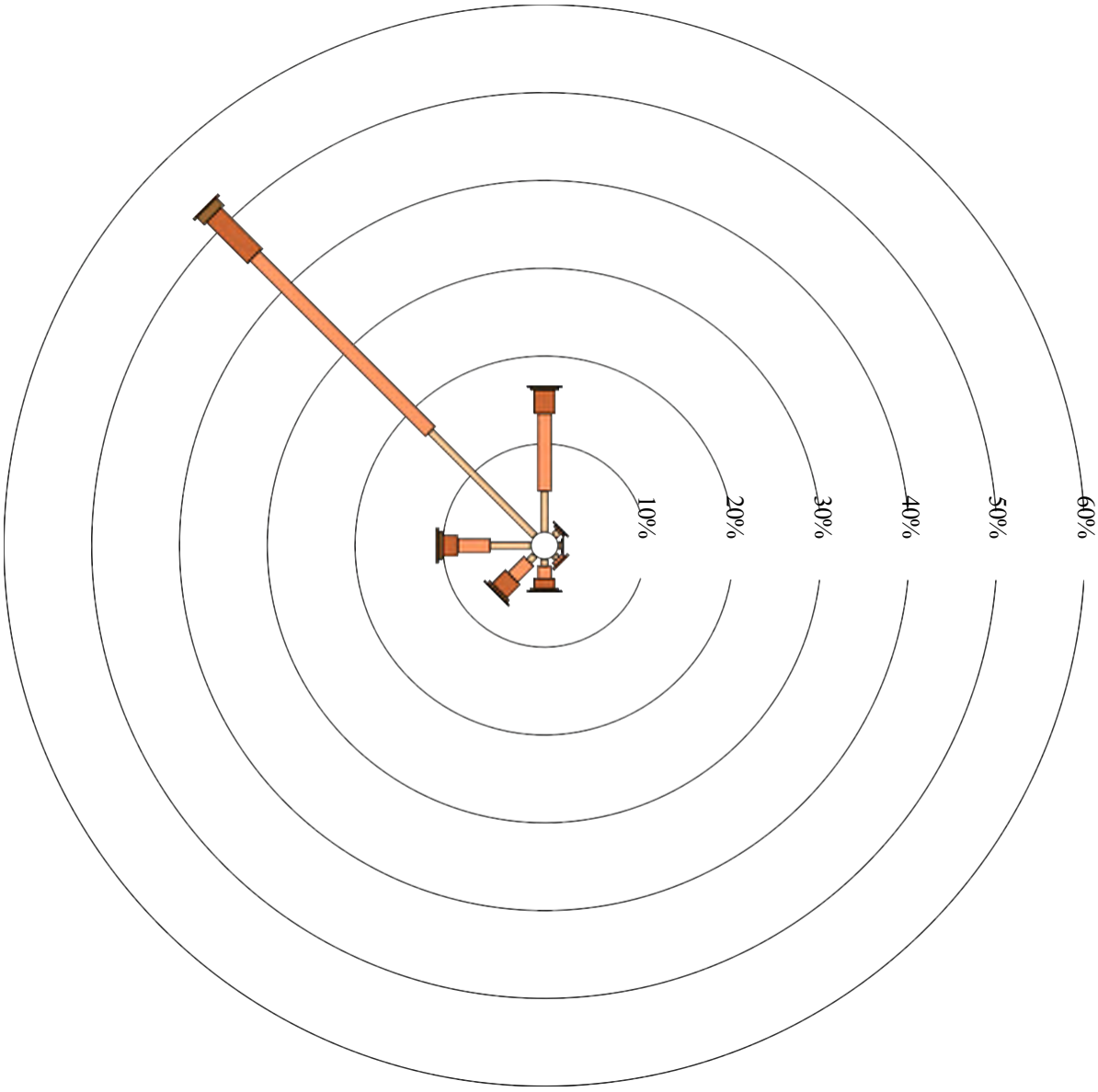


9 am Winter
5670 Total Observations

Calm 8%



Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 31 Jul 2019)

Custom times selected, refer to attached note for details

HOBART AIRPORT

Site No: 094008 • Opened Jan 1958 • Still Open • Latitude: -42.8339° • Longitude: 147.5033° • Elevation 4m

An asterisk (*) indicates that calm is less than 0.5%.
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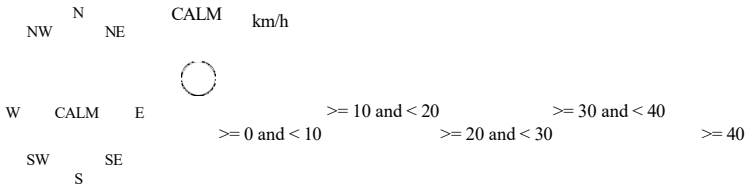
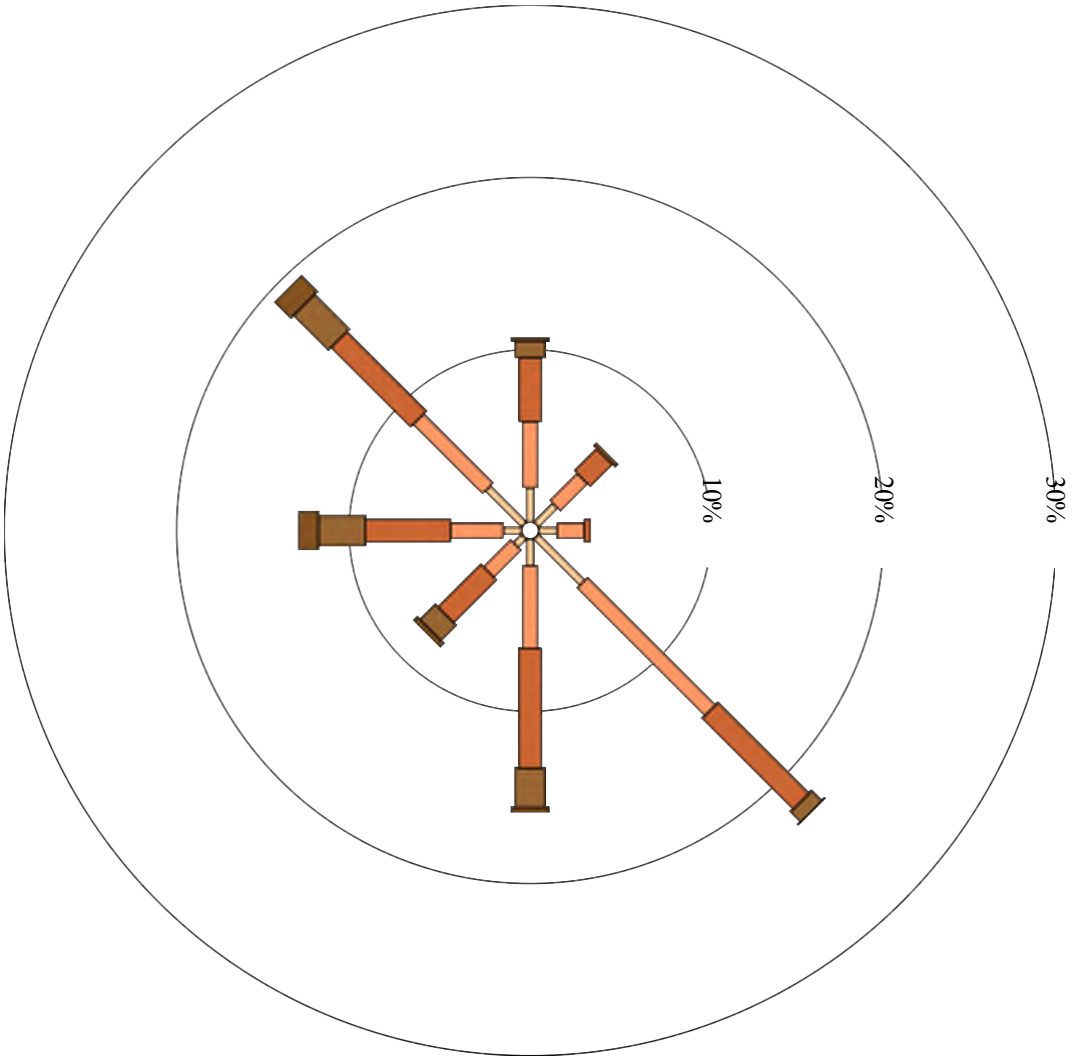


3 pm
21564 Total Observations

Calm 2%



Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 31 Jul 2019)

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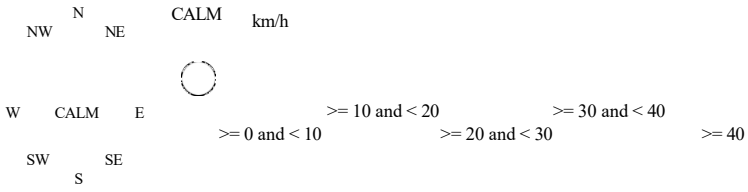
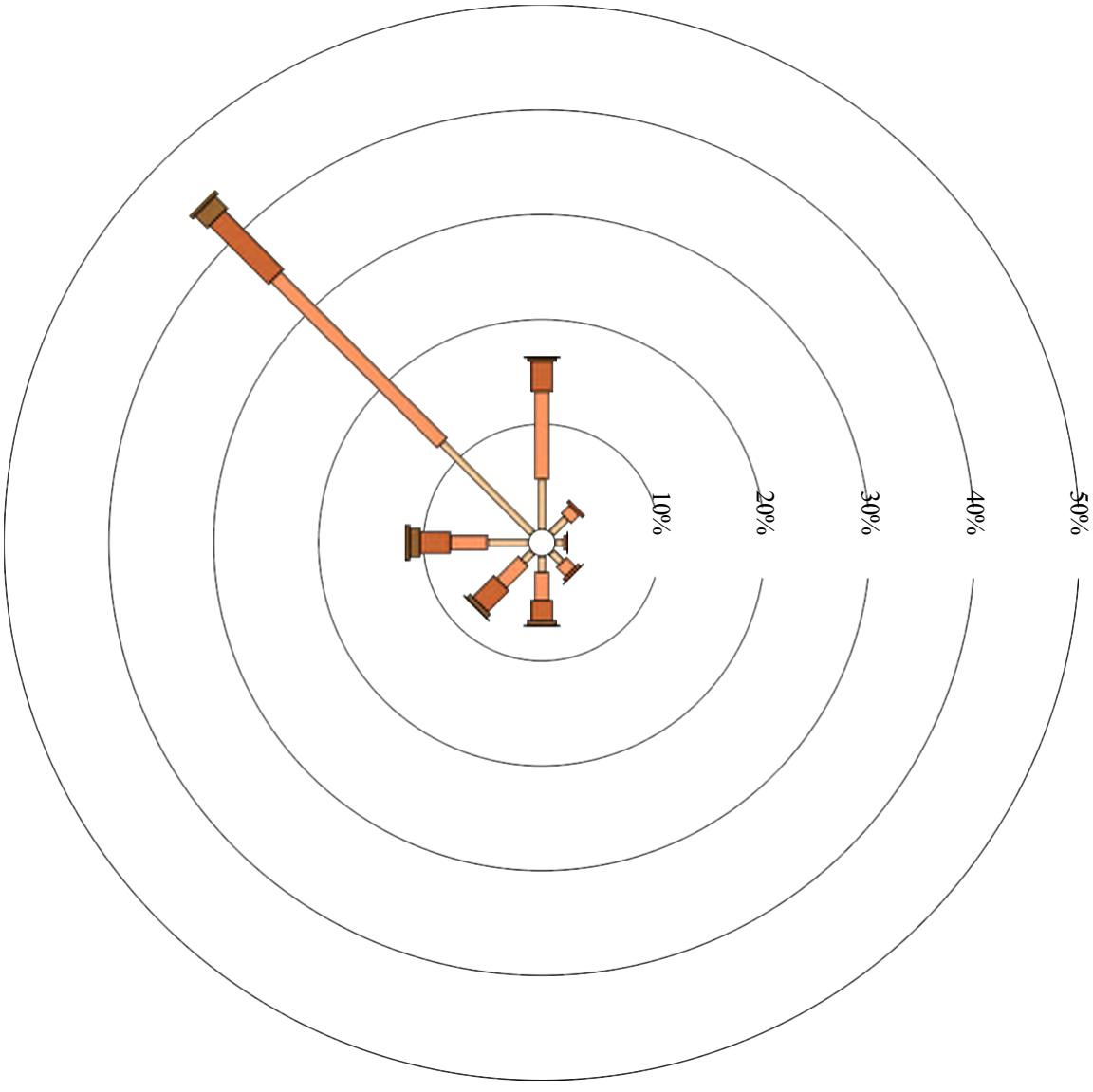


9 am
21567 Total Observations

Calm 6%



2 – Water Quality (surface, discharge and groundwater)

The potential impact of the quarry on downstream waterways, if not managed properly, is for sediment to be discharged into the immediate waterways as well as downstream this could potentially block smaller waterways and have a detrimental impact on wildlife and neighbours' properties.

The main nearby waterbodies are the dams on the property the nearest affected being approximately 850 metres away, further afield there are neighbours' two dams which are approximately 18 mega litres for the larger and 12 mega litres for the smaller, but most importantly is the Coal River which is approximately 3.2 kilometres to the west and where any sediments could ultimately end up after flowing through the Inverquharity Rivulet. Please refer to page 10 to see the other watercourses on the property.

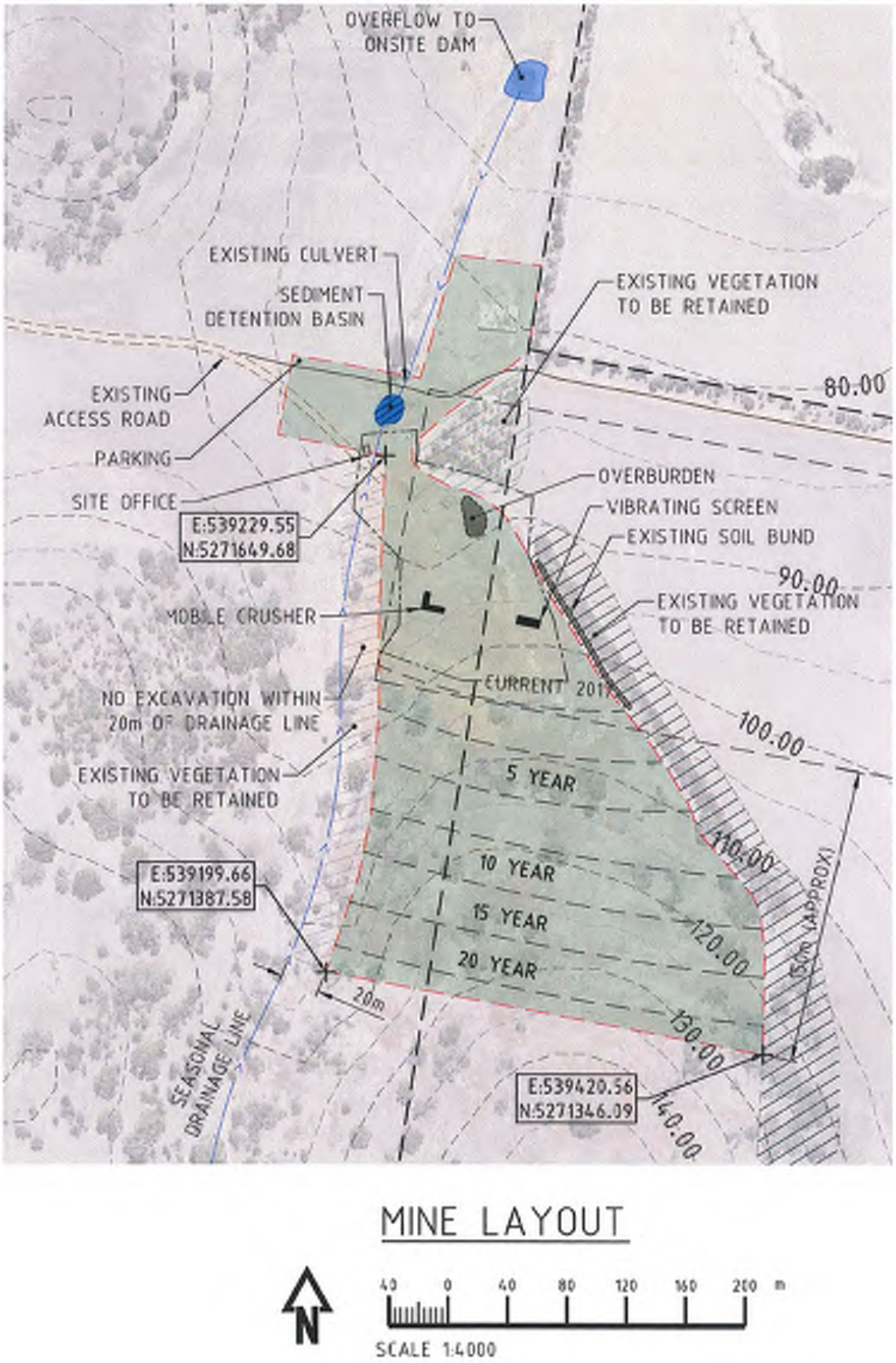
The waterways leaving the property only flow in high rainfall events, generally they remain dry, the Coal River that they flow into on other hand flows year-round and is an important waterway locally which empties into the Pitt Water-Orielton Lagoon and from there into the sea. The watercourse that runs parallel to the quarry is used as a seasonal drainage line constructed by the previous owner that directs the water flows into the two sediment retention basins at the foot of the quarry, with the area having naturally low rainfalls this only flows when there is significant rain. Excavation is to be avoided withing 20 m of the drainage line. See figure 5.2 page 12 for reference. The retention basins have a capacity of approximately 0.28 mega litres each.

On average the area receives 480mm of rainfall a year with most rain falling in January and February with this low rainfall the waterway adjacent to the quarry will only flow a handful of times a year. From speaking with farm management, the sediment retention basins haven't filled up this year due to lack of rain but in previous years and it will fill up around 4-6 times depending on rainfall.

As pointed out in the EER guidelines sediment control is an issue that needs to be managed on site, currently there are two sediment retention basins to capture sediment as shown below. There is also a culvert running under the existing road directing any water flows into the sediment retention basins. What we propose is for maintenance to be done to the existing sediment retention basins and the perimeter drain so they remain effective. This maintenance involves re-digging with an excavator as necessary and moving the material to the overburden pile in the quarry. As the sediment builds up over time it will be monitored and re-digged as necessary with the sediment being placed with the overburden to be used at a later date in the rehabilitation of the site.

Further to this a buffer zone will be in place for the drainage line, see figure below for reference. The combination of buffer zone, maintenance and directing waters from above should help manage erosion.

Figure 12



This figure shows in more detail how the drainage line and sediment retention basins interact with the quarry and the landscape to direct water. The first basin is for sediment detention and the second is for overflow.

3 – Noise Emissions and Blasting

Major sources of noise include:

- Excavator; Hitachi Zaxis 200-3LC 164 Hp
- Crusher; Powerscreen Metrotrack 169 Hp
- Power screen; Portifill 5000CT 53 Hp
- Wheel loader; Komatsu WA250-5 135 Hp
- Trucks; Various 6-7 per day (12-14 movements), or Truck and Dog Trailers 2-3 per day (4-6 movements) with access by Prossers Rd
- Blasting

We engaged Tarkarri Engineering on the 23rd of Janaury 2025 to build an Environmental Noise Model for the site with the main parameter being that the site was limited to 45 dBA LAeq 10min was applicable to the site. Table 1 below summarises the coordinates of noise sensitive receivers (residences) considered in the model. Figure 13 shows the quarry and surrounds with residence locations.

Modelling was conducted using the SoundPLAN 9.1 software package to predict received noise levels at the nearest sensitive residences identified surrounding the quarry. The model incorporates 3D topography, interpolated from 1, 2 and 5m elevation contours developed from 2019 LiDAR data.

Predictions were made using the ISO 9613-2:2024 prediction algorithm and CONCAWE prediction algorithm with worst-case weather conditions for noise propagation. This assumes a wind speed of 2m/s and Pasquill stability class F with all receivers downwind from each source.

Table 2 lists the sound power spectra used for equipment at the quarry, from Tarkarri Engineering library data, to predict LAeq 10min noise emission levels from the quarry. Modelling was conducted using 1/3 octave band spectra input. Figure 13 shows the quarry with the location of the equipment marked; Figure 14 shows a 3D wireframe view of the model.

Table 1: Residence Positions

Residence	Location	Coordinates (Datum: GDA94, Zone 55
R1	57 Logie Farm Rd, Orielton	539961 5271597
R2	53 Logie Farm Rd, Orielton	540165 5271490
R3	51 Logie Farm Rd, Orielton	540046 5271641
R4	500 Fingerpost Rd, Campania	539642 5272350
R5	428 Fingerpost Rd, Campania	539014 5272938
R6	472 Prossers Rd, Richmond	538207 527192

Figure 13 Noise Sources and Nearby Residences

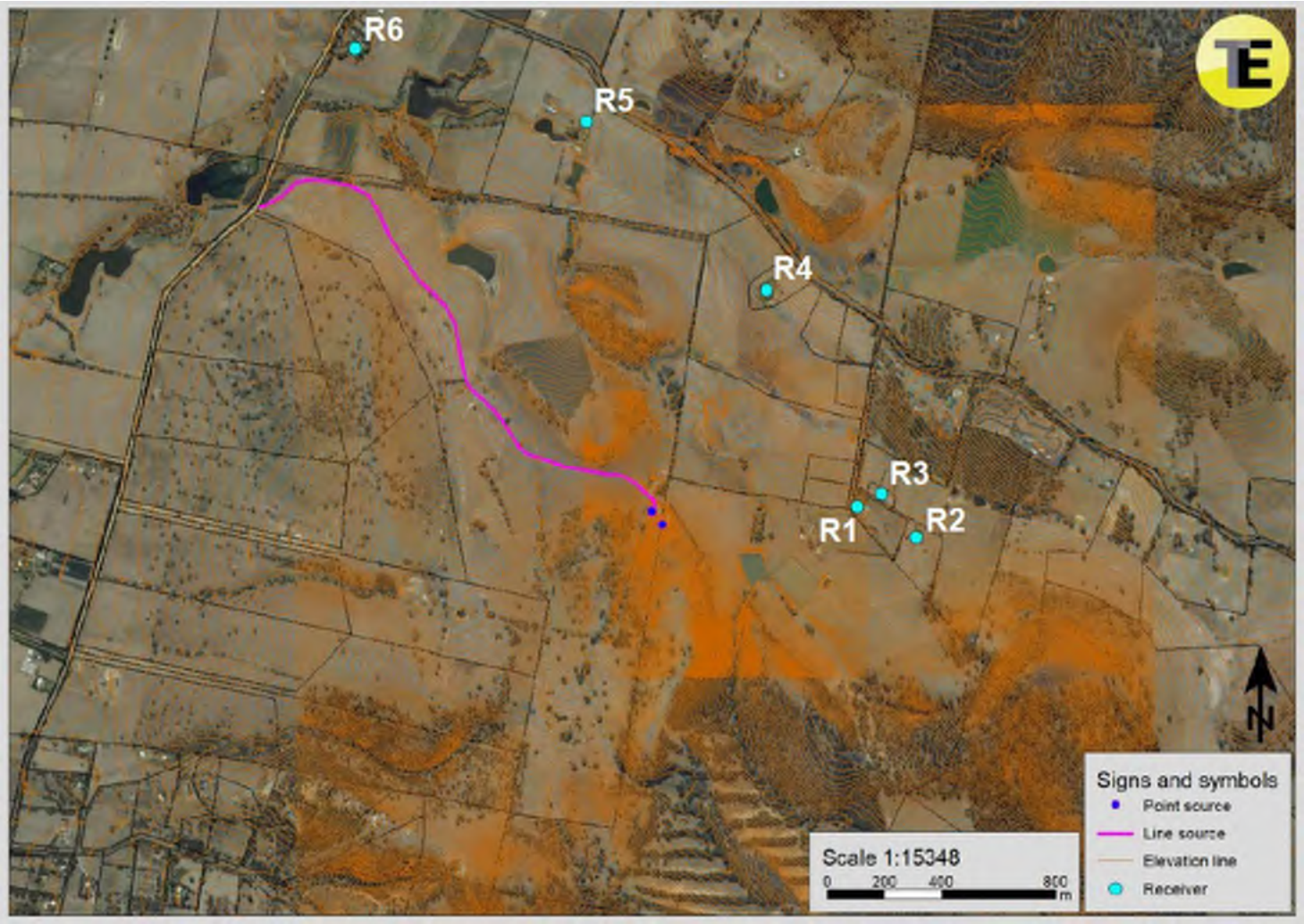
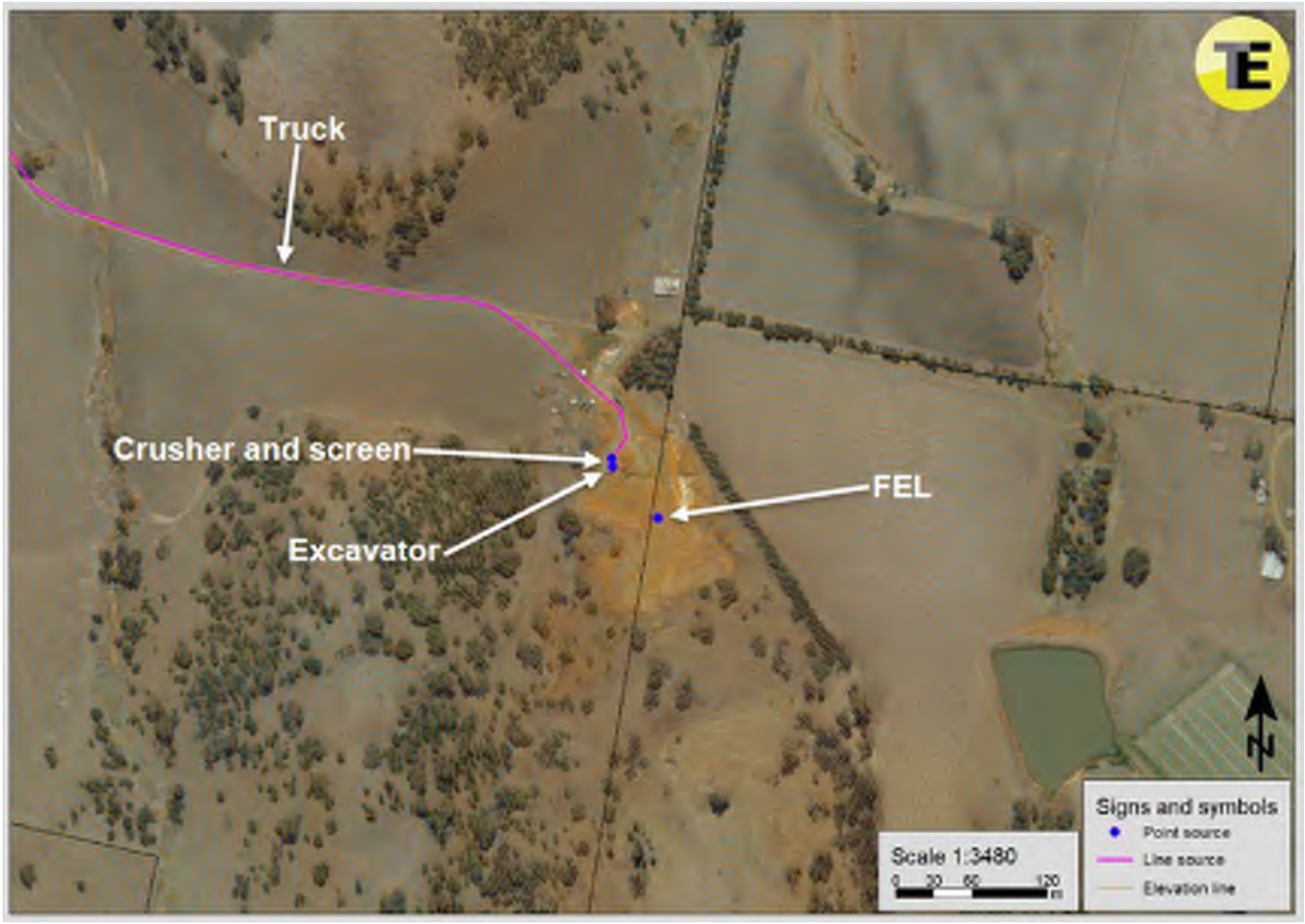


Table 2: Isla Penelope RO barge SWL 1/1-octave band spectra (dBA)

	Frequency (Hz)									
Source	31.5	63	125	250	500	1k	2k	4k	8k	Overall
Crusher & Screen	64	84	99	106	113	110	107	103	94	116
Excavator	64	72	85	86	93	92	92	86	78	98
Front & End Loader (FEL)-Acronyms will be utilis	58	73	92	100	93	96	96	92	85	104
Truck	67	79	88	89	95	97	100	95	86	104

Figure 14 Model plan view showing source locations



r

Figure 15 3D model wireframe view of the model domain

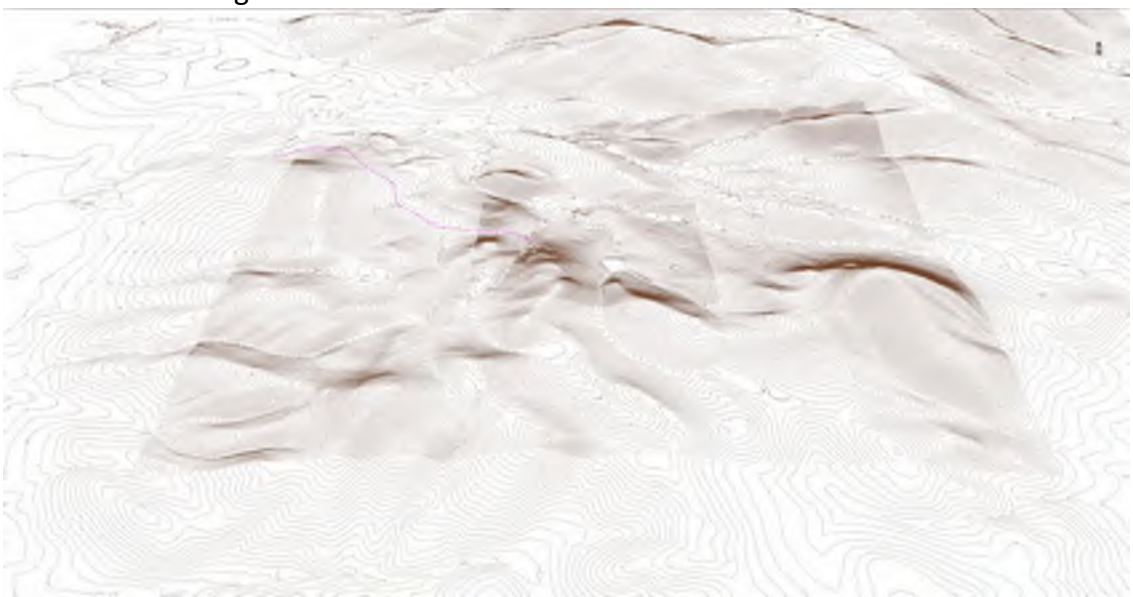


Table 3 Predicted noise emission levels under the two model algorithms used at residences

	Predicted	
Location	ISO	wcw
R1	37	29
R2	37	28
R3	36	28
R4	40	43
R5	34	28
R6	32	32

According to the modelling predicted noise levels are below the applicable QCP noise emission limit of 45 dBA at all receiver locations.

Receivers R1 to R3, to the east, are the closest to the activity, noise emissions from the quarry are attenuated by existing topography and this is critical to maintaining the low predicted noise levels at these locations.

To the north at R4 the dominant noise sources are the crusher and screener while further west at R5 and R6 truck activity on the entry exit is the main source of noise from the quarry.

Tonal and low frequency intrusive characteristics were considered here (in accordance with the Tasmanian *Noise Measurement Procedures Manual*) based on the predicted 1/3-octave spectrum at each sensitive receiver. Excessive levels of low frequency noise were not predicted (predicted dBC levels were less than 15 dB and generally less than 10 dB more than predicted dBA levels). Tonal adjustment at receivers to the east of the quarry (R1 – R3) was in the order of 3 – 4 dB while at receiver R4 approx. 1 dB (at receivers R5 and R6 tonal noise from truck traffic was considered unlikely to be stable and has therefore not addressed here).

To assist in the visualisation of the propagation of noise emissions from the Logie Farm Quarry, Figures 16 and 17 present predicted noise emission contours from the quarry operations under the two model algorithms utilised in this study. On each figure the predicted contour equivalent to the QCP day noise emission limit of 45 dBA LAeq 10min is highlighted in turquoise.

Figure 16 Predicted noise emission contours form Logie Farm Quarry, ISO

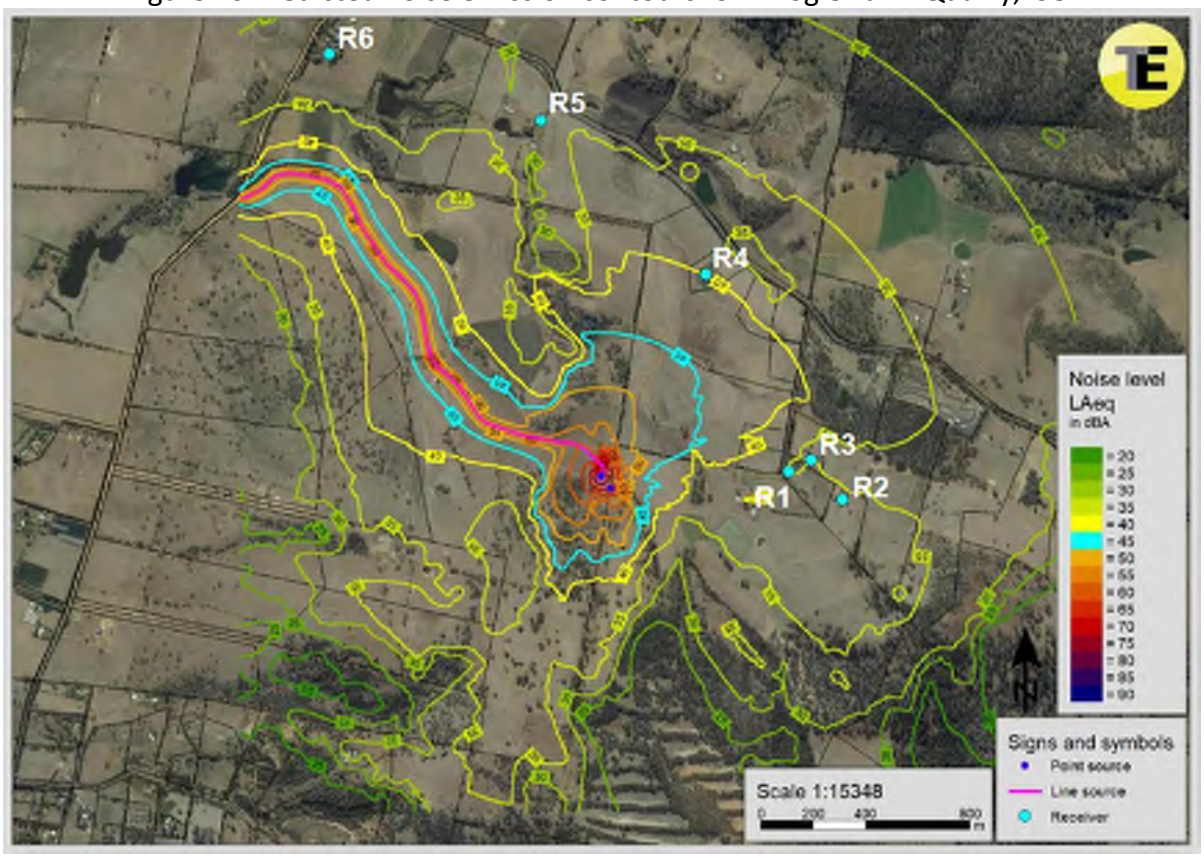
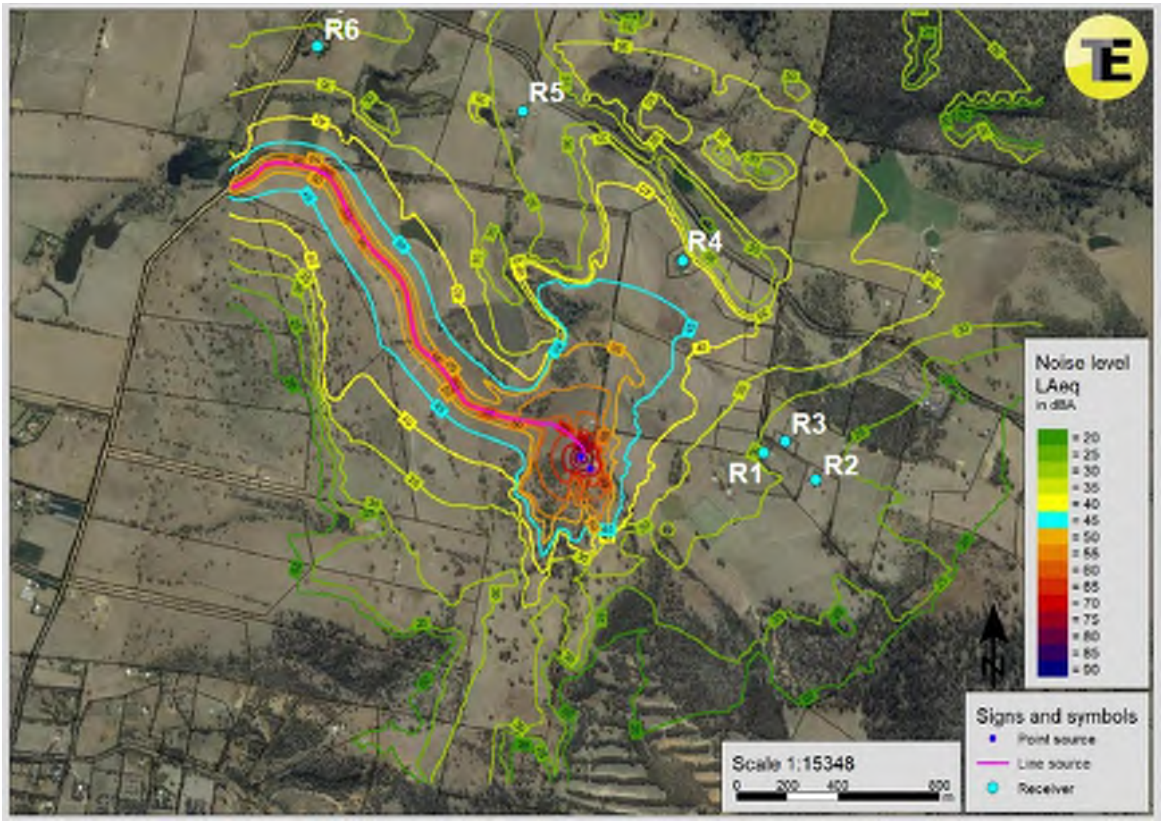


Figure 17 Predicted noise emission contours form Logie Farm Quarry, wcw



Environmental noise modelling of operations predicted that noise emission levels at noise sensitive residential locations surrounding the quarry would be below QCP day noise emission limit of 45 dBA LAeq,10min at all sensitive locations. Critical to this is the maintenance of topographic shielding provided by the existing quarry topography (i.e. the eastern face of the quarry), in particular for the crusher and screen, to residences to the east of the quarry (those closest to the quarry). Some tonality is predicted, however, with adjustments considered predicted levels remain in compliance with the QCP limit (noting that tonality from mobile equipment is generally not stable over a 10-minute period with).

The results of the modelling show that operations of the Logie Farm Quarry wouldn't constitute an environmental harm or nuisance to surrounding sensitive uses. Noise from machinery would occur only during operating hours. Noise from the blasting would occur once to twice a year and last less than a minute. The sound is loud, shown below in table 4 but is only momentary and is not beyond the proscribed limits. All modelling for noise was done in accordance with the Tasmanian Noise Measurement Procedure Manual.

Blasting

Blasting is expected to occur intermittently, maximum 4 times a year, if any additional blasting is required, we expect an application would be necessary. Blast charges are proposed to be either ANFO 56kg or Emulsion 76kg. All modelling for vibration was done using the 76kg of Emulsion. All modelling was undertaken in accordance with Australian Standard Explosive Storage and Use AS 2187.2-2012.

Ground Vibration Modelling has been provided by Explosive Engineering Australia on the 18th of August 2024, who are our preferred licensed contractor to conduct the blasting on Logie Farm. We have included their full report on blasting as Appendix 1 at the end of this report, what follows below is a summary of the pertinent information from their report.

Peak particle velocity is a way of measuring a particle's vibration intensity as it travels through something, such as air, water, or rock, while it vibrates. Overpressure is the force or shockwave caused by the explosion that is above normal atmospheric conditions i.e. overpressure above normal conditions. An example of natural phenomena that causes this is a lightning strike.

Table 4 Vibration and Overpressure to 1000 metres from Quarry

Distance from blast (meters)	Peak Particle Velocity (mm/sec)	Overpressure (dB) Ka = 10	Overpressure (dB) Ka = 100
100	10.08	99.56	119.56
200	3.33	90.83	110.83
300	1.74	85.71	105.71
400	1.09	82.11	102.09
500	0.77	78.09	98.09
600	0.57	76.99	96.99
700	0.45	75.05	95.05
800	0.36	73.34	93.37
900	0.30	71.88	91.88
1000	0.25	70.56	90.56

It was requested to show the effect that blasting would have on neighbouring properties out to 3 kilometres, but we have shown that PPV and overpressure are below the limits at 500-meters and therefore did not believe it necessary to model to 3 kilometres. The PPV limit is 1mm/sec and the overpressure limit is 100dB as taken from Australian Standard Explosive Storage and Use AS 2187.2-2012.

Management measures taken in the blasting process include:

- The blast must be designed to stay within the thresholds set out in AS 2187.2-2012 for the ground vibration and air blast see above for relevant limits. The blast must also be monitored and recorded to ascertain it was within the aforementioned parameters.

- Fly rock needs to be managed; this is done by the shotfirer ensuring precautions are taken to protect contractors and the public. Precautions include:

- Direction of blast face
- Hole depth
- Hole diameter
- Charging
- Burden
- Stemming
- Delay firing
- Logie Farm Rd to be closed during operations
- When firing Logie Farm Rd to be closed in both directions with a 500-meter exclusion zone, with blast guards in place to prevent anyone entering the area.

- Blast design to be formalized for each blast in a 'Blast Management Plan' required by the 'Dangerous Substance (Safe Handling) Regulations 2009' This document will set how blasting activities are managed to minimize risk of injury and structural damage. This should help reduce the risk of debris.

- The drill pattern will be blast (site) specific taking into account the topography to ensure safety.

- Blasting will be delayed if adverse weather conditions are present for example extreme winds.

Safety & Planning

(a) Influence of the surrounding environment.

- The topography of the site will be taken advantage to minimise fly rock.
- There is an existing face at the quarry site open face is in the Westerly direction.

(b) Blast methodology

- Blast signage to be positioned in both directions on Logie Farm Rd.
- Blast crew to be assigned tasks by Shotfirer.
- The Down hole detonators will be non-Electric at an appropriate length for the given blast hole.
- The initiating explosive will be a Pentex booster 150g. Bulk explosive will be Emulsion, or ANFO
- Once blast holes are loaded all blast holes must be stemmed with clean 7 to 16mm crushed rock, to be checked by Shotfirer or Assistant Shotfirer.
- Once all blast holes are stemmed the blast may be Tied-in, the blast site to be cleared and the Tie-in checked by Shotfirer and assistant.
- Blast to be drawn up by either Shotfirer or assistant.
- Initiating shock line connected to initiating blast hole by either Shotfirer or Assistant and checked by other.
- The blast will be initiated using an electric detonator.

(c) Transport to and from site.

- Primers and detonators will be transported to and from site in a designated light explosives vehicle, bulk explosives will be transported in a bulk explosive transporter.

AS2187.1-1998 Explosive- Storage Transport and Use, Part 1, Storage (Standards Australia Publication) Dangerous Goods (Road and Rail Transport) Regulation 2012 (Tas)

(f) Stock reconciliation.

- All explosives to be counted and matched with usage.

(g) Operational Security.

- Logie Farm Rd in not a through road, with the Last house being Logie Farm House, (owner of the quarry)
- Even though the section of Logie Farm Rd where the quarry is situated is a private road, it is shown on Google Maps and as such there is the potential for someone to enter from the Prossers Rd end.
- Blast guards must be positioned at both ends of Logie Farm Rd at the edge of the exclusion zone (500-meters) and MUST be able to contact the shotfirer at any time, (UHF).

(h) Prevention of unauthorised access.

- Blast signage on Interlaken Rd.
- Quarry site is on a private road.
- Blast guards prior to site becoming live.

(i) Traffic Flow at the site.

- Even though the section of Logie Farm Rd where the quarry is situated is a private road, it is shown on Google Maps.

Australian Standard Explosive Storage and Use AS 2187.2-2012
4.5 Blasting History at site

To our knowledge there has never been blasting at the location, EEA has blasted in the greater area without incident.

Australian Standard Explosive Storage and Use AS 2187.2-2012
4.6 Physical Characteristics and Geology

(a) Geology structure, e.g., faults, fissures, intrusions

- The driller is to report any fissures, and mark on drill plan.

(b) Varying rock types

- The quarry is Dolerite (blue) and transitions in the decomposed Dolerite (red).

(e) Consistency of material, e.g., voids, layering, floaters

- All loose material was removed to expose the rock that required blasting, before drilling some material may need to be positioned to allow access for the drill.
- The driller will report any voids, layering, or floaters, and mark on the drill plan.

(j) Brittleness of material.

- EEA has extensive experience in blasting Dolerite.

Australian Standard Explosive Storage and Use AS 2187.2-2012
4.7 Responsibilities.

1. Shotfirer and or assistant to load blast vehicles with explosives and equipment to complete the days blast and document all explosives being carried on given vehicles.

2. Shotfirer shall complete on site documentation once on site and ensure people are component for the duties assigned.

3. Shotfirer and or assistant to place at each blast hole in the area to be blasted,
    a. Downhole detonator
    b. Explosive primer

4. Shotfirer to check blast hole is of free from debris and a depth that meets the blast design requirements, (any blast hole that do not meet the design to be marked on the actual blast hole, and blast plan).

5. Shotfirer will systematically load the blast holes checking stemming depth, ensuring that the stemming depth meets the blast design.

6. Blast may now be stemmed.

7. Once all blast holes have been loaded shotfirer and assistant must check that all blast holes have been stemmed and any slumping recorded.

8. Shotfirer or Assistant shotfirer to direct the appropriate delay to be placed at each blast hole.

9. Shotfirer and or assistants under direction of shotfirer may connect surface delays to down hole detonators.

10. Shotfirer and or assistants under direction of shotfirer may tie in the shot as per blast design.

11. Shotfirer and Assistant Shotfirer must check the tie in for connections and blast design.

12. Shotfirer or Assistant shotfirer to connect initiating shock tube to the initiating blast hole, this must be checked by other.

13. Shotfirer must notify the site is now ready to be fired and the site must be cleared, and all people must leave the exclusion zone.

14. Shotfirer or Assistant Shotfirer connect the electric initiating detonator to the shock lead.

15. Shotfirer to direct blast guards to take positions, (blast guards must be able to contact the Shotfirer at any time once they are directed to be in position).

16. Shotfirer to confirm with blast guards that the area is all clear.

17. Shotfirer can commence the firing procedure.

18. Firing procedure, (using megaphone spoken at least two direction)
    a. Blasting Area.
    b. Clear the blasting area.
    c. Blasting area all clear.
    d. Insert blasting key into exploder.
    e. 10 second siren.
    f. Ready to fire.
    g. Fire.

19. Once fired, the shotfirer is to inspect the blast and give the all-clear, allowing the work to recommence at the site.

Blast Monitoring Requirements

The blast design is controlled by the 'Blast Management Plan' as required by the 'Dangerous Substance (Safe Handling) Regulation 2012. This requires that blasting activity stays within the thresholds set out in the AS 2187.2-2012 and that Ground Vibration and Air Blast be monitored and recorded. It has been specified in the scope of works the location for blast monitoring.

Australian Standard Explosive Storage and Use AS 2187.2-2012
4.8 Environmental Impacts.

Distance to buildings, structures, and other environmental impacts.

- Farm Dam (Logie Farm) at 270 meters,
- Logie Farm House at 500 meters,
- 54 Logie Farm Rd at 545 meters.
- 60 Logie Farm Rd at 580 meters,
- 57 Logie Farm Rd at 684 meters
- Vineyard to the Southwest accessed from Prossers Rd at 700 metres

Identification of monitoring requirements and the requirements for monitoring locations, systems, and instruments. The blast monitor that EEA uses is the VIbRock 901 and sensor.

Ground vibration and over pressure.

- Ground vibration from blasting is the radiation of the mechanical energy within the rock mass because of the blast. It comprises of various vibration phases travelling at different velocities and frequencies.
- The level of vibration measured in the ground anywhere on a sensitive site. The measurement should be taken with the geophone coupled to a relative mass embedded in the ground but excludes any structure or foundation as the above structure will give misleading data.

Australian Standard Explosive Storage and Use AS 2187.2-2012
4.9.2 Services.

Overhead power lines terminate at Logie Farmhouse 500-meters from the quarry site.

Figure 18 Vibration

Figure 19 Overpressure at Ka 10

Figure 20 Overpressure at Ka 100

Table 5 Distances to dwellings

Address	Distance (m)	PPV (mm/sec)	Overpressure (dB) Ka = 10	Overpressure (dB) Ka = 100
Logie Farm House	500	0.77	79.29	99.29
54 Logie Farm Road	545	0.67	78.20	98.20
60 Logie Farm Road	580	0.61	77.42	97.24
57 Logie Farm Road	684	0.47	75.34	95.34
51 Logie Farm Road	800	0.36	73.37	93.37
500 Finger Post Road	858	0.32	72.48	92.48
53 Logie Farm Road	890	0.31	72.02	92.02
43 Logie Farm Road	930	0.28	71.47	91.47
560 Finger Post Road	969	0.27	70.95	90.95

Table 5 shows all dwelling that are within the 1000-meters radius from the quarry location, and the vibration and over-pressure that have been modelled, all properties are below the minimum values of 1 mm/sec and 100 dB.

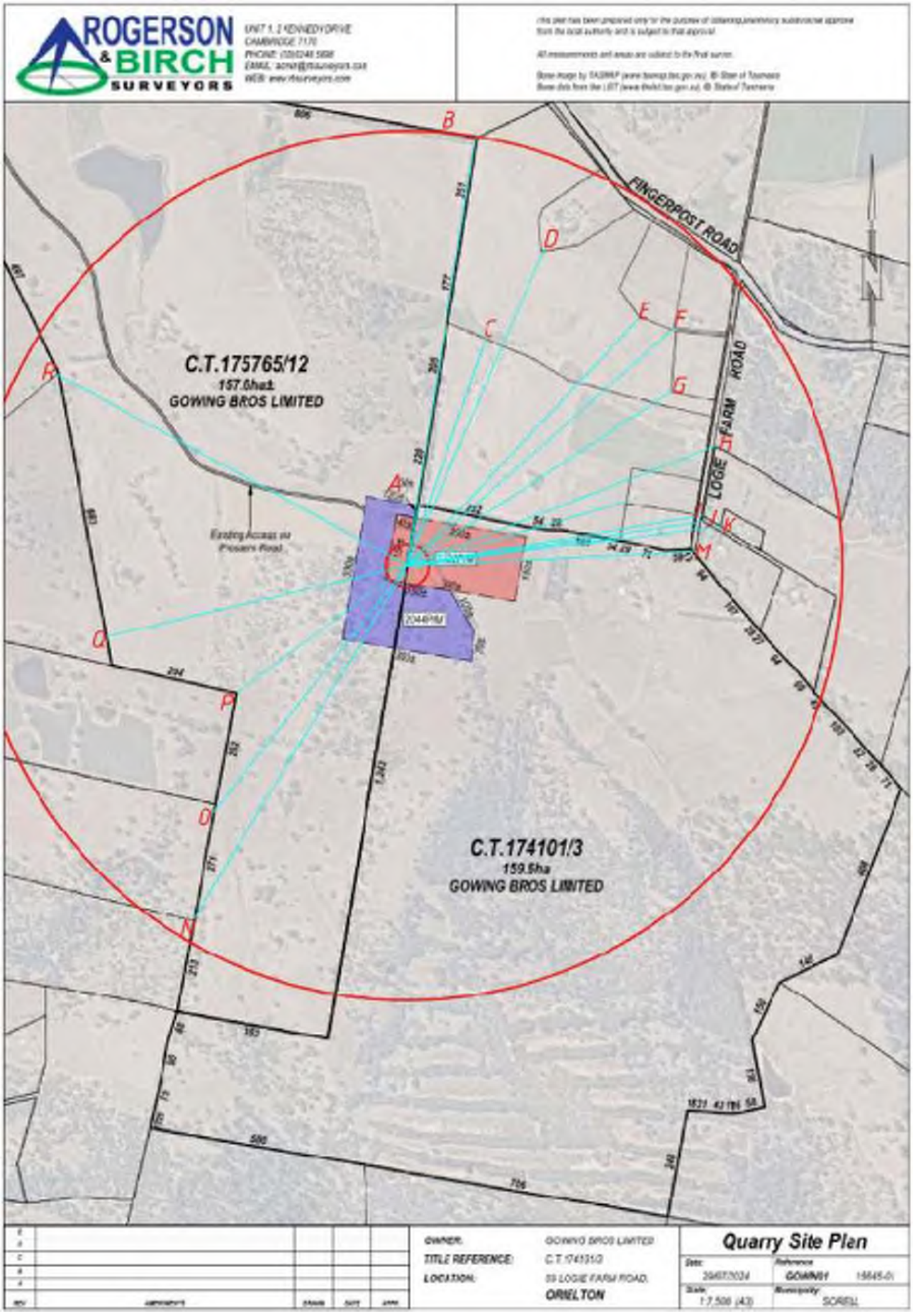
Figure 21 Dwellings within 1000 metres

Table 6 Distance to Neighbouring Boundary Intersections

Boundary Location	Distance (m)	PPV (mm/sec)	Overpressure (dB) Ka = 10	Overpressure (dB) Ka = 100
A	142	5.75	95.14	115.14
B	998	0.25	70.58	98.58
C	550	0.66	78.09	98.09
D	796	0.36	73.43	93.43
E	782	0.38	73.65	93.65
F	826	0.34	72.96	92.96
G	730	0.42	74.52	92.52
H	762	0.39	73.81	93.81
I	693	0.46	75.17	95.17
J	690	0.46	75.23	95.23
K	728	0.42	74.55	94.55
L	664	0.49	75.71	95.71
M	949	0.28	71.22	91.22
N	723	0.23	74.64	94.64
O	540	0.68	78.31	98.31
P	711	0.44	74.83	94.83
Q	924	0.29	71.55	91.55

In the information that was requested we were to model the blasting effects out to 3 km, this is not necessary as the modelling is below the minimum values at 500 meters. Table 5 shows the distance to the boundary of the neighbouring properties out to 1000 meters and the modelled values at the given distance, the only neighbouring property that exceeds the minimum values is property A (Table. 6 and fig. 21). This property is directly to the north of the quarry site adjacent to Logie Farm Rd, (see page 8 property labelled David M Skinner) this property is assigned agricultural.

Figure 22 PPV & Overpressure at Boundaries within 1000 metres



As described above the potential for health and nuisance impacts on sensitive receptors based on the relevant vibration criteria are near non-existent, further the proposed one or two blasts a year means neighbours will only be impacted rarely.

The site has had no previous complaints we are aware of and hasn't been in operation since we assumed ownership. The noise from the new proposal will only differ from the existing consent in that blasting will occur once or twice a year. This will affect the neighbours albeit within the bounds acceptable. We hope to mitigate the disturbance by giving ample notice of when blasting is scheduled specifying a date and time well in advance.

Cumulative noise emissions from the existing and proposed quarry sites/activities at noise sensitive premises are expected not to cause nuisance in ordinary operation, with the blasting being within the acceptable bounds for all the neighbours except for property A, as shown in figure 22, please note this a boundary not a dwelling.

The cumulative noise emissions from the previous activities are below the 'Background Noise Levels (LA90) + 5 dB(A)' and not exceed the limitations set out in the Quarry Code of Practice of 45dB(A) from 7am to 7pm, 40dB(A) from 7pm to 10pm, and 35dB(A) 10pm to 7am.

The potential for the activity to create a noise nuisance can be avoided with proper management, we are proposing to operate only in daytime hours as previously stated. 54 Logie Farm Road is closest neighbour at 545 metres the proposed subdivision at Prossers Road is over a kilometre away and will not be meaningfully affected by the blasting.

The proposal is consistent with environmental performance requirements set out in the Environmental Protection Policy (Noise) 2009 in that operating hours are reasonable and during daytime hours. Noise levels can be monitored, and neighbours consulted if noise is excessive, or a complaint received.

Best practice management will be employed reduce noise emissions to the greatest extent that is reasonably practical and reduce dominant or intrusive noise characteristics of any activity to the greatest extent that is reasonably practical.

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4 – Natural Values

The Natural Values Atlas Report for the property is included as Appendix 5. A full report on the Natural Values undertaken by ECOtas of the property can be seen in Appendix 2. See below for a summary of that report.

With regards to flora no plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.

The absence of populations of threatened flora means that the site is not "a threatened flora species" [sic] such that it cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(b) of the State Planning Provisions.

No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.

The study area supports potential habitat (to varying degrees of marginality) for the following species:

- *Sarcophilus harrisii* (Tasmanian devil);
- *Dasyurus maculatus* subsp*. maculatus* (spotted-tailed quoll); and
- *Dasyurus viverrinus* (eastern quoll);
- *Perameles gunnii* (eastern barred bandicoot);
- *Aquila audax* subsp. *fleayi* (wedge-tailed eagle); and
- *Tyto novaehollandiae* subsp. *castanops* (masked owl).

The absence of "significant habitat for a threatened fauna species", at any reasonable scale or interpretation of the concept, means that the site cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(c) of the State Planning Provisions.

The study area supports the following TASVEG mapping units:

- agricultural land (TASVEG code: FAG);
- regenerating cleared land (TASVEG code: FRG);
- extra-urban miscellaneous (TASVEG code: FUM); and
- *Eucalyptus viminalis* grassy forest and woodland (TASVEG code: DVG).

Occurrences of DVG do not equate to a native vegetation community listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.

Occurrences of DVG do not equate to a threatened ecological community listed under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999*.

The absence of “native vegetation…[that]…forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the Nature Conservation Act 2002” means that the site cannot be “priority vegetation” (in relation to this value) pursuant to C7.3.1(a) of the State Planning Provisions.

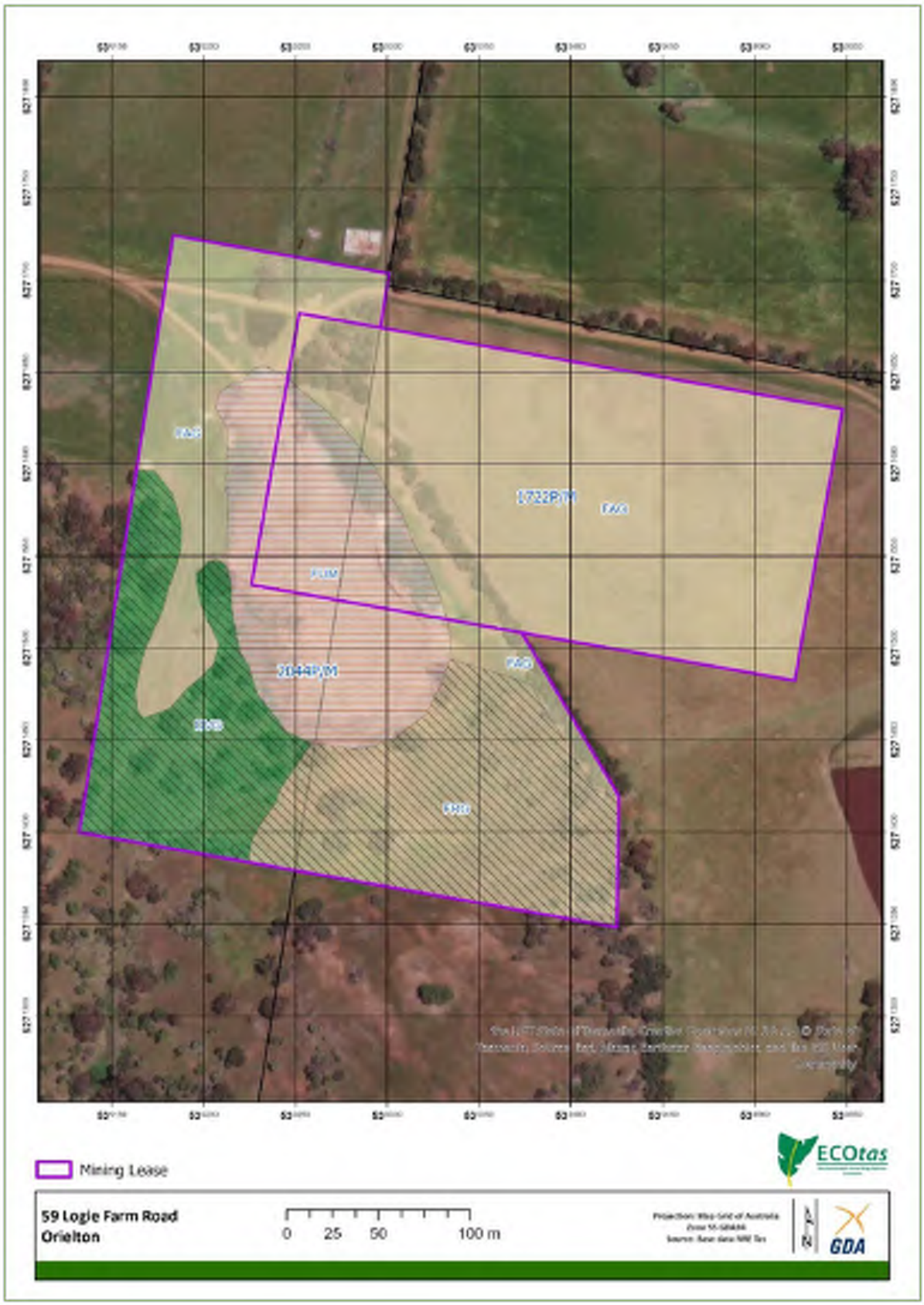
It is noted that the proposal is wholly within an existing mining lease and its disturbed fringes i.e. the proposal does not include the clearance and conversion of, or disturbance to, threatened native vegetation in any measurable sense so no special management is recommended as neither flora nor fauna will be affected on a large scale. For reference, please see figures 7 and 8 from page 15.

There is the potential to disturb some shrubs that are within the mining lease but this would only occur if the quarry operated successfully and continues to expand within the lease. Further to this the area affected has previously been cleared and is not extant native bushland.

To note Logie Farm has recently planted 58.4 hectares of native trees on the property as part of an Agricultural Carbon and Biodiversity Stewardship program with the Federal Government. Essentially the number of trees planted would outweigh any that are removed if the quarry expands.

The area below marked DVG (Eucalyptus viminalis grassy forest and woodland) would not be affected to preserve any possible habitat for swift parrots and masked owls. The area affected is marked FRG which means regenerating cleared land.

Figure 23 Revised vegetation mapping for study area



5 – Weeds, pests and pathogens

Weeds found on the site include fennel, African boxthorn, white horehound, serrated tussock, blue periwinkle, agapanthus, great mullein, and variegated thistle see figure 23 page 58. There was no evidence of plant and animal disease on the site.

There is low potential for the site to introduce or spread weeds and disease to, from and within the site as all access ways are virtually free of weeds. What we propose is that the existing weed management plan for the property be applied to the quarry operations. The currently management plan is as follows:

- Treatment of primary populations of serrated tussock both by 'chipping' outlying individuals and application of granular Flupropanate on larger communities.

- Treatment of early emerging Patterson curse by 'chipping'. (works ongoing into summer to potentially include chemical treatment of primary populations where necessary). Chemical treatment of primary population undertaken Oct 2024.

- Treatment of Gorse, briar rose, and African boxthorn undertaken by both cut and paint method and removal of large, condensed communities with excavator. Resulting material piled and burned. (Works relating to these species also ongoing, plans in place for treatment for the next three years, then we will review the populations.)

- Treatment of Scotch, slender and variegated thistles carried out, slashing/mulching at strategic points of seasonal growth + 'chipping'. (Treatment programs for these thistles are also, ongoing and some application of chemical controls to large established communities will be used where necessary inc. Kamber and MCPA.)

- Monitoring and treatment of community of Fennel at quarry site undertaking to reduce the primary population and restrict outliers.

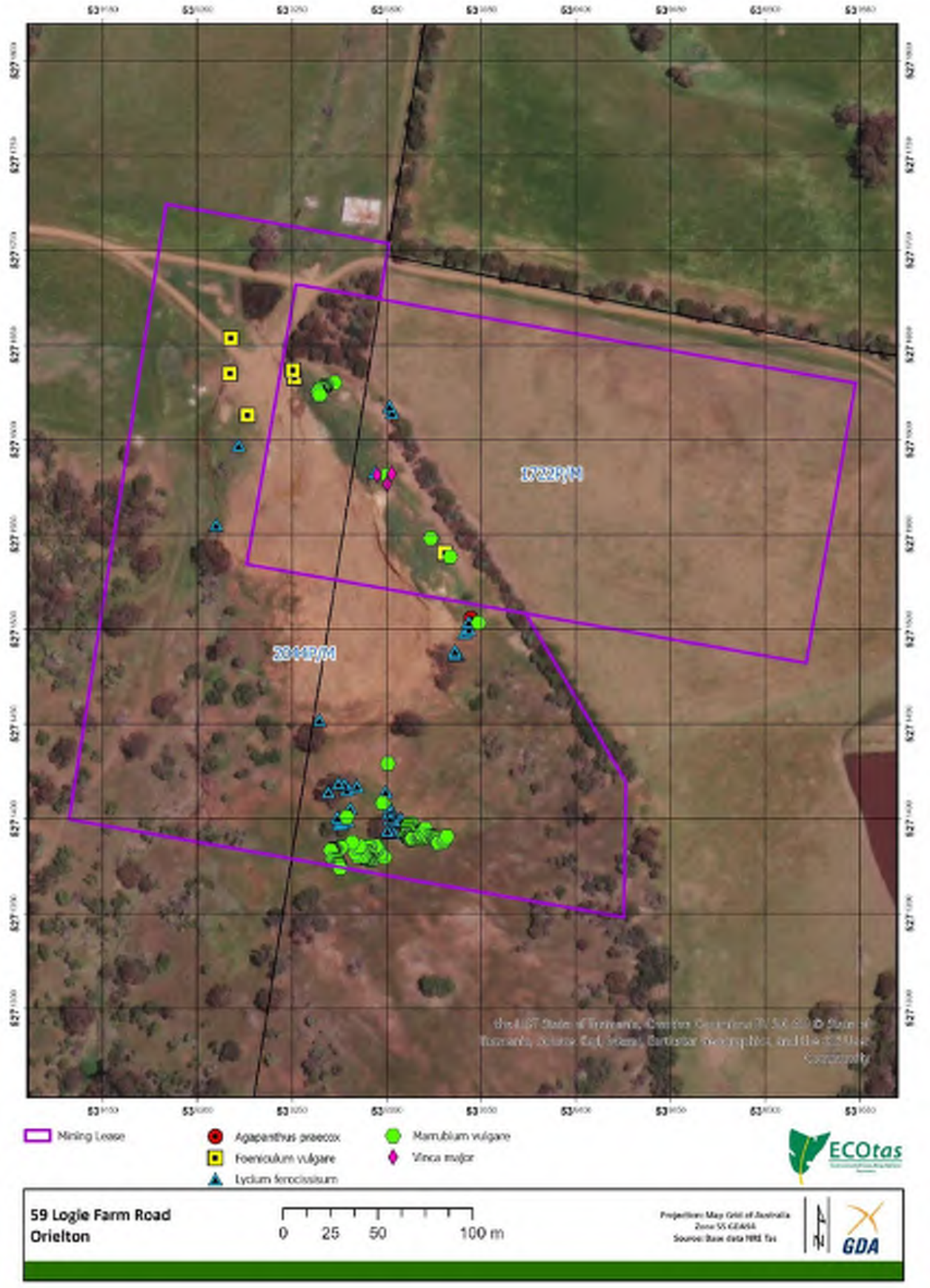
- Treatment planned for primary population of California thistles application of Lontrel and Paulse to be boom sprayed over 20ha in 1 week to 10-day time as the plants are at there most vulnerable by Rolf contracting. (executed).

- Treatment of horehound carried out some communities will be treated as a byproduct of our efforts to control thistles and general 'chipping' is routinely carried out on all outlying individuals.

- Initial knockdowns of weeds are followed up where necessary and known sites are monitored on a 6-monthly basis.

- Vehicles to be washed down where necessary to mitigate the risk of weeds and seeds, machinery will be cleaned prior to and upon relocation to the site.

Figure 24 Weeds Found on the Quarry Site



6 – Waste

The solid and liquid waste that will be produced by the activity includes overburden, metal and machinery service wastes, used oils, and general refuse.

The overburden will be piled on the property with it to be used at a later date in the rectification process once the quarry is exhausted.

All metal and machinery service wastes, used oils, and general refuse will be disposed of by the contractor offsite in an appropriate manner.

General waste will be placed in an appropriate receptacle and taken to offsite for disposal by the contractor.

7 – Environmentally hazardous substances

Diesel fuel will be the only hazardous substance stored onsite during operational hours, it will be stored in a suitable transportable tank and used for refuelling the machinery. Diesel fuel will not be stored onsite, but taken offsite after the day's operations by the contractor.

Any major machinery repairs will be undertaken offsite in an appropriate workshop by the contractor. Minor repairs will be undertaken by a mobile mechanic with the proper equipment to ensure there are no spilt oils or engine liquids.

If there happens to be a spill it will be cleaned up using the onsite spill kit that will be kept in working order as per legislation by the nominated contractor.

8 – Site contamination

The site is an existing mining lease and operated as such by the previous owner, there is no known contamination onsite, and no contaminating activities are known to have occurred on the site in the past.

9 – Environmental impacts of traffic

Vehicles will access the site from Prossers Road to minimise impact on the neighbours, the private access road is 1.9km long. The road is 3 metres wide with grass verges. There is expected to be 6-7 trucks a day so 12-14 movements back and forth, while the quarry is operational if the quarry is operating at capacity.

The potential for dust nuisance is low considering the number of truck movements and the prevailing wind conditions as outlined in 1 - Air Quality on page 21. The environmental impacts associated with the vehicle movements is their emissions and the potential for roadkill. Ensuring the trucks are loaded to capacity will reduce truck movements and as the quarry will only be operated during daytime hours the likelihood of roadkill should be reduced.

We propose that signs reading "Trucks Entering" be installed on Prossers Rd 50m each side of the exit to notify traffic.

10 – Other off-site impacts

The activity does not have the potential to generate any other off-site impacts that may affect the amenity of residencies or other sensitive uses.

11 – Monitoring

The proposed environmental monitoring and reporting is for our on-site farm manager to keep abreast of the activities of the contractor to ensure operational practices are being followed and the site is managed in a professional manner.

Weeds will also be checked on a 6 monthly basis and dealt with accordingly more detail can be found in Sections 4 & 5.

12 – Decommissioning and rehabilitation

Progressive rehabilitation is to be done as the site is mined, with benching of the quarry to prevent a future collapse of the hillside, making the site safe for grazing animals at a future date. Benching will occur between every 20 to 25 metres and be of a 6 to 8 metre height.

The quarry side walls will be stabilised using compacted overburden, native trees will be planted to further strengthen and stabilise the side walls.

The proposed decommissioning and rehabilitation measures in the event of cessation of the activity are for the overburden stored on site to be used to create a layer of soil over the remains of the quarry. After this is done planting of trees and grasses can be undertaken to prevent landslides and erosion. Our aim post operation is for the area to provide grazing and shelter for livestock on the property.

13 – Greenhouse gas emissions and climate change

Best practice to ensure minimal energy consumption in transportation is to load the transportation trucks to capacity, ensuring a smaller number of trips to and from the site.

The impacts of the proposed activity in relation to Tasmania's climate change strategy are minimal at best considering the site's size and output, pending the viability and reliability of battery powered machinery and transportation vehicles, we have no alternative to using fossil fuelled machines. Once these alternatives become available, we can look at using electric machinery and trucks.

Potential impacts of climate change on the site are low due to the nature of quarrying, the only risk would be an extreme storm event. We are however confident that the existing retention basins will mitigate this risk.

Part D – Description of the proposed management measures

Table of the proposed measures for avoiding, minimising and managing the potential environmental impacts of the proposal

No.	Proposed Management Measure	Timeframe
1	Before any scheduled approved blasting occurs, all relevant stakeholders will be notified including the neighbours and local councils.	Whenever necessitated by the maximum four blasts per year
2	Blasting ground vibration to be monitored	Anytime blasting occurs
3	Rock fly from blasting to by minimised	Anytime blasting occurs
5	Vegetation Retention along quarry borders	Ongoing
6	Weed Management	6 monthly or as necessary
7	Stockpiling and Overburden located at the base of the quarry to maximise wind protection	Ongoing
8	No hazardous materials will be stored on site except some fuel during operational hours for refuelling	Ongoing
9	Any mechanical repairs done onsite will ensure correct removal of waste oils and liquids	Ongoing
10	Crushers will be placed within the bounds of the quarry	Ongoing
11	No more than two crushers will operate at any time	Ongoing
12	Soil bunding on the east of the site will be maintained as operations continue	Ongoing
13	The quarry will operate between 7am - 5pm on weekdays and 8am – 12pm on Saturday	Ongoing
14	Install warning signs for traffic on Prossers Rd 50 metres each way from the exit	Ongoing
15	Overburden stored on site will be used to rehabilitate the site, any outside materials used in rehabilitation will be recorded and sourced so as to prevent contamination	Ongoing
16	The site will be rehabilitated in accordance with the EPA's requirements	12 months after operations cease
17	Trucks will be fully loaded to minimise traffic and fuel use	Ongoing
18	Load covering and dampening to be practiced as necessitated by weather conditions	As necessary when weather conditions are adverse
19	Maintenance of Sediment Retention Basins & Drainage	Ongoing

Part E – Description of any public consultation undertaken

The public and stakeholder consultation undertaken has been to lodge Development Applications with Sorrell and Clarence Council, notify the EPA, and speak with neighbours regarding the proposal.

At this point in time, we have verbal agreement from our neighbours regarding the proposal if useful we can ask if they would consider putting something in writing or sign a document showing they support the proposal.

Appendix 1 Blast Modelling Plan by Explosive Engineering Australia

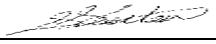
EXPLOSIVE ENGINEERING AUSTRALIA

ABN – 12518 174 256

Logie Farm Quarry.
Finger Post Road.

COPY No 1 **– Explosive Engineering Australia**

COPY No 2 **– GOWINGS BROS. LTD**

	Name	*Shot firer Permit*	*Signature*	*Date*
Drafted By	Stuart Slater	*91521*		18/08/2024
Reviewed By	Wayne Newitt	90167		18/08/2024

Summary

This report sets out the procedures that Explosive Engineering Australia (EEA)will use so that the blasting is conducted in accordance with the relevant explosive codes and standards, and the parameters that were requested by the Environmental Protection Authority of Tasmania (EPA).

EEA has been requested to model the environmental impact from a quarry blast at Logie Farm Quarry, (-42.707553, 147.479503) (*fig.1, fig.2*)

It has been requested to show the effects from blasting will have on the surrounding environment with respect to vibration and over-pressure, with the parameters of 1 mm/sec of Peak Particle Velocity (PPV)and 100 dB of over-pressure, and to consider the effects of blasting of neighbouring properties within 3 kilometres.

In modelling for blasting at the quarry site EEA will use the existing free face, which is approximately 13 meters, which will have a maximum instantaneous charge of either ANFO = 56 kg or Emulsion = 76 kg, this allows for a minimum stemming of 2.0 meters. All modelling for vibration was done using 76 kg of explosive.

Calculating blast over-pressure from maximum instantaneous charge in EEA's experience does not model well for an initial blast or a one-off blast, where the modelled value will greatly exceed the actual value measured, if blast hole explosive mass is used.

EEA has found through extensive experience that for modelling an initial blast or a one-off blast, where the topography and weather can influence over-pressure, that using initiating detonator explosive of 0.02 kg and using the minimum and maximum values of the site constant K_a = 10 and 100 (AS 2187.2 -2006) provides a better estimation of blast over-pressure.

In modelling the request was to show PPV contours (*fig.3*)and over-pressure contours (*fig.4, fig.5*) to the minimum values of 1 mm/sec and 100 dB, and to show the effect on neighbours out to 3 kilometres.

All modelling has been done to 1000-meters from the quarry site, we have shown that at 500-meters PPV = 0.77 mm/sec, and over-pressure is 98.1 dB. Therefore, do not believe it necessary to model to the 3-kilometre contour.

We have modelled what influence the proposed blasting may have on all dwellings within the 1000-meter radius, (*fig.6* and Table.2).The closest house to the quarry site is Logie Farm House at 500-meters, where we have modelled PPV = 0.77 mm/sec and over-pressure is 98.1 dB, which are below the maximum allowable for both parameters.

There is only one property boundary that is with in the 500-meter contour, this is zoned agricultural (*fig.8*)and is 142 meters directly to the North of the quarry site (*fig.7*),at the boundary we have modelled that a PPV = 5.75 mm/sec and an over-pressure = 115.14 dB.

The quarry rock face is in a Westerly direction, situated between two ridge lines, (*fig.9*)this topography will aid in reducing the over-pressure that may be seen on residential properties to the East of the quarry on Logie Farm Rd, and area zoned rural living to the Southwest, (*fig.8*).

EEA has shown through modelling that blasting at the quarry can be conducted in a manner where the environmental human impacts are below the required parameters, for all but one instance. In this case the boundary line in question is zoned agricultural and quarry blasting will have no impact on this land usage.

EEA believes that there is no reason why blasting could not commence at the Logie Farm quarry site and stay within the parameters set.

Note: All modelling in this report is carried out in accordance with Australian Standard Explosive Storage and Use AS 2187.2-2012. Actual values may differ from the ones modelled, once a blast has been conducted actual site values for vibration constant K, and over-pressure constant K_a can be calculated, and the accuracy of the modelling will increase.

Introduction

This report sets out a plan for blasting to occur at Logie Farm Quarry, (-42.707668, 147.479509). The quarry positioned adjacent to Logie Farm Rd, 1.1 kilometres from the intersection of Logie Farm Rd and Finger Post Rd.

Scope

The scope of this report

- Display through the modelling of a blast that it is safe for a quarry blast to be conducted at Logie farm Quarry.
- Develop a blast management plan that will mitigate the potential risks that may arise from the blasting activities.
- Implement measures and checks to assure the blast is conducted safely and without incident.
- Develop a blast design.
- Provide blast limits for the ground vibration, and blast over-pressure.
- Predict the ground vibrations, and blast over-pressure from blasting operations.

Identification of Surrounding Site Hazards

The Quarry site is situated adjacent to Logie Farm Rd 1.3 kilometres from Finger Post Rd intersection, when travelling along Logie Farm Rd.

The quarry site is surrounded by a combination of General Residential, Rual, and Agriculture land, there is an area of Rual Living but is 1.2 kilometres to the Southwest of the quarry site.

The developed Rual sites on Logie Farm Rd, are to the East of the quarry site and the quarry rock face is in a Westerly direction.

Content

It was requested to model Peak Particle Velocity PPV = 1.0 mm/sec, and over-pressure to 100 dB.

The formula used for this modelling are.

$V = K[\frac{R}{Q^{0.5}}]^B$ (Peak Particle Velocity)

Where:
V = peak particle velocity (mm/s)
K = site and rock factor constant
Q = maximum instantaneous charge.
B = site exponent
R = distance from charge

$P = K_a[\frac{D}{Q^{1/3}}]^{-a}$ (over-pressure)

Where:
P = peak pressure (kPa)
K_a = site constant
-a = site exponent
D = distance from blast)
Q = charge of mass per delay

Distance from blast (meters)	Peak Particle Velocity (mm/sec)	Over-pressure (dB) K_a = 10	Over-pressure (dB) K_a = 100
100	10.08	99.56	119.56
200	3.33	90.83	110.83
300	1.74	85.71	105.71
400	1.09	82.11	102.09
500	0.77	78.09	98.09
600	0.57	76.99	96.99
700	0.45	75.05	95.05
800	0.36	73.34	93.37
900	0.30	71.88	91.88
1000	0.25	70.56	90.56

Table. 1, *fig.3, fig.4, fig.5.*

Table. 1 shows the decay of vibration and over-pressure out to 1000-meters from the quarry location,

In Table. 1 we have shown that parameters of 1 mm/sec and 100 dB are met at 500-meters from the quarry location.

It was requested to show the effect that blasting would have on neighbouring properties out to 3 kilometres, but we have shown that PPV and over-pressure are below the limits at 500-meters and therefore did not believe it necessary to model to 3 kilometres.

The information of Table. 1 can be seen in the contour maps *fig.3* Peak Particle Velocity (vibration), *fig.4* over-pressure (dB) K_a = 10, and *fig.5* over-pressure (dB) K_a = 100

Adress	Distance (m)	PPV (mm/sec)	Overpressure (dB) K_a = 10	Overpressure (dB) K_a = 100
Logie Farm House	500	0.77	79.29	99.29
54 Logie Farm Rd	545	0.67	78.20	98.20
60 Logie Farm Rd	580	0.61	77.42	97.24
57 Logie Farm Rd	684	0.47	75.34	95.34
51 Logie Farm Rd	800	0.36	73.37	93.37
500 Finger Post Rd	858	0.32	72.48	92.48
53 Logie Farm Rd	890	0.31	72.02	92.02
43 Logie Farm Rd	930	0.28	71.47	91.47
560 Finger Post Rd	969	0.27	70.95	90.95

Table.2, Distances to dwellings, *fig.6.*

Table.2 shows all dwelling that are within the 1000-meters radius from the quarry location, and the vibration and over-pressure that have been modelled, all properties are below the minimum values of 1 mm/sec and 100 dB. This information can be seen in point map *fig.6.*

Boundary Location	Distance (m)	PPV (mm/sec)	Over-pressure (dB) K_a = 10	Over-pressure (dB) K_a = 100
A	142	5.75	95.14	115.14
B	998	0.25	70.58	98.58
C	550	0.66	78.09	98.09
D	796	0.36	73.43	93.43
E	782	0.38	73.65	93.65
F	826	0.34	72.96	92.96
G	730	0.42	74.52	92.52
H	762	0.39	73.81	93.81
I	693	0.46	75.17	95.17
J	690	0.46	75.23	95.23
K	728	0.42	74.55	94.55
L	664	0.49	75.71	95.71
M	949	0.28	71.22	91.22
N	723	0.23	74.64	94.64
O	540	0.68	78.31	98.31
P	711	0.44	74.83	94.83
Q	924	0.29	71.55	91.55

Table.3, Distances to neighbouring boundary intersections, *fig.7.*

In the information that was requested we were to show that effect that could be modelled at the boundaries of the neighbouring properties out to 3 km, however as mentioned in the description of Table 1, and 2, the modelling is below the minimum values at 500 meters.

Table. 3 is showing the distance to the boundary of the neighbouring properties out to 1000-meters and the modelled values at the given distance, the only neighbouring property that exceeds the minimum values is property A (Table. 3 and *fig. 7)*. This property is directly to the north of the quarry site adjacent to Logie Farm Rd, (*fig. 8*) land use map show that this property is assigned agricultural.

Blast Monitoring Requirements

The blast design is controlled by the 'Blast Management Plan' as required by the 'Dangerous Substance (Safe Handling) Regulation 2009. This requires that blasting activity stays within the thresholds set out in the AS 2187.2-2012 and that Ground Vibration and Air Blast, be monitored, and recorded. It has been specified in the scope of works the location for blast monitoring.

Fly Rock

There is the potential for Fly Rock from any blasting activities, the shotfirer shall ensure that suitable precautions are taken to mitigate any danger to contractors or the public (Shotfiring Training Manual – Tasmania).

- Direction of blast face
- Hole depth
- Hole Diameter
- Charging
- Burden
- Stemming
- Delay Firing

For blasting operations Logie Farm Rd would be closed at Logie Farm House, Logie Farm Rd would also be closed to the Northwest

For firing of any blasts Logie Farm Rd would be closed in both directions with a 500-meter exclusion zone, blast guards would be positioned to eliminate persons entering via Logie Farm Rd.

Blast Design

The blast design for each blast is formalized in the 'Blast Management Plan' as required by the 'Dangerous Substance (Safe Handling) Regulations 2009' Part 5- Explosive clause 91 at the time of the blast. This document will set how blasting activities are to be managed to minimize risk of injury, structural damage. EEA will aim to comply with the ground vibration limits set out for this site and mitigate the potential for debris.

The blast design will use surface delays that are firing with a minimum of 9ms delay between each blast hole this ensures that each blast hole can be treated as an instantaneous charge.

Drill Pattern

The blast pattern will be blast specific.

Australian Standard Explosive Storage and Use AS 2187.2-2012

4.4 Safety and planning

(a) Influence of the surrounding environment.

- The topography of the site will be taken advantage to minimise fly rock.
- There is an existing face at the quarry site open face is in the Westerly direction.

(b) Blast methodology

- Blast signage to be positioned in both directions on Logie Farm Rd.
- Blast crew to be assigned tasks by Shotfirer.
- The Down hole detonators will be non-Electric at an appropriate length for the given blast hole.
- The initiating explosive will be a Pentex booster 150g.
- Bulk explosive will be Emulsion, or ANFO
- Once blast holes are loaded all blast holes must be stemmed with clean 7 to 16mm crushed rock, to be checked by Shotfirer or Assistant Shotfirer.
- Once all blast holes are stemmed the blast may be Tied-in, the blast site to be cleared and the Tie-in checked by Shotfirer and assistant.
- Blast to be drawn up by either Shotfirer or assistant.
- Initiating shock line connected to initiating blast hole by either Shotfirer or Assistant and checked by other.
- The blast will be initiated using an electric detonator.

(c) Transport to and from site.

- Primers and detonators will be transported to and from site in a designated light explosives vehicle, bulk explosives will be transported in a bulk explosive transporter.

AS2187.1-1998 Explosive- Storage Transport and Use, Part 1, Storage (Standards Australia Publication)
Dangerous Goods (Road and Rail Transport) Regulation 2012 (Tas)

(f) Stock reconciliation.

- All explosives to be counted and matched with usage.

(g) Operational Security.

- Logie Farm Rd in not a through road, with the Last house being Logie Farm House, (owner of the quarry)
- Even though the section of Logie Farm Rd where the quarry is situated is a private road, it is shown on Google Maps and as such there is the potential for someone to enter from the Prossers Rd end.
- Blast guards must be positioned at both ends of Logie Farm Rd at the edge of the exclusion zone (500-meters) and MUST be able to contact the shotfirer at any time, (UHF).

(h) Prevention of unauthorised access.

- Blast signage on Interlaken Rd.

- Quarry site is on a private road.
- Blast guards prior to site becoming live.

(i) Traffic Flow at the site.

- Even though the section of Logie Farm Rd where the quarry is situated is a private road, it is shown on Google Maps and as such there is the potential for someone to enter from the Prossers Rd end.

Australian Standard Explosive Storage and Use AS 2187.2-2012

4.5 Blasting History at site

To EEA's knowledge there has never been blasting at the location, EEA has blasting in the greater area without incident.

Australian Standard Explosive Storage and Use AS 2187.2-2012

4.6 Physical Characteristics and Geology

(a) Geology structure, e.g., faults, fissures, intrusions

- The driller is to report any fissures, and mark on drill plan.

(b) Varying rock types

The quarry is Dolerite (blue) and transitions in the decomposed Dolerite (red).

(e) Consistency of material, e.g., voids, layering, floaters

- All loose material was removed to expose the rock that required blasting, before drilling some material may need to be positioned to allow access for the drill.
- The driller will report any voids, layering, or floaters, and mark on the drill plan.

(j) Brittleness of material.

- EEA has extensive experience in blasting Dolerite.

Australian Standard Explosive Storage and Use AS 2187.2-2012

4.7 Responsibilities.

1. Shotfirer and or assistant to load blast vehicles with explosives and equipment to complete the days blast and document all explosives being carried on given vehicles.
2. Shotfirer shall complete on site documentation once on site and ensure people are component for the duties assigned.
3. Shotfirer and or assistant to place at each blast hole in the area to be blasted,
    a. Downhole detonator
    b. Explosive primer
4. Shotfirer to check blast hole is of free from debris and a depth that meets the blast design requirements, (any blast hole that do not meet the design to be marked on the actual blast hole, and blast plan).
5. Shotfirer will systematically load the blast holes checking stemming depth, ensuring that the stemming depth meets the blast design.
6. Blast may now be stemmed.
7. Once all blast holes have been loaded shotfirer and assistant must check that all blast holes have been stemmed and any slumping recorded.
8. Shotfirer or Assistant shotfirer to direct the appropriate delay to be placed at each blast hole.
9. Shotfirer and or assistants under direction of shotfirer may connect surface delays to down hole detonators.
10. Shotfirer and or assistants under direction of shotfirer may tie in the shot as per blast design.
11. Shotfirer and Assistant Shotfirer must check the tie in for connections and blast design.
12. Shotfirer or Assistant shotfirer to connect initiating shock tube to the initiating blast hole, this must be checked by other.
13. Shotfirer must notify the site is now ready to be fired and the site must be cleared, and all people must leave the exclusion zone.
14. Shotfirer or Assistant Shotfirer connect the electric initiating detonator to the shock lead.
15. Shotfirer to direct blast guards to take positions, (blast guards must be able to contact the Shotfirer at any time once they are directed to be in position).
16. Shotfirer to confirm with blast guards that the area is all clear.
17. Shotfirer can commence the firing procedure.
18. Firing procedure, (using megaphone spoken at least two direction)
    a. Blasting Area.
    b. Clear the blasting area.
    c. Blasting area all clear.
    d. Insert blasting key into exploder.
    e. 10 second siren.
    f. Ready to fire.
    g. Fire.
19. Once fired, the shotfirer is to inspect the blast and give the all-clear, allowing the work to recommence at the site.

Blast Monitoring Requirements

The blast design is controlled by the 'Blast Management Plan' as required by the 'Dangerous Substance (Safe Handling) Regulation 2012. This requires that blasting activity stays within the thresholds set out in the AS 2187.2-2012 and that Ground Vibration and Air Blast be monitored and recorded. It has been specified in the scope of works the location for blast monitoring.

Australian Standard Explosive Storage and Use AS 2187.2-2012

4.8 Environmental Impacts.

- Distance to buildings, structures, and other environmental impacts.
  - Farm Dam (Logie Farm) at 270 meters,
  - Logie Farm House at 500 meters,
  - 54 Logie Farm Rd at 545 meters.
  - 60 Logie Farm Rd at 580 meters,
  - 57 Logie Farm Rd at 684 meters
  - vinery to the Southwest accessed from Prossers Rd at 700 metres,
- Identification of monitoring requirements and the requirements for monitoring locations, systems, and instruments.
  The blast monitor that EEA uses is the VIbRock 901 and sensor.
- Ground vibration and over pressure.
  - Ground vibration from blasting is the radiation of the mechanical energy within the rock mass because of the blast. It comprises of various vibration phases travelling at different velocities and frequencies.
  - The level of vibration measured in the ground anywhere on a sensitive site. The measurement should be taken with the geophone coupled to a relative mass embedded in the ground but excludes any structure or foundation as the above structure will give misleading data.

TABLE J4.5(A)

GROUND VIBRATION LIMITS FOR HUMAN COMFORT CHOSEN BY SOME REGULATORY AUTHORITIES (see Note to Table J4.5(B))

Category	Type of blasting operations	Peak component particle velocity (mm/s)
Sensitive site*	Operations lasting longer than 12 months or more than 20 blasts	5 mm/s for 95% blasts per year 10 mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Sensitive site*	Operations lasting for less than 12 months or less than 20 blasts	10 mm/s maximum unless agreement is reached with occupier that a higher limit may apply
Occupied non-sensitive sites, such as factories and commercial premises	All blasting	25 mm/s maximum unless agreement is reached with occupier that a higher limit may apply. For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that can be shown to adversely effect the equipment operation

*A sensitive site includes houses and low rise residential buildings, theatres, schools, and other similar buildings occupied by people.

NOTE: The recommendations in Table J4.5(A) are intended to be informative and do not override statutory requirements with respect to human comfort limits set by various authorities. They should be read in conjunction with any such statutory requirements and with regard to their respective jurisdictions.

Australian Standard, Explosive Storage and Use, Part 2 Use of Explosive
AS 2187.2-2006, page 110

Australian Standard Explosive Storage and Use AS 2187.2-2012

4.9.2 Services.

Overhead power lines terminate at Logie Farm House 500-meters from the quarry site.

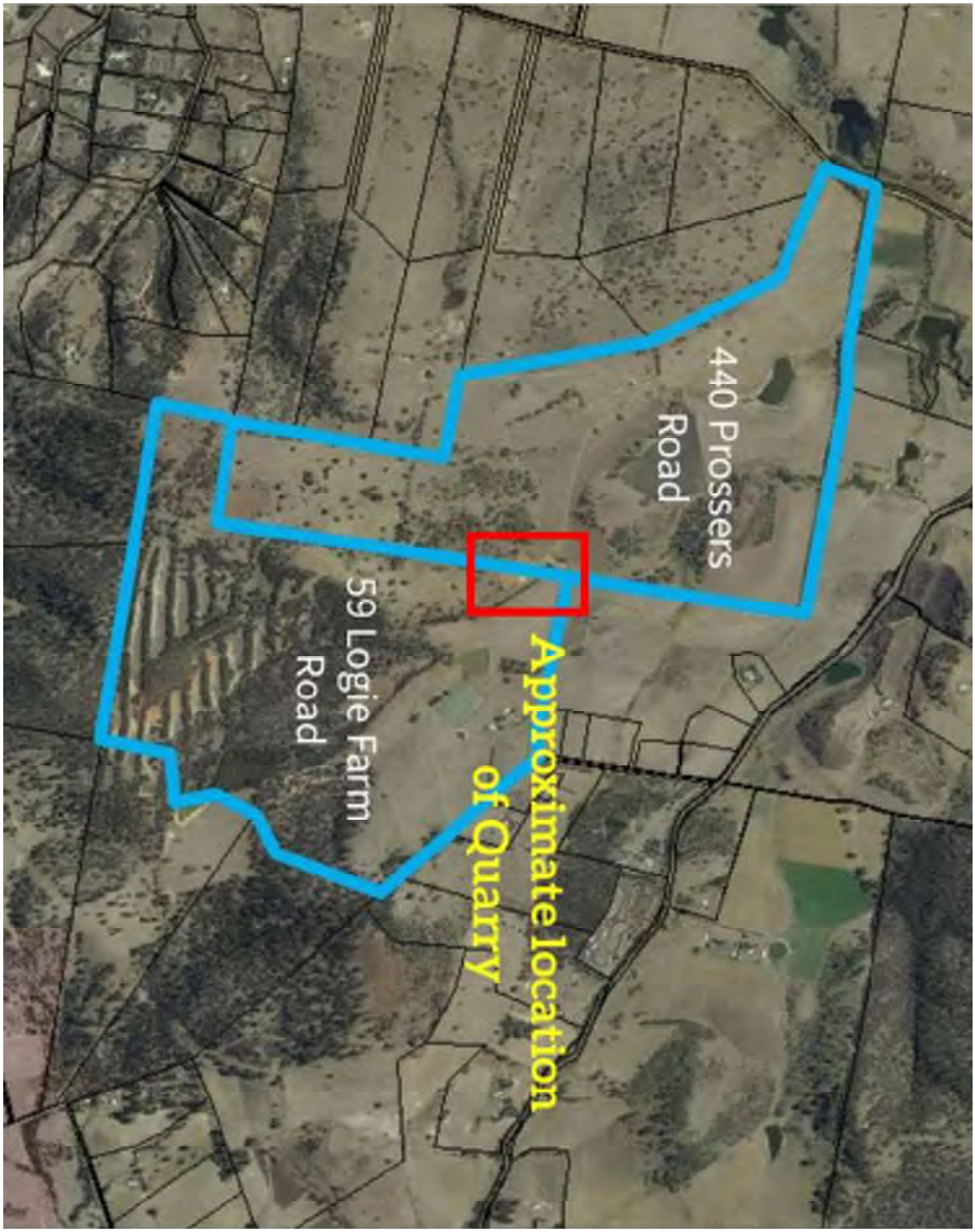


fig. 1
Property Boundary, Gowing Bros Limited.
Quarry site at centre of red area.

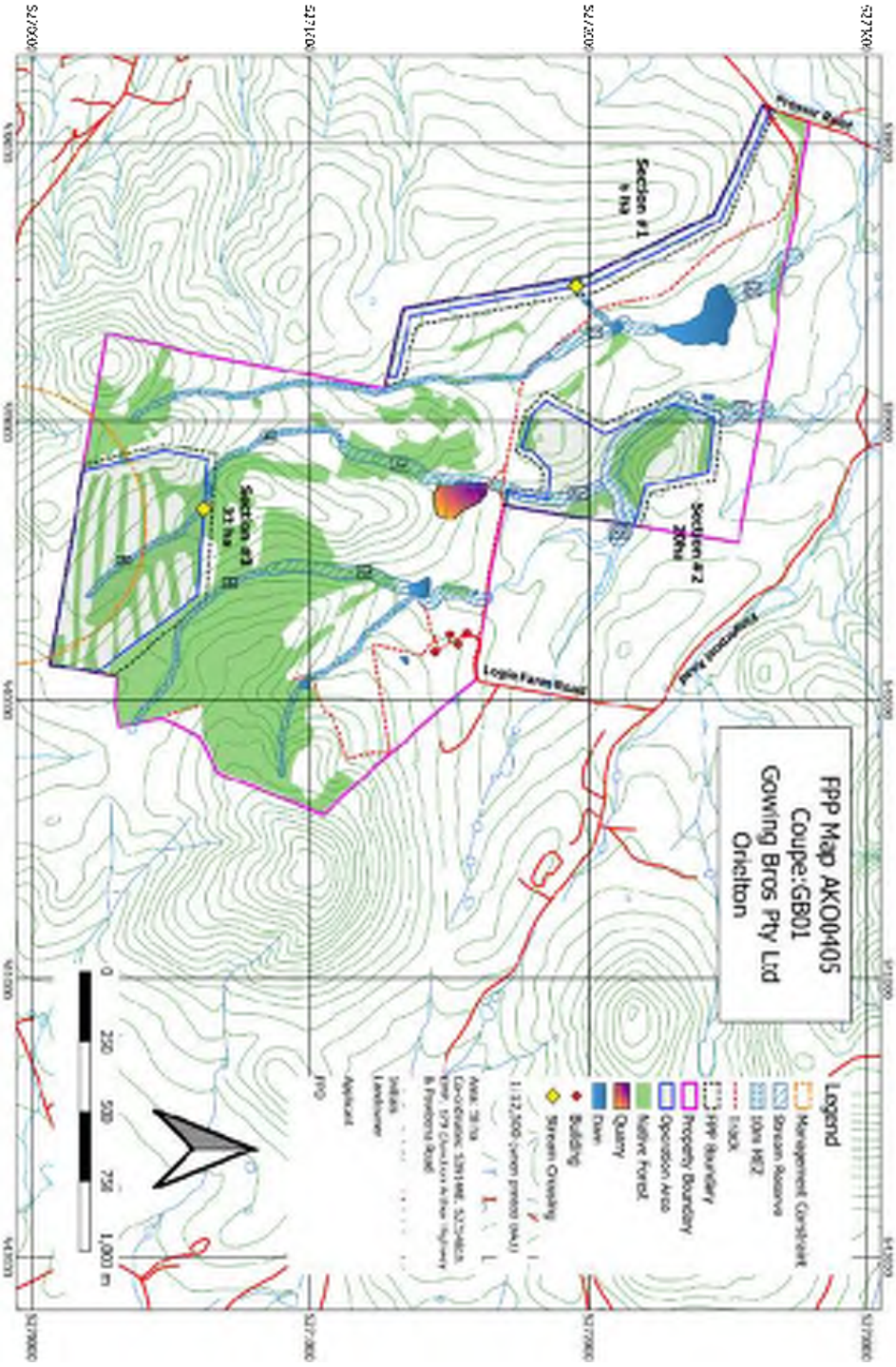


fig. 2
Map of Land usage area,
Showing Quarry Lease Site.

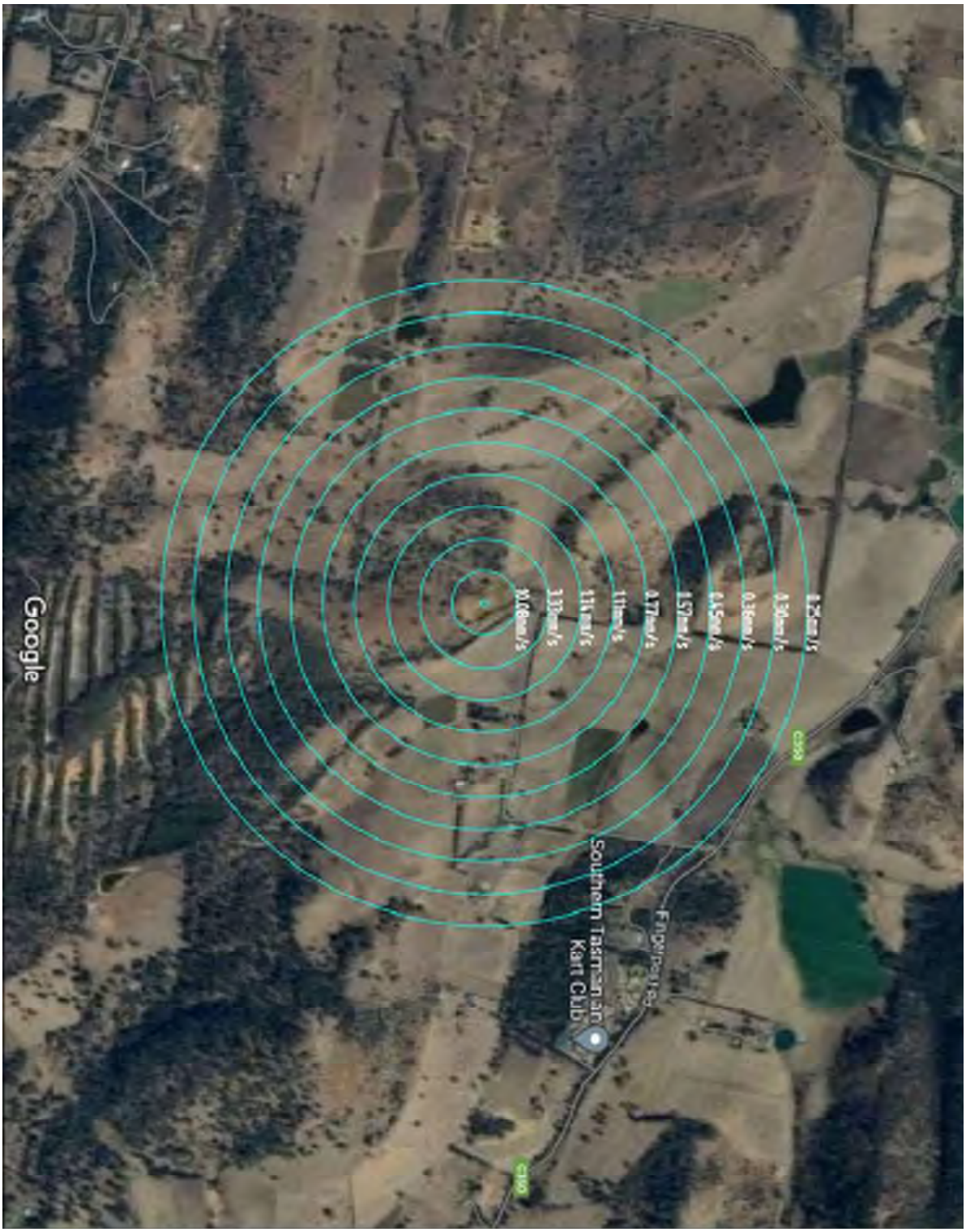


fig. 3
Showing the decay of the vibration in 100-meter graduations out 1000-meters.

Blast prameters for modelling shown above.	
Maximum Instaneous Cahrge	*76 kg*
Site Constant (k)	*500 (free face)*
Vibration Decay (-b)	*1.6 (Usual value when site is unknown)*

fig. 4
Showing the decay of the Over-pressure in 100-meter graduations out 1000-meters.

Blast prameters for modelling shown above.

Maximum Instaneous Cahrge (Q)	*Inintiatining detonator (0.02kg)*
Site Constant (Ka)	*10 (confined, lower limit AS 2187.2)*
Over-pressure Decay (-a)	*1.45 (Usual value when site is unknown)*

fig. 5
Showing the decay of the Over-pressure in 100-meter graduations out 1000-meters.

Blast prameters for modelling shown above.

Maximum Instaneous Cahrge (Q)	*Inintiatining detonator (0.02kg)*
Site Constant (Ka)	*100 (unconfined, upper limit AS 2187.2)*
Over-pressure Decay (-a)	*1.45 (Usual value when site is unknown)*

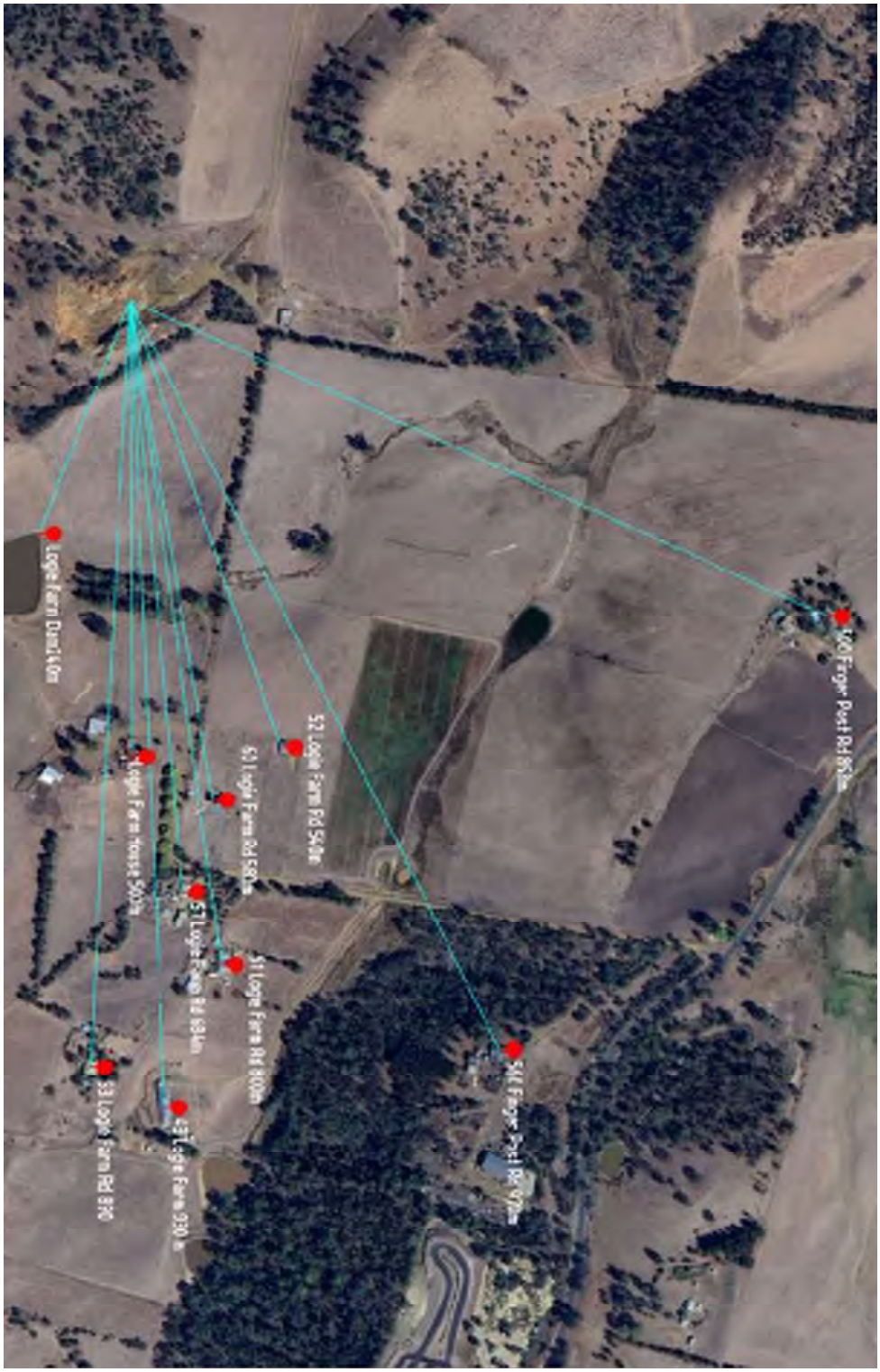


Fig. 6

Showing all dwelling that are within the 1000-meter radius of the quarry site.
Both vibration and Over-pressure have disapated below EPA levels by 500-meters.
The modelled Vibration PPV and Over-pressure dB can be seen in Table.2.

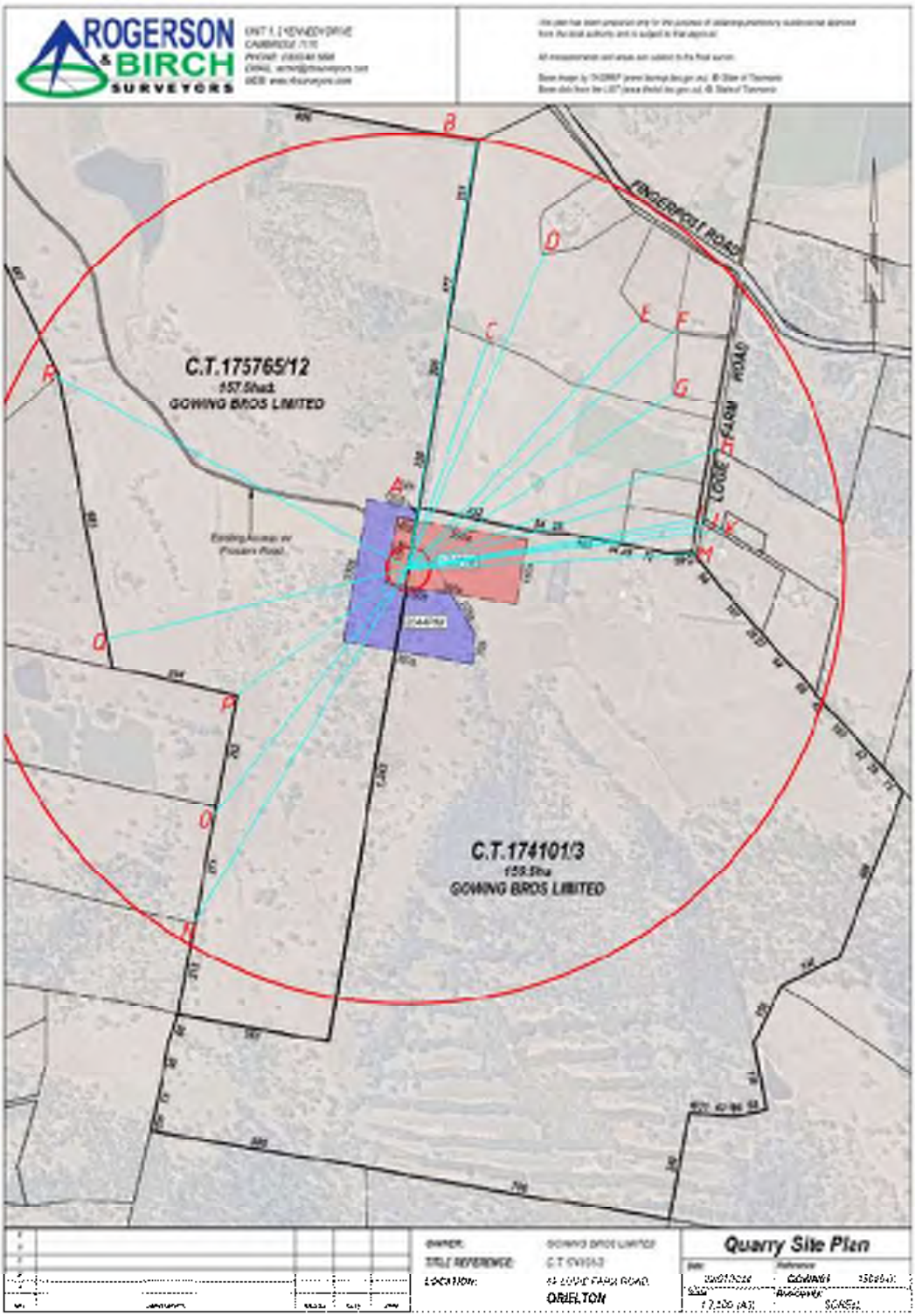


fig. 7

Showing the closest intersection points of all boundarys within the 1000-meter radius.
EEA has added boundary intersection information to this map, using the map scale.

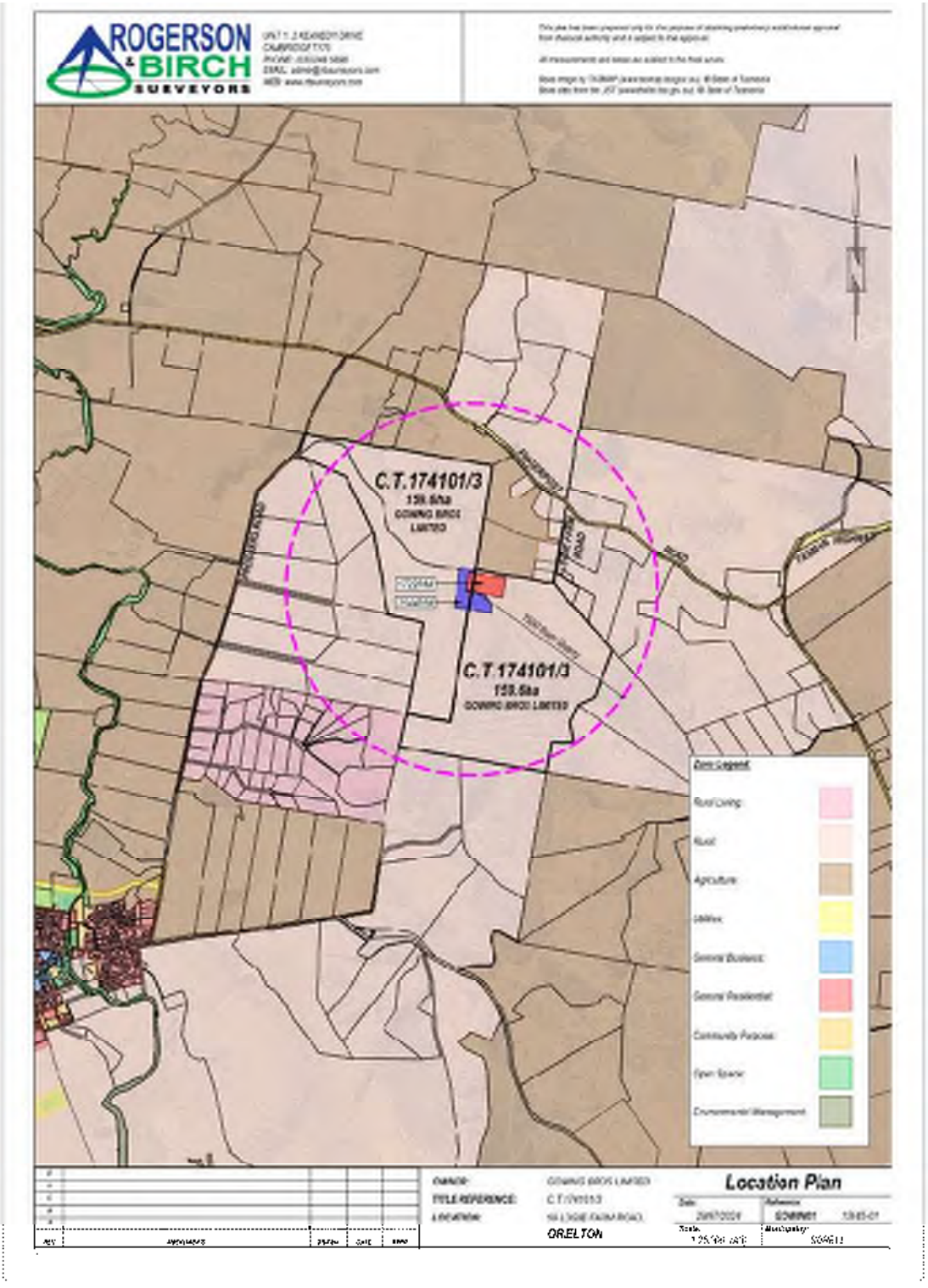


fig. 8
Land use Map

fig. 9.
Showing the how the topography will be taken advantage of to mimimise the impact of the blasting on surounding properties..

Modelling Vibration

Vibration Calculations maximum instantaneous charge

- 76 kg maximum charge per delay
- K = 500 Free Face

$$V = K[\frac{R}{Q^{0.5}}]^{B}$$

$$V = 500[\frac{500}{76^{0.5}}]^{-1.6}$$

$$V = 0.768\text{mm/sec}$$

Where:

V = peak particle velocity (mm/s)

K = site and rock factor constant (500), Free face

Q = maximum instantaneous charge (76 kg), 89mm, 13.0m deep, 1.8m stemming.

B = site exponent (usually, – 1.6)

R = distance from charge (500 m) closest house (google).

This formula has been used in accordance with (AS2187.2-2012)

Modelling Blast Over-Pressure

For the modelling of the blast over-pressure that is likely to be measured at Logie Farmhouse (-42.707535, 147.485932) 500 meters from the blast, this is closest dwelling to the Quarry site.

For confined blast hole charges, when using a site exponent (a) of -1.45, the site constant (K_a) is commonly in the range 10 to 100, *(AS 2187.2-2006, page, 115)*.

For the modelling of the blast over-pressure the initiating detonator is used as all blasting explosives a contained at a minimum of 2.0 meters below the surface.

Blast Over-Pressure for Rosevear Lane at 104.8 meters.

- 0.02 kg, initiating detonator.
- K_a = 100, Maximum value for K_a, AS 2187.2-2006.

$$P = K_a[\frac{D}{Q^{1/3}}]^{-a}$$

$$P = 100[\frac{500}{0.02^{1/3}}]^{-1.45}$$

$$P = 0.00184215 \text{ kPa}$$

Where:
P = peak pressure (kPa)
A = site constant (10)
a = site exponent (1.45)
D = distance from blast (500 m)
Q = charge of mass per delay (0.02 kg)

The following formula has been used to convert kPa into dB

$$L_p = 20 \log_{10} \frac{p}{p_0}$$

$$L_p = 20 \log_{10} \frac{1.84215 \text{ Pa}}{0.00002 \, Pa}$$

$$P = 99.2859 \, dB$$

Where:
L_p = Sound Pressure level in decibel (dB)
p = Blast over-pressure in Pascals (Pa)
p_0 = reference sound pressure, human hearing threshold in air (p_0=20μPa)

Appendix 2 Natural Values Assessment by ECOtas

NATURAL VALUES ASSESSMENT OF LOGIE FARM QUARRY, MINING LEASES 1722P/M & 2044P/M, ORIELTON & RICHMOND, TASMANIA

Environmental Consulting Options Tasmania (ECO*tas*) for Gowing Bros Ltd

9 October 2024

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AUTHORSHIP

Field assessment: Mark Wapstra, James Wapstra

Report production: Mark Wapstra, James Wapstra

Habitat and vegetation mapping: Mark Wapstra, James Wapstra

Base data for mapping: LISTmap

Digital and aerial photography: Mark Wapstra, Google Earth, LISTmap, World Imagery (ESRI)

ACKNOWLEDGEMENTS

Byron Gowing & Lachie van Balen (Gowing Bros Ltd) provided background information on the land use proposal and facilitated access to the site. Kerri Spicer provided the eagle line-of-sight modelling.

QUALIFICATIONS

Except where otherwise stated, the opinions and interpretations of legislation and policy expressed in this report are made by the authors and do not necessarily reflect those of the relevant agency. The client should confirm management prescriptions with the relevant agency before acting on the content of this report. This report and associated documents do not constitute legal advice.

Note that any reference to the Department of Primary Industries, Parks, Water & Environment (DPIPWE) now refers to the Department of Natural Resources and Environment Tasmania.

COVER ILLUSTRATION

View of the existing quarry area.

Please note: the blank pages in this document are deliberate to facilitate double-sided printing.

CONTENTS

SUMMARY

General

Gowing Bros Ltd engaged Environmental Consulting Options Tasmania (ECO*tas*) to undertake a natural values assessment of mining leases 1722P/M & 2044P/M at 440 Prossers Road (Richmond) & 59 Logie Farm Road (Orielton), Tasmania, primarily to ensure that the requirements of the identified natural values are appropriately considered during any further project planning under local, State and Commonwealth government approval protocols.

Site assessment

The natural values assessment was undertaken by Mark Wapstra & James Wapstra (ECO*tas*) on 20 Sep. 2024.

Summary of key findings

Threatened flora

- No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The absence of populations of threatened flora means that the site is not "a threatened flora species" [sic] such that it cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(b) of the *State Planning Provisions*.

Threatened fauna

- No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The study area supports potential habitat (to varying degrees of marginality) for the following species:
  - *Sarcophilus harrisii* (Tasmanian devil);
  - *Dasyurus maculatus* subsp*. maculatus* (spotted-tailed quoll); and
  - *Dasyurus viverrinus* (eastern quoll);
  - *Perameles gunnii* (eastern barred bandicoot);
  - *Aquila audax* subsp. *fleayi* (wedge-tailed eagle); and
  - *Tyto novaehollandiae* subsp. *castanops* (masked owl).
- The absence of "significant habitat for a threatened fauna species", at any reasonable scale or interpretation of the concept, means that the site cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(c) of the *State Planning Provisions*.

Vegetation types

- The study area supports the following TASVEG mapping units:
  - agricultural land (TASVEG code: FAG);
  - regenerating cleared land (TASVEG code: FRG);
  - extra-urban miscellaneous (TASVEG code: FUM); and
  - *Eucalyptus viminalis* grassy forest and woodland (TASVEG code: DVG).
- Occurrences of DVG do not equate to a native vegetation community listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.
- Occurrences of DVG do not equate to a threatened ecological community listed under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999*.
- The absence of "native vegetation…[that]…forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the *Nature Conservation Act 2002*" means that the site cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(a) of the *State Planning Provisions*.

Weeds

- Four plant species classified as declared weeds pursuant to the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were recorded from the study area, as follows:
  - *Foeniculum vulgare* (fennel): scattered around northwestern end of quarry and also on its eastern edge;
  - *Lycium ferocissimum* (african boxthorn): scattered around margins of quarry, along fenceline near plantings and on the slope south of the quarry;
  - *Marrubium vulgare* (white horehound): as above; and
  - *Nassella trichotoma* (serrated tussock): isolated non-fertile tussocks on eastern edge of quarry (not mapped, all hand-pulled and removed).
- Additional "environmental weeds' (authors' opinion) are also present including:
  - *Vinca major* (blue periwinkle): small patches on eastern verge of quarry;
  - *Agapanthus praecox* subsp. *orientalis* (agapanthus): small patch of southeast fringe of quarry;
  - *Verbascum thapsus* (great mullein): scattered rosettes; and
  - various species of thistle most notably *Silybum marianum* (variegated thistle): widespread.

Plant and animal disease

- No evidence of *Phytophthora cinnamomi* (PC, rootrot) was recorded from within or adjacent to the study area.
- No evidence of myrtle wilt was recorded from within or adjacent to the study area.
- No evidence of myrtle rust was recorded from recorded from within or adjacent to the study area.

Recommendations

The recommendations provided below are a summary of those provided in relation to each of the natural values described in the main report. The main text of the report provides the relevant context for the recommendations.

Vegetation types

It is noted that the proposal is wholly within an existing quarry and its disturbed fringes i.e. the proposal does not include the clearance and conversion of, or disturbance to, threatened native vegetation (or indeed any native vegetation per se) in any measurable sense – no special management recommended.

Threatened flora

None identified – no special management recommended.

Threatened fauna

None identified – no special management recommended (noting the commentary made under Vegetation types).

Weed and hygiene management

In this case, it is noted that Logie Farm has a well-developed and documented weed management system for the property (Lachie Van Balen pers. comm.) that includes active treatment of serrated tussock, gorse, briar rose, african boxthorn, thistle species, horehound and fennel. Site observations indicated that these actions are well-implemented with farm roads virtually free of weeds.

The quarry facility has some occurrences of weeds that will benefit from a primary treatment (i.e. an initial knockdown) followed by regular follow-up (e.g. every 6 months or so or at the start of the primary growing season). Any treatment is likely to be on-site (e.g. burning of piles after treatment) such that special management for transport of declared species should not be required. Logie Farm already operates a strict biosecurity system in terms of access such that further controls specific to the quarry operations should not be required. The existing access routes are all weed- and disease-free such that the risk of introducing new weeds to the site is very low.

On the understanding that the proposal is for works comprising working the existing facility to extract road base material but for this to occur the site must first be made safe, which requires some minor blasting and benching, with extraction and transport by conventional diggers and trucks, respectively, the latter using the existing farm/quarry road system, a stand-alone weed and hygiene management plan is not considered warranted. Rather, any weed management that does occur should be documented using the existing farm management system, which includes documenting the dates of activities, chemical/rates applied and sites treated using the live mapping system (Lachie Van Balen pers. comm.).

In relation to hygiene management, the following general recommendations can be applied to this facility:

- any water should be diverted away from active areas using drains and/or culverts where necessary, to ensure a dry working area;
- the top edge of active quarry areas should be scalped clean where possible to ensure a machine-width clearing free of topsoil and organic matter around the top of the quarry (this will reduce the risk of topsoil contamination of the quarry); and

- all earth-moving machinery entering the quarry from other locations should be washed down to prevent the introduction of weeds and diseases.

Legislative and policy implications

A permit under the Tasmanian *Threatened Species Protection Act 1995* should not be required.

A formal referral to the relevant Commonwealth government agency under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* should not be required but this should be confirmed by the client through their own consideration of the *Significant Impact Guidelines* (or through discussion with the EPA, NRE Tas and/or the relevant Commonwealth agency).

It is assumed a development application may be required to be prepared under the provisions of the *Tasmanian Planning Scheme.* There are no particular constraints with respect to natural values but the recommendations in relation to weed and hygiene management are highlighted.

INTRODUCTION

Purpose

Gowing Bros Ltd engaged Environmental Consulting Options Tasmania (ECO*tas*) to undertake a natural values assessment of mining leases 1722P/M & 2044P/M at 440 Prossers Road (Richmond) & 59 Logie Farm Road (Orielton), Tasmania, primarily to ensure that the requirements of the identified natural values are appropriately considered during any further project planning under local, State and Commonwealth government approval protocols.

Scope

This report relates to:

- flora and fauna species of conservation significance, including a discussion of listed threatened species (under the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*) potentially present, and other species of conservation significance/interest;
- vegetation types (forest and non-forest, native and exotic) present, including a discussion of the distribution, condition, extent, composition and conservation significance of each community;
- plant and animal disease management issues;
- weed management issues; and
- a discussion of some of the policy and legislative implications of the identified natural values.

This report follows the government-produced *Guidelines for Natural Values Surveys – Terrestrial Development Proposals* (DPIPWE 2015) in anticipation that the report (or extracts of it) could be required as part of future approval processes.

The report format should also be applicable to other assessment protocols as required by the relevant Commonwealth agency (for any referral/approval that may be required under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*).

More specifically, the assessment has been undertaken to address matters usually considered as part of reporting requirements by the Environmental Protection Authority (i.e. natural values; weeds, pests and pathogens) -see *Environmental Effects Report Guidelines (Extractive Industry): Gowing Bros Ltd Logie Farm Quarry Modification, Orielton and Richmond* (EPA 2024).

The report should also be applicable for the consideration of the management of natural values under the *Tasmanian Planning Scheme – Sorell Local Provisions Schedule* & *Clarence Local Provisions Schedule*.

Limitations

The natural values assessment was undertaken on 20 Sep. 2024. Many plant species have ephemeral or seasonal growth or flowering habits, or patchy distributions (at varying scales), and it is possible that some species were not recorded for this reason. However, every effort was made to sample the range of habitats present in the survey area to maximise the opportunity of recording most species present (particularly those of conservation significance). Late spring and into summer

are usually regarded as the most suitable period to undertake most botanical assessments. While some species have more restricted flowering periods, a discussion of the potential for the site to support these is presented. In this case, we believe that the survey was appropriately timed to detect the species with the highest priority for conservation management in this part of the State, noting in particular that a survey of the broader property resulted in the detection of several annually-flowering ephemeral herbs including a suite of orchids and three threatened flora species suggesting the timing was appropriate for this season.

The survey was also limited to vascular species: species of mosses, lichens and liverworts were not recorded. However, a consideration is made of threatened species (vascular and non-vascular) likely to be present (based on habitat information and database records) and reasons presented for their apparent absence.

Surveys for threatened fauna were largely limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs, except as indicated in **METHODS *Field assessment*** Threatened fauna.

Permit

Any plant material was collected under DNRET permit TFL 22382 (in the name of Mark Wapstra). Relevant data will be entered into DNRET's *Natural Values Atlas* database by the author (point locations of weeds and threatened flora). Some plant material may be lodged at the Tasmanian Herbarium by the authors (specimens of threatened flora from the wider property).

No vertebrate or invertebrate material was collected. A permit is not required to undertake the type of habitat-level assessment described herein.

STUDY AREA

Cadastral details

The study area (Figures 1-3) comprises the whole of mining leases 1722P/M & 2044P/M, which are located on private property ("Logie Farm") with the following cadastral details:

- 440 Prossers Road, Richmond; PID 9142347; C.T. 175765/12; and
- 59 Logie Farm Road, Orielton; PID 3546578; C.T. 174101/3.

Land tenure and other categorisations relevant to natural values management of the study area are as follows:

- Sorell & Clarence municipalities, zoned as Rural pursuant to the *Tasmanian Planning Scheme – Sorell Local Provisions Schedule* & *Clarence Local Provisions Schedule* (Figure 4) and partially subject to the Priority Vegetation Area overlay (Figure 5) and Waterway and Coastal Protection Area overlay (Figure 6), with no other overlays with particular relevance to natural values present;
- Tasmanian South East bioregion, according to the IBRA 7 bioregions used by most government agencies.

The lease areas are accessed via Logie Farm Road and an internal farm road from Prossers Road. It is understood that the proposal does not include any works to either access option.

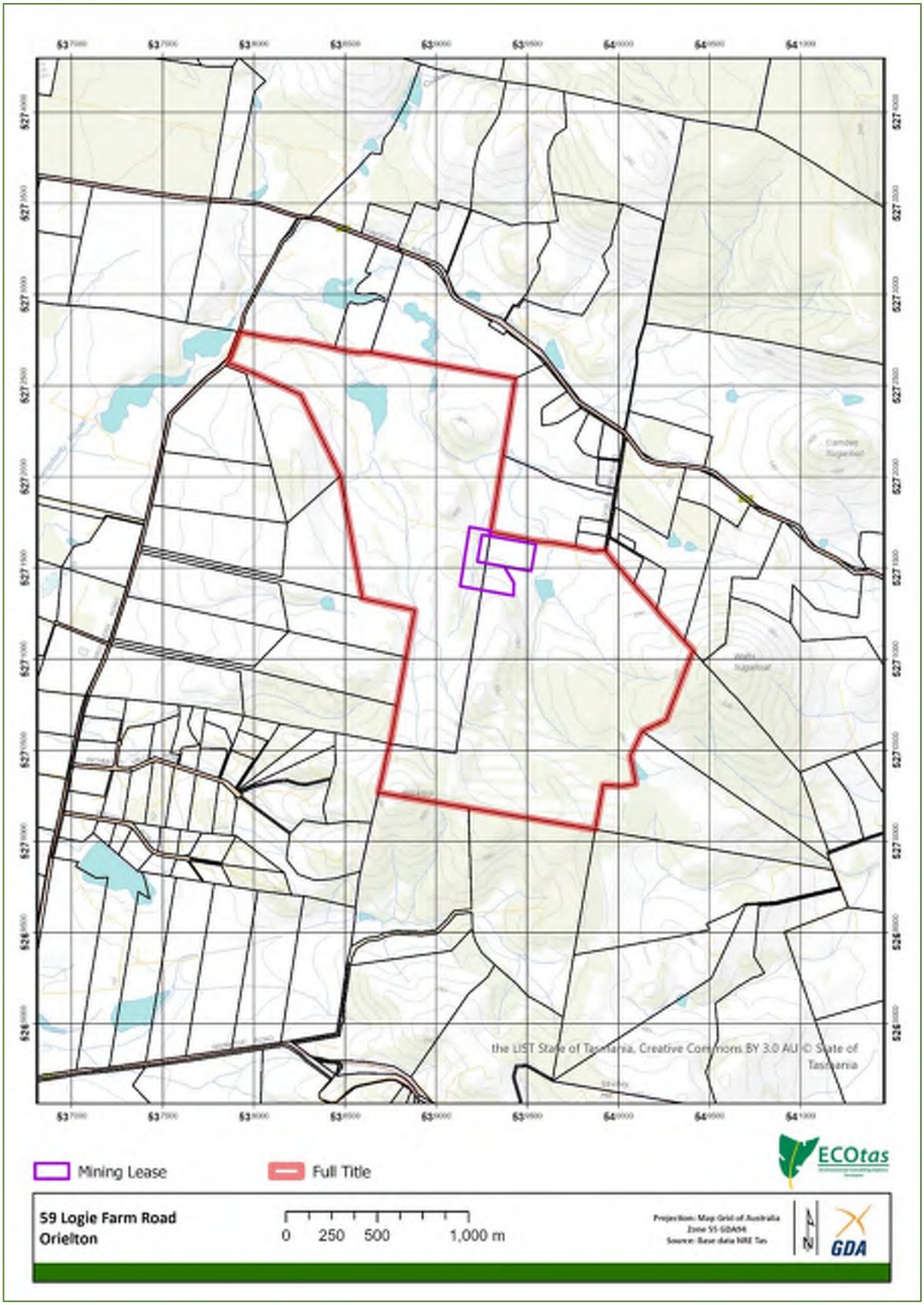

Figure 1. General location of study area

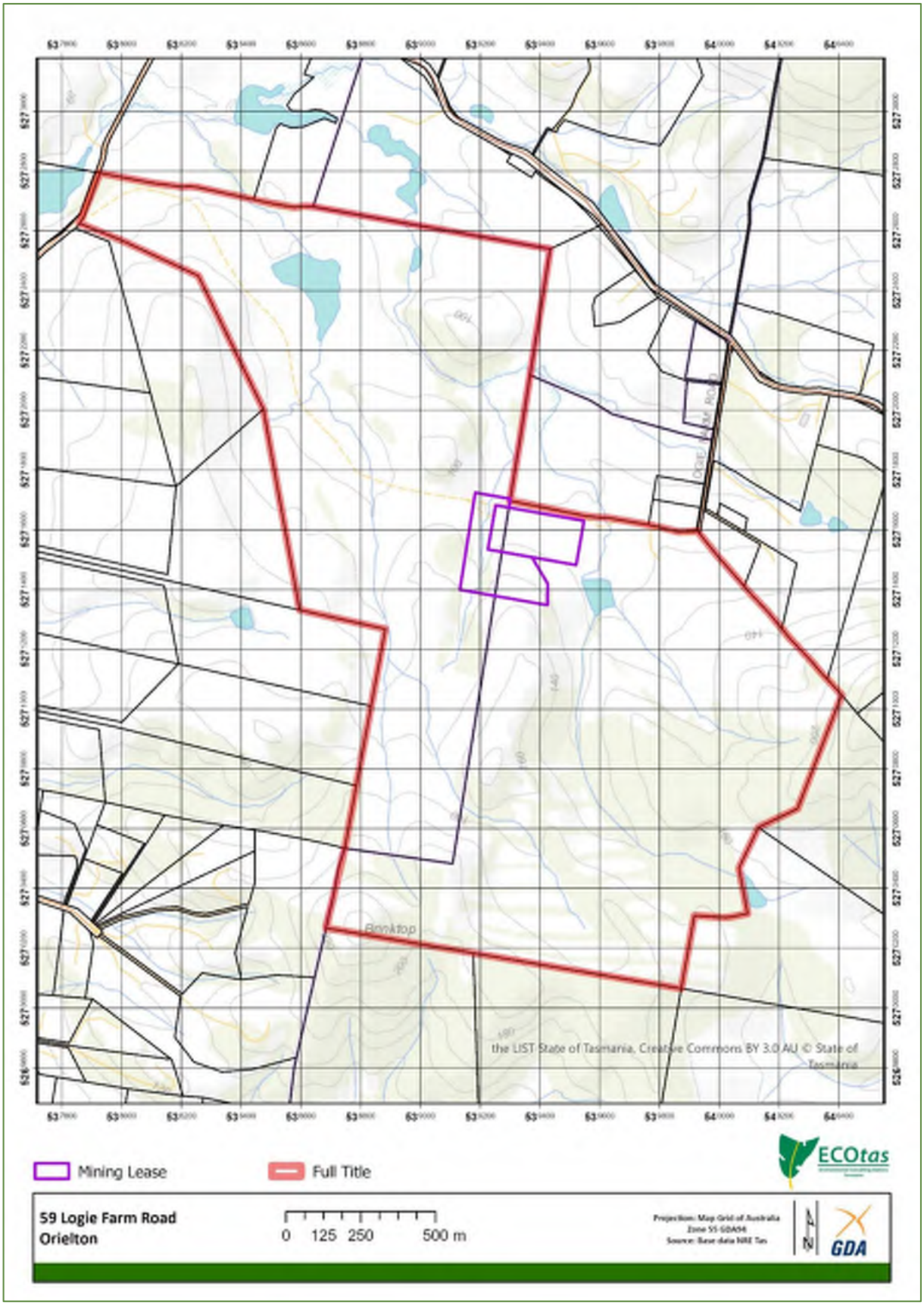

Figure 2a. Detailed location of study area showing cadastral and general topographic features

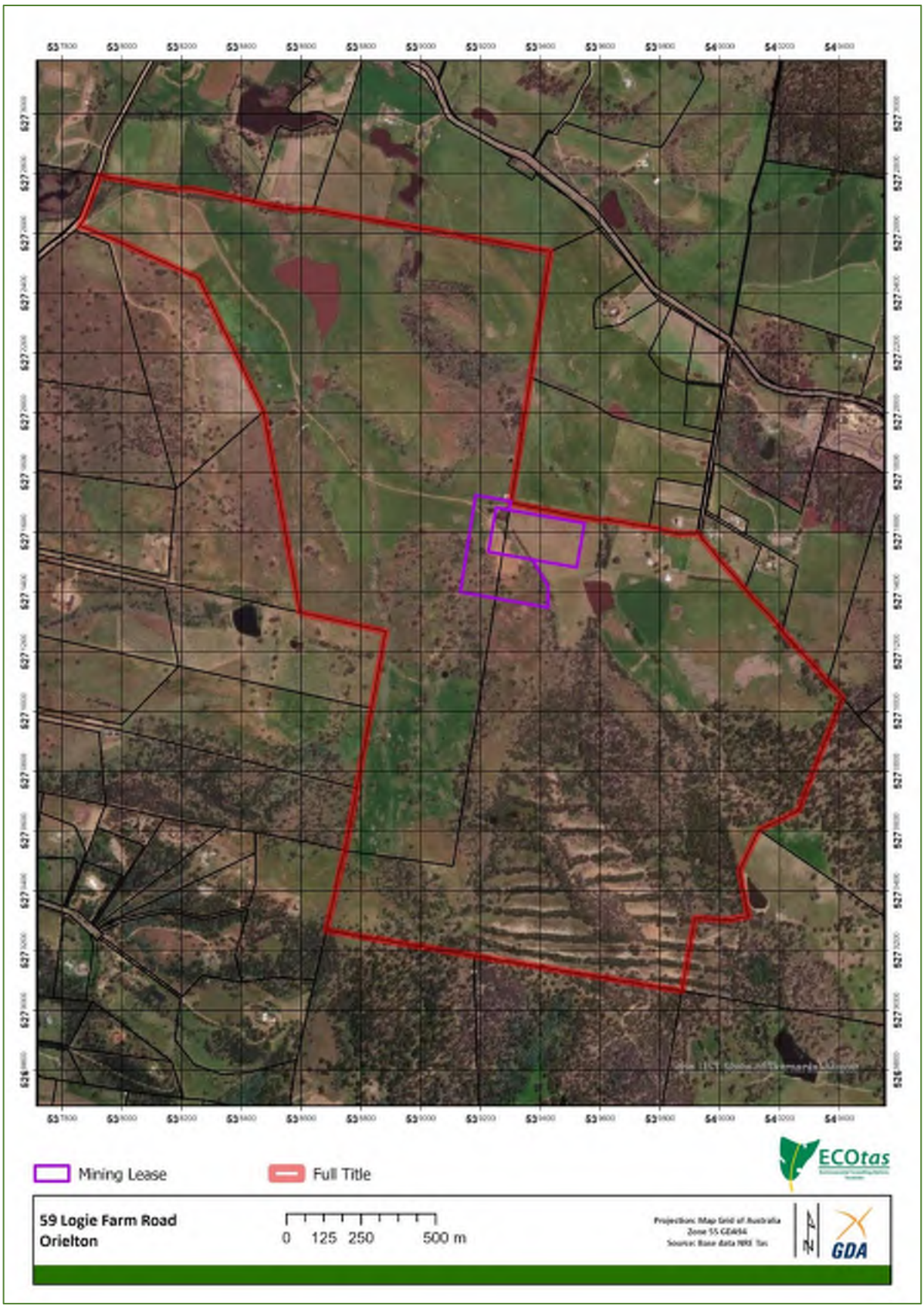

Figure 2b. Detailed location of study area showing cadastral and general topographic features with aerial imagery

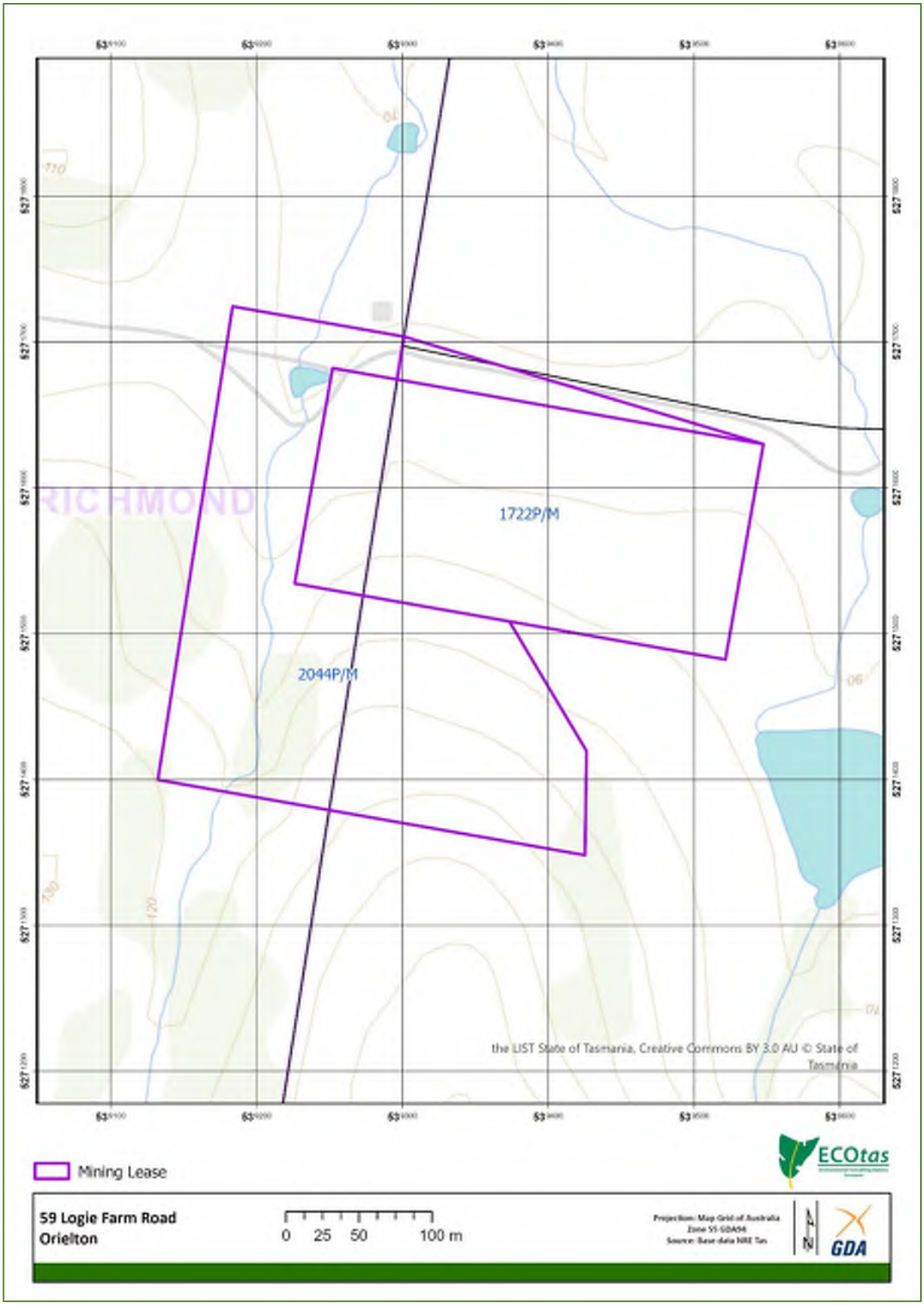

Figure 3a. Detailed location of mining leases showing cadastral and general topographic features

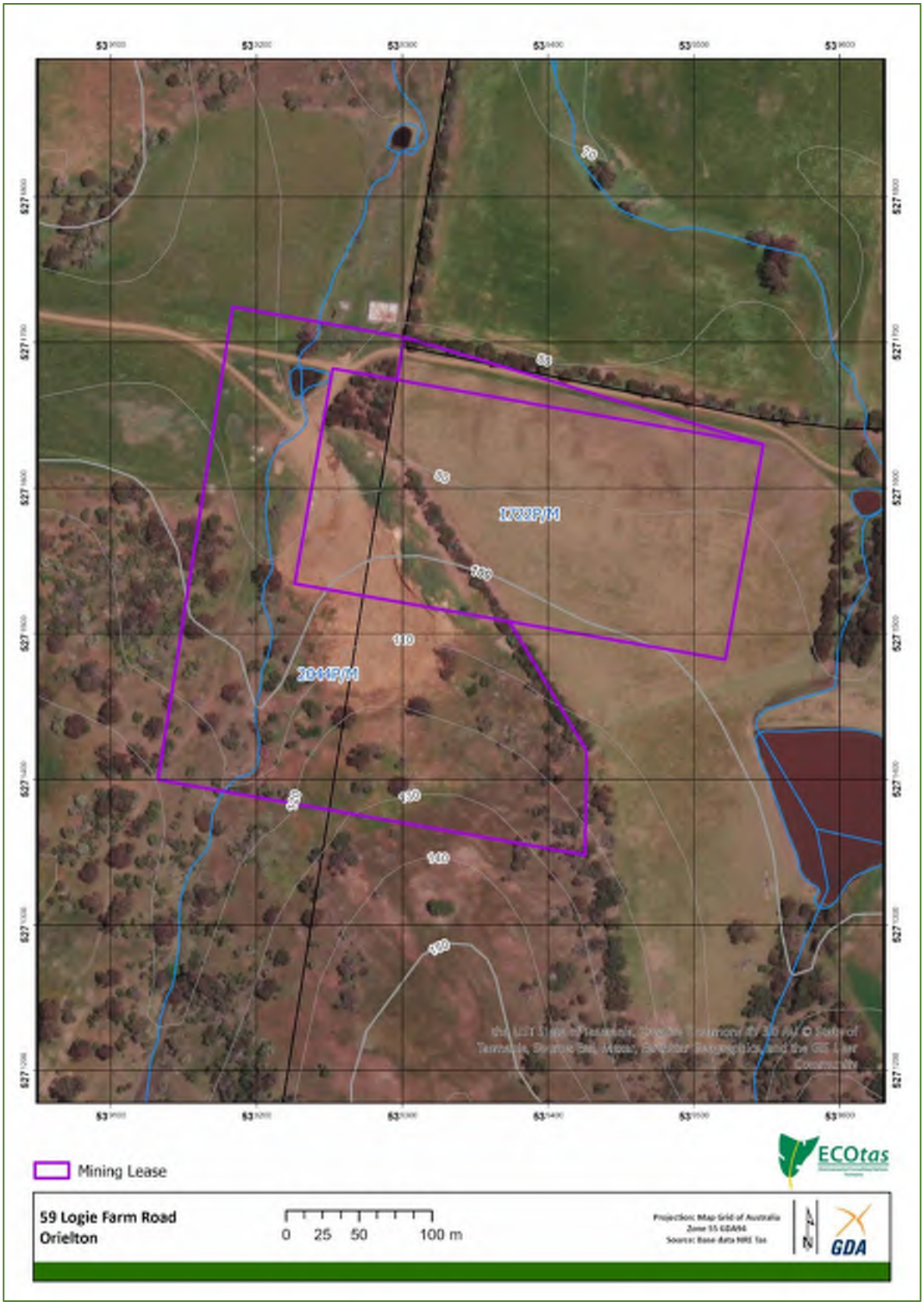

Figure 3b. Detailed location of mining leases showing cadastral and general topographic features with aerial imagery

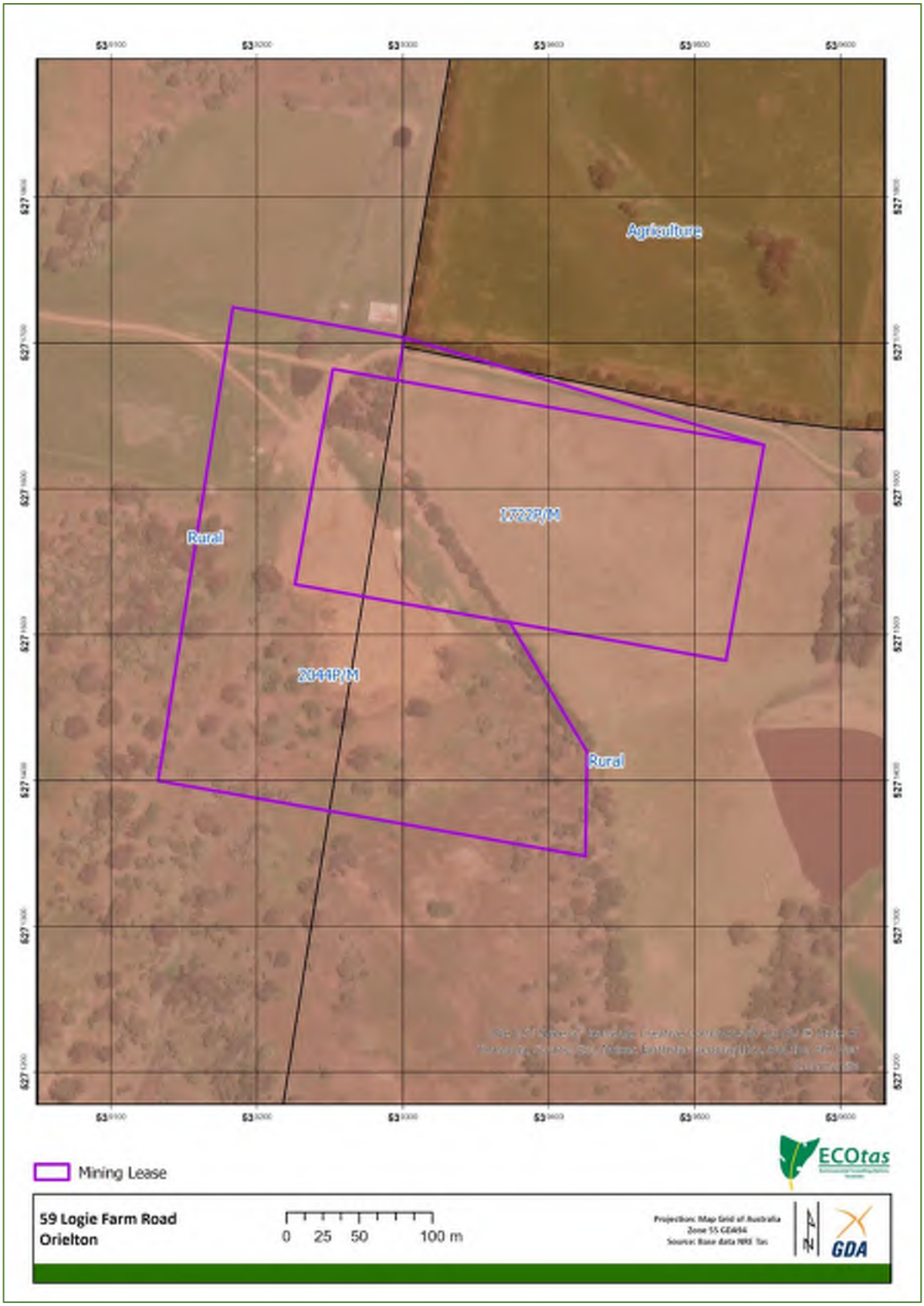

Figure 4. Zoning of study area and surrounds pursuant to *Tasmanian Planning Scheme – Sorell Local Provisions Schedule* & *Clarence Local Provisions Schedule*

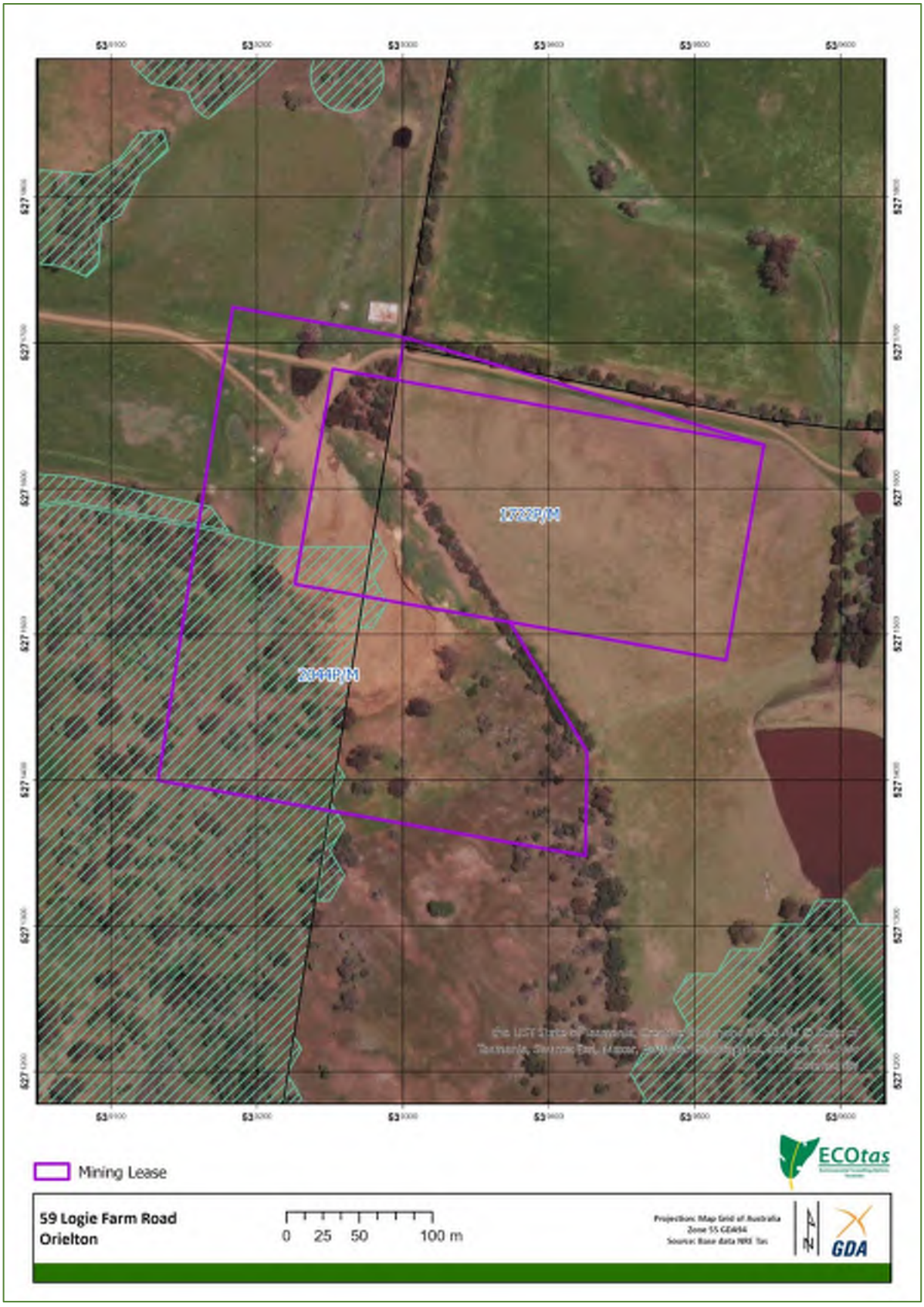

Figure 5. Extent of Priority Vegetation Area overlay within mining leases and surrounds pursuant to *Tasmanian Planning Scheme – Sorell Local Provisions Schedule* & *Clarence Local Provisions Schedule*

Figure 6. Extent of Waterway and Coastal Protection Area overlay within mining leases and surrounds pursuant to *Tasmanian Planning Scheme – Sorell Local Provisions Schedule* & *Clarence Local Provisions Schedule*

Other features

The mining leases support a mosaic of pasture currently used for sheep grazing (Plate 1), "rough pasture" (Plate 2), low eucalypt woodland (Plates 3 & 4), plantings (Plates 5 & 6), with only a relatively small area comprising the existing quarry facility (Plates 7-12).

Plate 1. (LHS) Intensively-managed pasture in east of 1722P/M

Plate 2. (RHS) "Rough pasture" (mosaic of native grassland and pasture species) on slope south of quarry facility

Plates 3 & 4. Low eucalypt woodland west of quarry facility

Plates 5 & 6. Fenceline plantings of native species

Plates 7-12. Views of existing quarry area

There is a small dam at the northern end of the quarry in 2044P/M (Plate 13). A minor drainage feature (upper headwaters of a tributary of the Coal River) runs through 2044P/M, which appears to be highly ephemeral (Plate 14).

LISTmap's Fire History layer (DNRET 2024a) does not indicate any formally recorded fire events within or adjacent to the study area, which is supported by site assessment with no direct evidence of fire noted.

The geology of the lease areas is mapped at a 1:250,000 scale (Figure 7a) as Jurassic-age "dolerite (tholeiitic) with locally developed granophyre" (geocode: Jd) and Triassic-age "undifferentiated Triassic fluviolacustrine sequences of sandstone, siltstone and mudstone" (geocode: R), with the Jd mapped across the quarry site itself. At a 1:25,000 scale (Figure 7b), the geology is mapped as

a combination of Jurassic-age "dolerite and related rocks" (geocode: Jd), Triassic-age "undifferentiated Upper Parmeener Supergroup rocks" (geocode: R) and Triassic-age "undifferentiated volcaniclastic, quartz-rich lithic and quartzose sandstone, siltstone, mudstone, carbonaceous beds and coal seams" (geocode: Rv), again, most of the quarry itself mapped as Jd. The geology is mentioned because of its strong influence on vegetation classification, association with threatened flora, and to a lesser extent, threatened fauna. Site assessment confirmed the geology of the quarry and immediate surrounds as Jurassic dolerite (Plates 15 & 16).

Plate 13. (LHS) Small dam in north of 2044/P/M

Plate 14. (RHS) Ephemeral creek running through 2044/P/M

Plate 15. (LHS) Dolerite throughout the quarry

Plate 16. (RHS) Exposed dolerite on slopes above quarry

Land use proposal

The land use proposal is outlined in Gowing Bros (2024). The proposed works are wholly within mining leases 1722P/M & 2044P/M, the works comprising working the existing facility (Plates 1-6) to extract road base material. However, for this to occur, the site must first be made safe, which requires some minor blasting and benching. It is understood that blasting would be intermittent both to make safe and to continue extraction activities. Extraction and transport will be by conventional diggers and trucks, respectively, the latter using the existing farm/quarry road system.

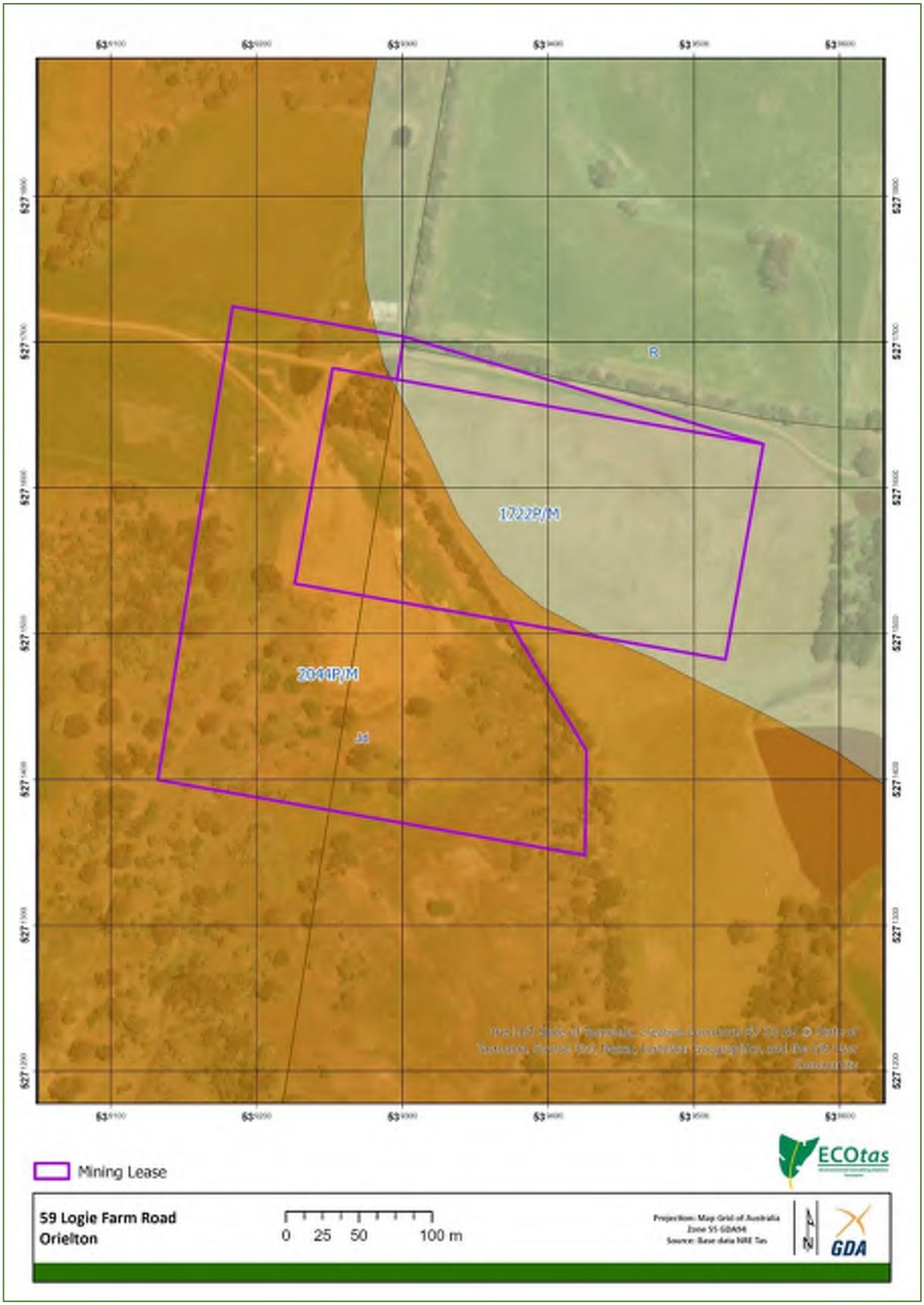

Figure 7a. Geology (1:250,000 scale) of study area (refer to text for codes)

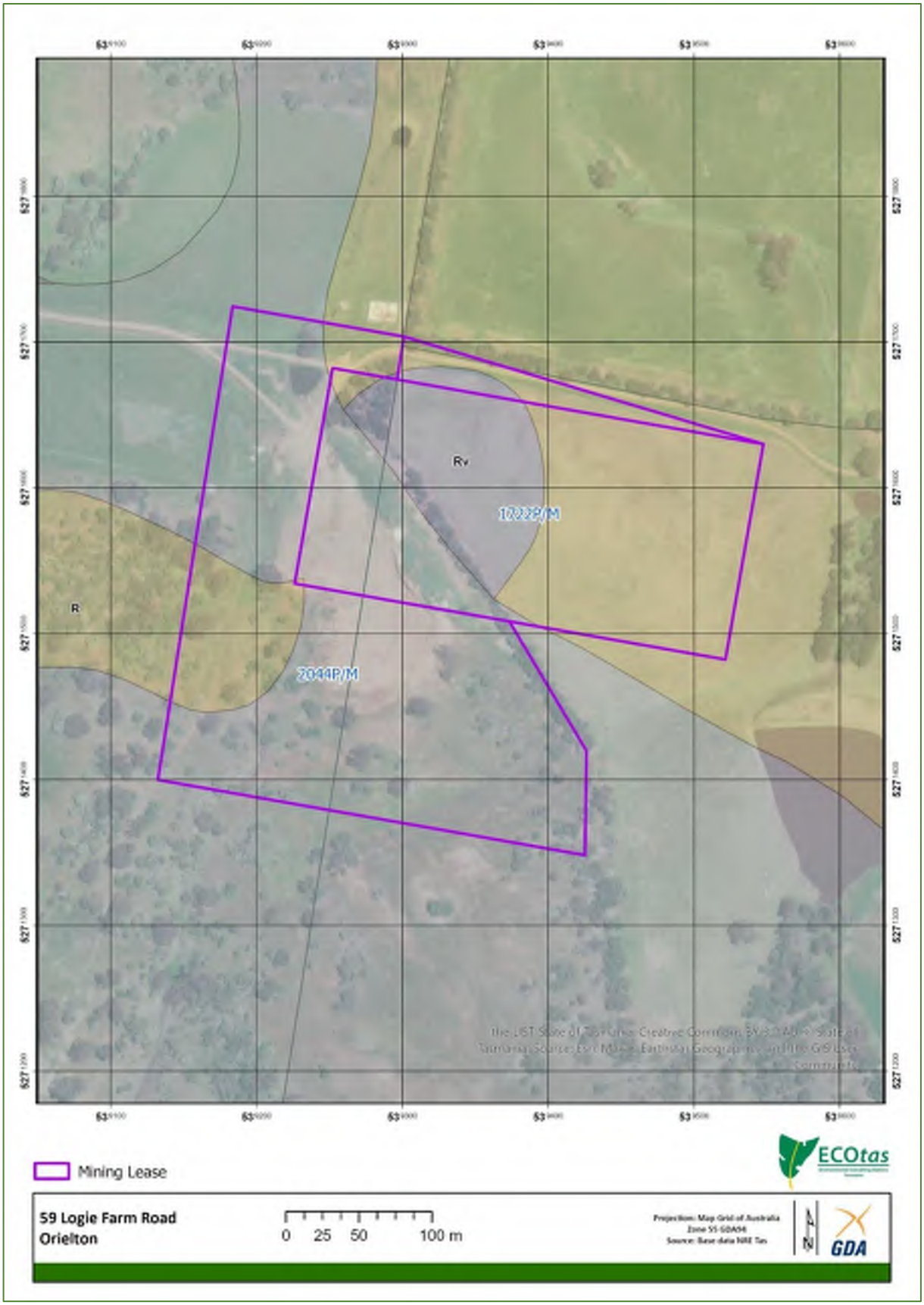

Figure 7b. Geology (1:25,000 scale) of study area (refer to text for codes)

METHODS

Nomenclature

All grid references in this report are in GDA94, except where otherwise stated.

Vascular species nomenclature follows de Salas & Baker (2024) for scientific names and Wapstra et al. (2005+) for common names. Fauna species scientific and common names follow the listings in the cited *Natural Values Atlas* report (DNRET 2024a).

Vegetation classification follows TASVEG 4.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation (*Kitchener & Harris 2013+).

Preliminary investigation

Available sources of previous reports, threatened flora records, vegetation mapping and other potential environmental values were interrogated. These sources include:

- Tasmanian Department of Natural Resources and Environment Tasmania's *Natural Values Atlas* records for threatened flora and fauna (GIS coverage maintained by the authors current as at date of report);
- Tasmanian Department of Natural Resources and Environment Tasmania's *Natural Values Atlas* report ECOtas_LogieFarmQuarry for a polygon defining the mining leases (centred on 539320mE 5271540mN), buffered by 5 km, dated 19 Sep. 2024 (DNRET 2024a) – Appendix E;
- Forest Practices Authority's *Biodiversity Values Database* report, specifically the species' information for grid reference centroid 539320mE 5271540mN (i.e. a point defining the approximate centre of the mining lease), buffered by 5 km and 2 km for threatened fauna and flora records, respectively, hyperlinked species' profiles and predicted range boundary maps, dated 19 Sep. 2024 (FPA 2024) – Appendix F;
- Commonwealth *Protected Matters Report* for a polygon defining the mining lease, buffered by 5 km, dated 19. Sep. 2024 (CofA 2024) – Appendix G;
- TASVEG vegetation coverages (as available through GIS coverage and via LISTmap);
- Google Earth, LISTmap and ESRI aerial orthoimagery; and
- other sources listed in tables and text as indicated.

Field assessment

The field assessment was undertaken on 29 Sep. 2024. The lease boundaries were uploaded to the iGIS application to guide the in-field assessment.

The survey was not limited by access due to the simple configuration of the lease areas, access roads and vegetation with very open understorey.

Note that the study area extended to a minimum of 50 m beyond the boundary of the active quarry on all sides, this extra area surveyed in relation to habitat of threatened fauna.

All data was captured using hand-held GPS (Garmin GPSMAP 66sr).

Vegetation classification

Vegetation was classified by waypointing vegetation transitions for later comparison to aerial imagery. The structure and composition of the vegetation types were described using a nominal 30 m radius plot at representative site within the vegetation types, and compiling a "running" species list for the balance of the vegetation.

Threatened flora

With reference to the threatened flora, the survey included consideration of the most likely habitats for such species. No threatened flora were encountered within the lease areas so further methods are not presented. Note that threatened flora species were recorded elsewhere on the property as part of broader surveys (refer to **FINDINGS *Plant species*** Threatened flora for more details).

Threatened fauna

Surveys for threatened fauna were largely limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs, except as indicated below.

- wedge-tailed eagle (*Aquila audax* subsp. *fleayi*)

It is noted that EPA (2024) makes reference to the potential for wedge-tailed eagle nests, as follows:

- Wedge-tailed Eagle (*Aquila audax* subsp*. fleayi*) recorded nests are not within 500 m direct distance or 1 km line-of-sight however, it should be noted that eagle pairs often have several nests in their territory. As a result, the likelihood of finding additional nests within 2 km of a known nest is high. Land 500 m south of the quarry (538620E, 5270836N) and 950 m southwest of the quarry (539420E, 5270979N) is mapped as having a medium to high potential for eagle nesting habitat. Undertake an eagle nest survey, by a suitably qualified and experienced person, of eagle nesting habitat within 500 m direct distance or 1 km line-of-sight of the quarry to determine if any unknown nests are present. Searches for the presence of nests should be undertaken outside of the breeding season.

The Forest Practices Authority, in conjunction with DPIPWE (now DNRET), developed a model of nesting habitat of the wedge-tailed eagle (and white-bellied sea-eagle), described in FPA (2014), with the spatial model available as a free download from the Authority's web site for use in GIS packages or through LISTmap (low elevation model). The model can be used to indicate the relative likelihood of nest occurrence across the State, based on a range of variables. It is noted, however, that the model and its use were developed for wood production activities and may have less applicability to different types of development proposals. The output of the model is presented as a series of polygons coded 0-8. The different 'gridcode' values in the model indicate the relative likelihood that an eagle nest will be found in a particular area. For example, a gridcode value of '8' indicates a nest is very likely to be found (similar to a probability of presence value of 0.8-0.9), while a gridcode value of '0' indicates a low likelihood of finding a nest (probability<0.1). There is no set level at which nest surveys are recommended, but the larger the search area the more nests are likely to be located, and to capture most nests (70-80%), areas of gridcode '3' and higher should be searched (FPA 2014). The model must be regarded as a general guideline only and should

always be interpreted carefully based on actual site features, with particular emphasis on vegetation mapping veracity. With respect to the latter, the model uses TASVEG forest vegetation mapping as one of its variables, which is variably accurate.

As part of the present assessment, all modelled habitat (grids 3 and above) within 500 m of the active quarry area (i.e. the actual "footprint" of the facility) and within 1 km line-of-sight was searched for nests (on-ground search by two people) as part of a broader assessment of the mining leases and surrounds for other natural values including threatened flora (refer to **FINDINGS *Plant species*** Threatened flora for more details).

In addition, modelling of potential nesting habitat within line-of-sight of the actual quarry facility was undertaken by randomly placing points at ca. 1.6 m above the ground (i.e. eye level) and viewing outwards from the quarry to see what can be seen, which was then overlaid with the previously described eagle nest model to determine any additional areas warranting a survey.

- Tasmanian devil (*Sarcophilus harrisii*)

It is noted that EPA (2024) makes reference to the potential for Tasmanian devil dens, as follows:

- There are records of Tasmanian devil, listed as endangered under both the TSPA and EPBC Act within 5 km of the quarry and the quarry is within the devil's core range.
    - If previously undisturbed ground is to be disturbed, it is recommended that the impact site is surveyed in accordance with the *Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals* (The Devil Guidelines): Survey Guidelines for Development Assessments | Department of Natural Resources and Environment Tasmania (nre.tas.gov.au).
    - If any potential dens sites for the Tasmanian devil are recorded at the impact site and are likely to be impacted by the proposal, these should be monitored and managed in accordance with the *Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals:* Survey Guidelines for Development Assessments | Department of Natural Resources and Environment Tasmania (nre.tas.gov.au). Any dens that cannot be avoided will require a permit to take under the *Nature Conservation Act 2002*.

The survey was deliberately extended by a minimum of 50 m beyond the boundary of the active quarry on all sides to search for potential dens of marsupial carnivores. It is confidently stated that at least a 90% visual coverage of the study area was achieved.

- swift parrot (*Lathamus discolor*)

It is noted that EPA (2024) makes reference to the potential for swift parrot habitat, as follows:

- There are records in the area for swift parrots, listed as endangered under the TSPA and Critically Endangered under the EPBCA and the site is within range of potential foraging habitat. Any tree in this area which is 70 cm diameter at breast height (DBH) or more, has the capacity to bear hollows large enough to be suitable nesting habitat for swift parrots. Any nesting habitat within 10 km of foraging habitat may be used for breeding.
    - Detail if tree removal is proposed and engage a suitably qualified and experienced person to survey suitable swift parrot nesting trees (70 cm DBH or larger).

The survey included consideration of all standing trees, noting that none are proposed for removal. The survey included mapping the location of any trees over ca. 70 cm DBH with hollows that may also be suitable for the masked owl (*Tyto novaehollandiae* subsp. *castanops*), again noting that no such trees are proposed for removal.

Weed and hygiene issues

The lease areas were assessed with respect to plant species classified as declared weeds under the Tasmanian *Weed Management Act 1999*, Weeds of National Significance (WoNS) or potential "environmental weeds" (author opinion and as included in *A Guide to Environmental and Agricultural Weeds of Southern Tasmania*, NRM South 2017).

The lease areas were assessed with respect to potential impacts of plant and animal pathogens, by reference to habitat types and field symptoms.

FINDINGS

Vegetation types

Comments on TASVEG mapping

This section, which comments on the existing TASVEG mapping for the study area, is included to highlight the differences between existing mapping and the more recent mapping from the present study to ensure that any parties assessing land use proposals (via this report) do not rely on existing mapping. Note that TASVEG mapping, which was mainly a desktop mapping exercise based on aerial photography, is often substantially different to ground-truthed vegetation mapping, especially at a local scale. An examination of existing vegetation mapping is usually a useful pre-assessment exercise to gain an understanding of the range of habitat types likely to be present and the level of previous botanical surveys.

In this case, it is useful to examine TASVEG 3.0, 4.0 & Live mapping because while the latter should be the most up-to-date, the former has been used to inform the *Tasmanian Planning Scheme* and specifically the Regional Ecosystem Model's mapping of the Priority Vegetation Area overlay.

In this case, all available versions of TASVEG are identical, summarised as follows (Figure 8):

- agricultural land (TASVEG code: FAG)

  Most of the lease areas are mapped as FAG, reflecting the long and continuing use as primary production land.

- lowland grassland complex (TASVEG code: GCL)

  GCL is mapped in the southwestern portion of 2044P/M and a small part of 1722P/M, although it is noted that the boundary between GCL & FAG is sharply delineated and seemingly based on cadastral features rather than aerial imagery differences in actual vegetation.

Vegetation types recorded as part of the present study

Vegetation types have been classified according to TASVEG 4.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation* (Kitchener & Harris 2013+). Table 1 provides information on the mapping units identified from the lease areas (Figure 9). See Appendix A for a more detailed description of the native vegetation present.

Table 1. Vegetation mapping units present in lease areas

[conservation status: NCA – as per Schedule 3A of the Tasmanian *Nature Conservation Act 2002*, using units described by Kitchener & Harris (2013+), relating to TASVEG mapping units (DNRET 2024a); EPBCA – as per the listing of ecological communities on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, relating to communities as described under that Act, but with equivalencies to TASVEG units]

TASVEG mapping unit (Kitchener & Harris 2013+)	**Conservation priority** NCA *EPBCA*	**Comments**
Dry eucalypt forest and woodland		
Eucalyptus viminalis grassy forest and woodland (DVG)	not threatened *not threatened*	DVG occurs on the insolated north-facing slopes west, southwest and south of the existing quarry. The area mapped as DVG has a very open woodland structure, most barely qualifying as DVG and perhaps better considered as a facies of GCL or FAG (or a mosaic of the two) or perhaps *Bursaria – Acacia* woodland and scrub (TASVEG code: NBA). *Eucalyptus viminalis* forms a sparse and low canopy, generally over a scattered layer of tall shrubs, in turn over a grassy understorey dominated by naturalised species, with native species only locally dominant. A long grazing history has altered the structure and composition of DVG, although it is relatively free of declared weeds and shows no symptoms of plant disease apart from scattered trees with "ginger tree syndrome".
Modified land		
agricultural land (FAG)	not threatened *not threatened*	FAG is mapped across the sheep-grazed paddocks but also includes the planted shelterbelts, small dam and farm roads and tracks. In some ways, the area coded as FRG may be better coded as a facies of FAG.
regenerating cleared land (FRG)	not threatened *not threatened*	FRG is mapped on the north-facing slopes south and southeast of the existing quarry facility. The species composition is such that classification as lowland grassland complex (TASVEG code: GCL) is marginal but classification as FAG is also only marginally acceptable. The extent of exposed rock, albeit quite local, means that some parts coded as FRG could be excised as rockplate grassland (TASVEG code: GRP), although again the species composition is very much in favour of naturalised over native species. FRG is in relatively poor condition with the dominance in grasses in favour of naturalised (e.g. *Dactylis glomerata*, *Agrostis capillaris*, *Anthoxanthum odoratum*, etc.) over native species (*Austrostipa*, *Rytidosperma* and *Themeda triandra*). Declared (e.g. *Lycium ferocissimum*, *Marrubium vulgare*) and other (e.g. species of thistle) are locally common in one part of the site.
extra-urban miscellaneous (FUM)	not threatened *not threatened*	FUM is the mapping unit used to describe miscellaneously disturbed areas associated with human activities. In this regard, FUM describes the existing quarry area and immediate surrounds.

Conservation significance of identified vegetation types

None of the identified mapping units equate to native vegetation communities listed as threatened under Schedule 3A of the Tasmanian *Nature Conservation Act 2002* or to threatened ecological communities under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999*.

Occurrences of DVG, FAG, FRG & FUM do not meet the intent of "priority vegetation" pursuant to the Natural Assets Code of the *State Planning Provisions*, which is defined as follows:

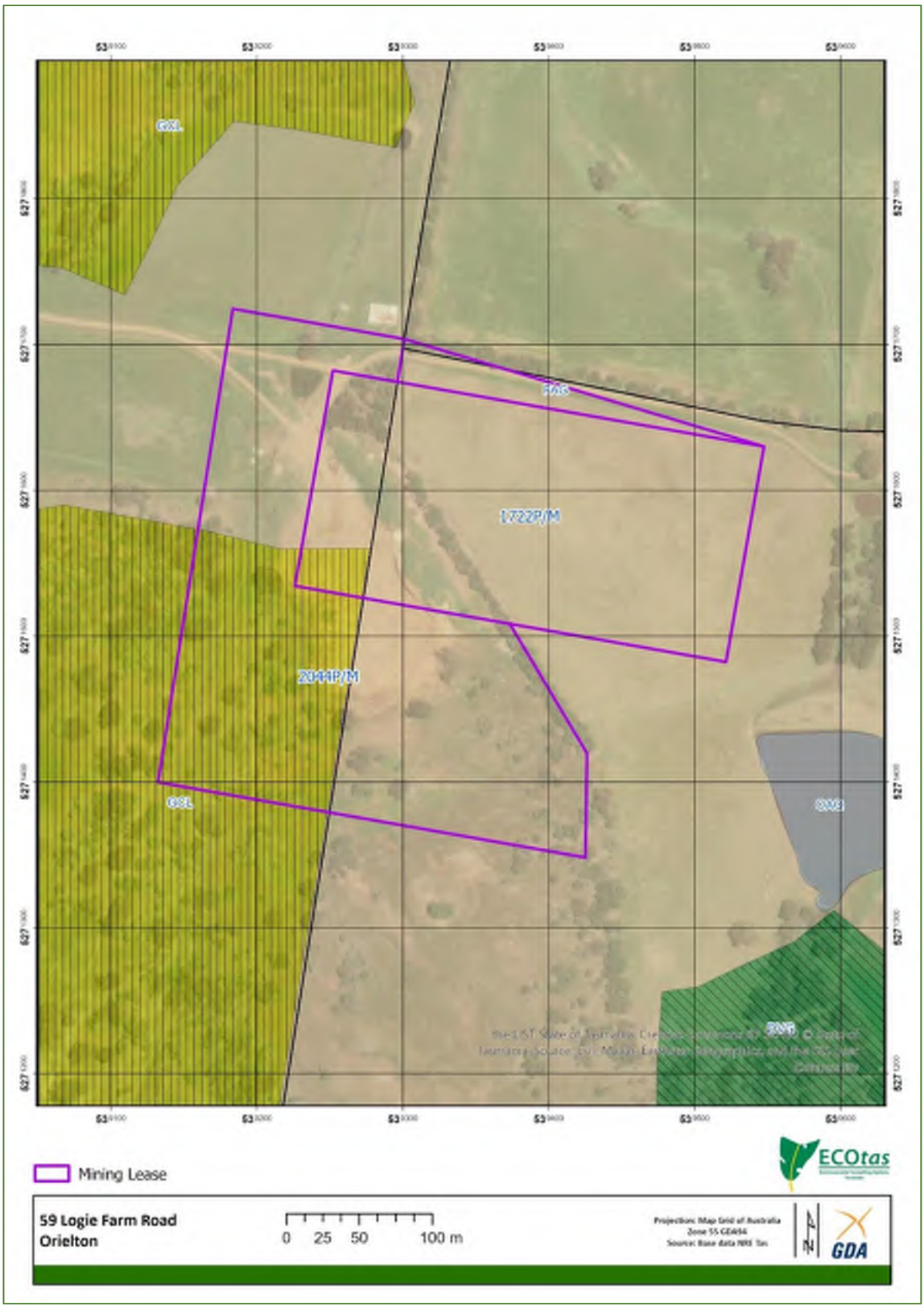

Figure 8. Study area and surrounds showing existing TASVEG 3.0, 4.0 & Live (all identical) vegetation mapping (see text for codes)

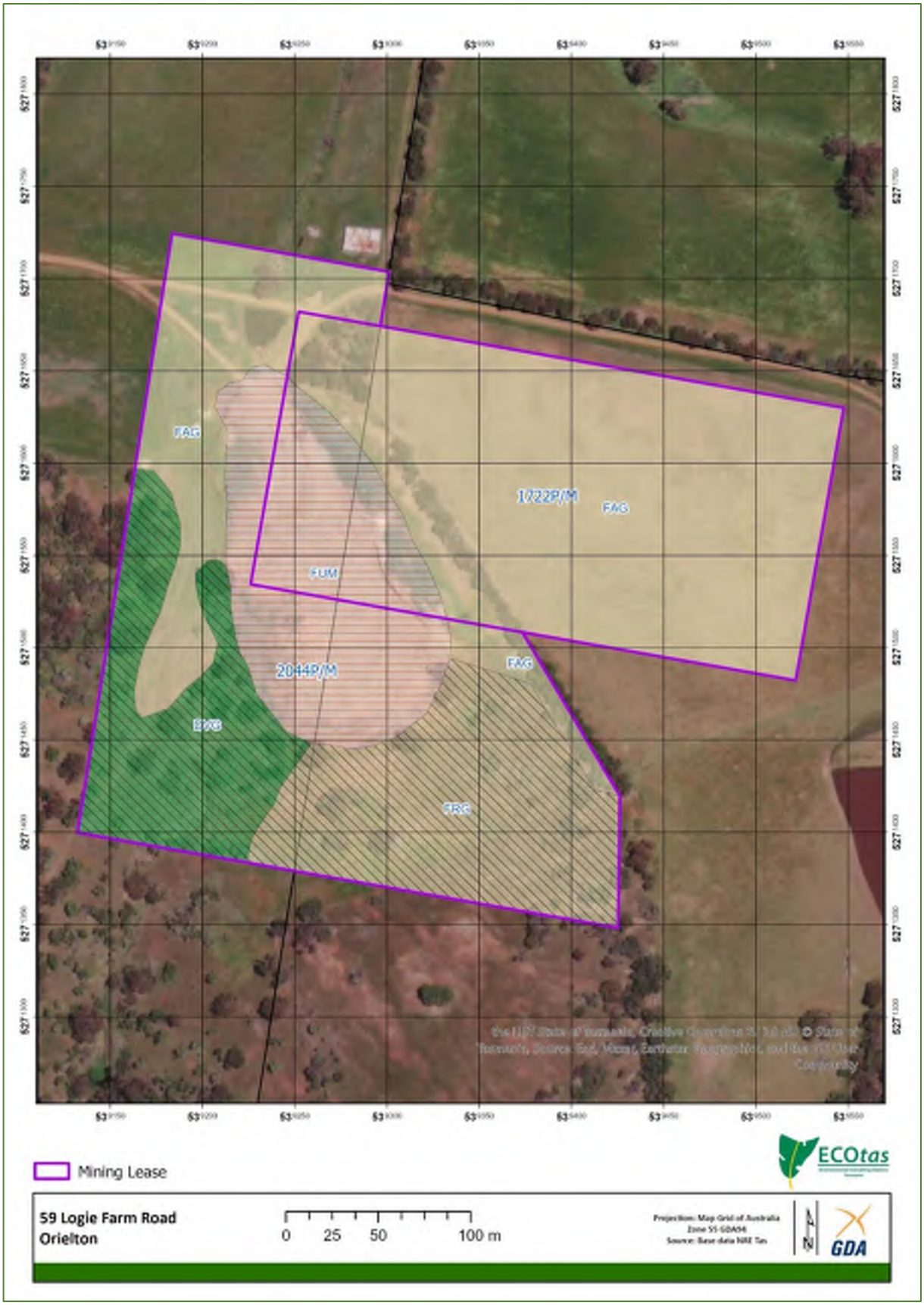

Figure 9. Revised vegetation mapping for study area (see text for codes)

FINDINGS *Vegetation types* Conservation significance of identified vegetation types continued…

C7.3 Definition of Terms

C7.3.1 In this code, unless the contrary intention appears:

means native vegetation where any of the following apply:

(a) it forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the *Nature Conservation Act 2002*;

(b) is a threatened flora species;

(c) it forms a significant habitat for a threatened fauna species; or

(d) it has been identified as native vegetation of local importance.

That is, C7.3.1(a) is not applicable.

Plant species

General information

A total of 71 vascular plant species were recorded from the working part of the lease areas and immediate surrounds (Appendix B), comprising 47 dicotyledons (including 29 naturalised species) and 24 monocotyledons (including 12 naturalised species).

Additional surveys at different times of the year may detect additional short-lived herbs and grasses but a follow-up survey is not considered warranted because of low likelihood of species with a high priority for conservation management being present (see notes below).

Threatened flora

Database information indicates that the lease areas and surrounds do not support known populations of flora listed as threatened on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and/or the Commonwealth *Environment Protection and Biodiversity Protection Act 1999* (EPBCA) (Figure 10). The site assessment did not detect any such species from the lease areas.

Figure 10 indicates threatened flora species near to the lease area and Table C1 (Appendix C) provides a listing of threatened flora from within 5,000 m of the lease area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

It is acknowledged that the lease areas provide potential habitat for several listed species such as species of *Scleranthus*, *Vittadinia* and several annually-flowering ephemeral herbs. Potential habitat is present within the existing quarry areas such as worked faces and ledges but also in the wider extent of the lease areas in the form of dolerite exposures in grassy habitat. These areas were all thoroughly searched with no threatened flora being detected. However, such micro-habitats did support a suite of annually-flowering herbs (both native and naturalised species) indicating that the timing of survey was appropriate. This was supported by a wider survey of the private title that resulted in the detection of numerous annually-flowering species (most notably a high diversity of

Figure 10a. Distribution of threatened flora close to study area (overview)

Figure 10b. Distribution of threatened flora close to study area (detail)

FINDINGS *Plant species* Threatened flora continued…

orchid species) including annual/semi-annual threatened species such as *Vittadinia muelleri* (narrowleaf new-holland-daisy), *Scleranthus fasciculatus* (spreading knawel) and *Hyalosperma demissum* (moss sunray) (Figure 11).

The absence of populations of threatened flora means that the site is not "a threatened flora species" [sic] such that it cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(b) of the *State Planning Provisions* (see previous citation of definition of "priority vegetation" at **FINDINGS *Vegetation types*** Conservation significance of identified vegetation types).

Threatened fauna

Database information indicates that the lease area does not support known populations of fauna listed as threatened on either the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth *Environment Protection and Biodiversity Protection Act 1999* (Figure 12). Site assessment did not detect any such species.

Figure 12 indicates threatened fauna species near to the study area and Table D1 (Appendix D) provides a listing of threatened fauna from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

The lease area is considered to support potential habitat (to varying degrees of marginality) of the following threatened fauna species:

- *Sarcophilus harrisii* (Tasmanian devil);
- *Dasyurus maculatus* subsp. *maculatus* (spotted tailed quoll);
- *Dasyurus viverrinus* (eastern quoll);
- *Perameles gunnii* (eastern barred bandicoot);
- *Aquila audax* subsp. *fleayi* (wedge-tailed eagle); and
- *Tyto novaehollandiae* (masked owl).

Further information on these species is provided below. Refer to Appendix D for further discussion of additional species for which potential habitat is considered more marginal.

- marsupial carnivores

Three species (*Sarcophilus harrisii*, Tasmanian devil; *Dasyurus maculatus* subsp. *maculatus*, spotted-tailed quoll; *Dasyurus viverrinus,* eastern quoll) are considered collectively because they have broadly similar habitat and management requirements.

Potential habitat for *Sarcophilus harrisii* is all terrestrial native habitats, forestry plantations and pasture. Devils require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and hunting habitat (open understorey mixed with patches of dense vegetation) within their home range (427 km^2) (FPA 2024). Significant habitat for *Sarcophilus harrisii* is a patch of potential denning habitat where three or more entrances (large enough for a devil to pass through) may be found within 100 m of one another, and where no other potential denning habitat with three or more

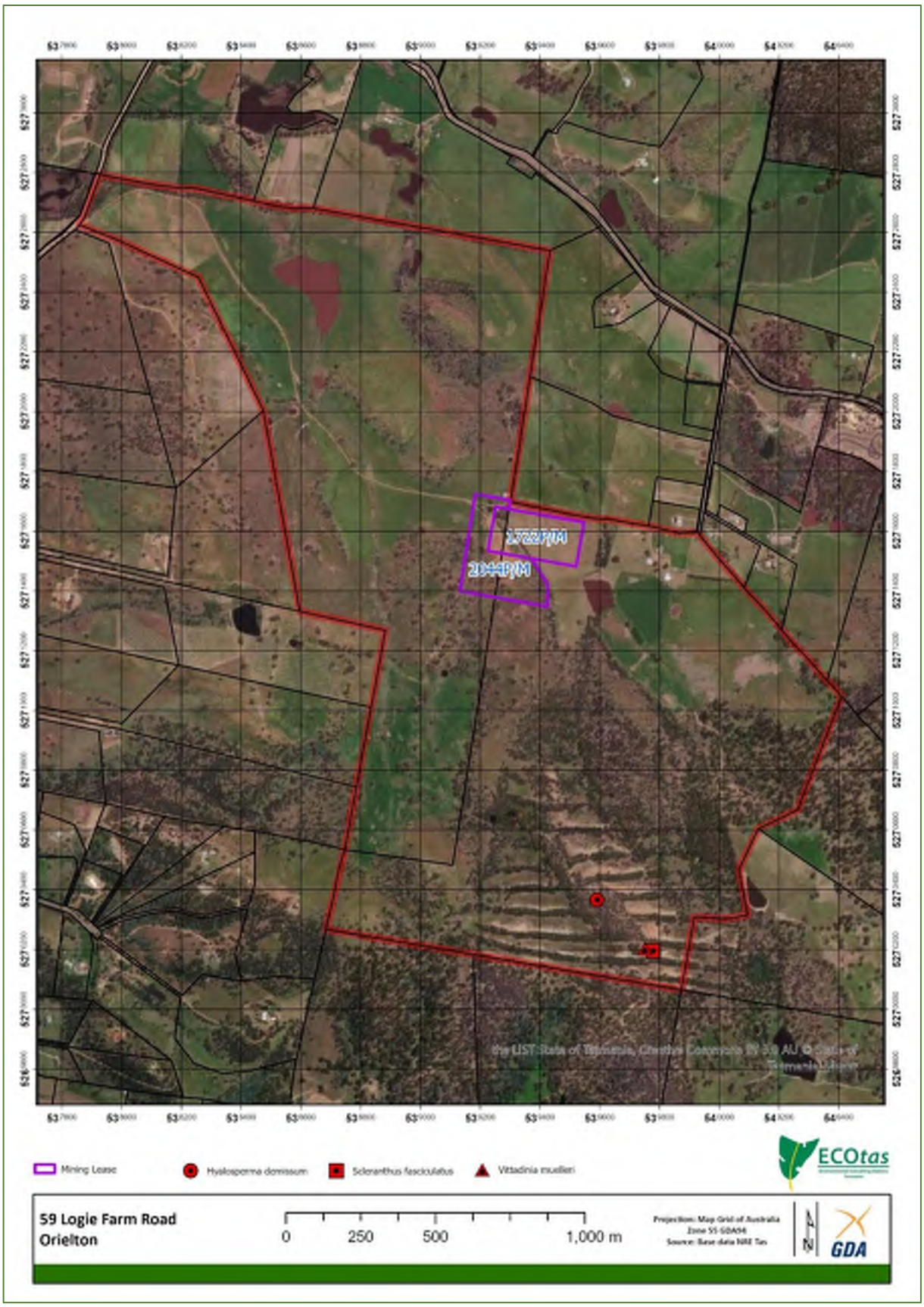

Figure 11. Distribution of threatened flora (novel records – this study) from wider property area

Figure 12a. Distribution of threatened fauna close to study area (overview)

Figure 12b. Distribution of threatened fauna close to study area (detail)

FINDINGS *Threatened fauna* continued…

entrances may be found within a 1 km radius, being the approximate area of the smallest recorded devil home range. Potential denning habitat is areas of burrowable, well-drained soil, log piles or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass (FPA 2024).

Under the *Survey Guidelines and Management Advice for Development Proposals that may Impact on the Tasmanian Devil (*Sarcophilus harrisii*): A Supplement to the Guidelines for Natural Values Surveys – Terrestrial Development Proposals* (DPIPWE 2015), the survey assessed the whole of the existing quarry facility and a ca. 50 m buffer around this (but this meandered out to ca. 100 m in places a spart of broader surveys) for potential den sites such as suitable hollow logs, cliffs with small caves or wombat burrows or any evidence of these species such as distinctive scats. No suspected dens were recorded. It is notable that the study area does not contain any caves or rocky overhangs. No wombat burrows (active or old) were recorded. Coarse woody debris is essentially absent with no large logs with hollow centres due to the past primary production activities. That is, potential denning habitat is effectively absent. No evidence of the species in the form of distinctive scats was noted on any parts of the study area. No other evidence such as footprints in muddy/sandy areas or urogenital drags were observed. We are confident that the meandering transect survey method applied to the natural values assessment in this relatively small area of almost effectively unsuitable denning habitat provided a visual coverage far in excess of the minimum 30% recommended in DPIPWE (2015) – much closer to 95% coverage.

Technically, the whole lease area provides potential habitat for *Sarcophilus harrisii* at some level but is not regarded as significant habitat at any reasonable scale.

Potential habitat for *Dasyurus maculatus* subsp. *maculatus* is coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex and steep rocky areas are present, and includes remnant patches in cleared agricultural land (FPA 2024). Significant habitat for *Dasyurus maculatus* subsp. *maculatus* is all potential denning habitat within the core range of the species. Potential denning habitat for the spotted-tailed quoll includes 1) any forest remnant (>0.5 ha) in a cleared or plantation landscape that is structurally complex (high canopy, with dense understorey and ground vegetation cover), free from the risk of inundation, or 2) a rock outcrop, rock crevice, rock pile, burrow with a small entrance, hollow logs, large piles of coarse woody debris and caves (FPA 2024).

That is, the whole lease area provides potential habitat for *Dasyurus maculatus* subsp. *maculatus* at some level but is not regarded as significant habitat at any reasonable scale. See also notes under Tasmanian devil with respect to den sites (not observed) and scats/footprints (none observed).

Potential habitat for *Dasyurus viverrinus* is a variety of habitats including rainforest, heathland, alpine areas and scrub. However, it seems to prefer dry forest and native grassland mosaics which are bounded by agricultural land (FPA 2024).

That is, the whole lease area provides potential habitat for *Dasyurus viverrinus* at some level but is not regarded as significant habitat at any reasonable scale. See also notes under Tasmanian devil with respect to den sites (not observed) and scats/footprints (none observed).

Under the *Survey Guidelines and Management Advice for Development Proposals that may Impact on the Tasmanian Devil (*Sarcophilus harrisii*): A Supplement to the Guidelines for Natural Values Surveys – Terrestrial Development Proposals* (DPIPWE 2015), the following is recommended in relation to assessing the potential risk of roadkill from a project:

> "3.7 Roadkill assessment
>
> To be conducted where desktop assessment of the local devil population and the projected roadkill risk indicate potential for a substantial impact on the local population (i.e. predicted >10 % increase in deaths). Ideally, the survey should be conducted regularly over a long period of time, preferably

covering all seasons (noting that January to April is when peak roadkill of weaned devils may occur). Notwithstanding the previous point, at a minimum, survey of road-killed devils should cover one of the following set periods of time - either 3 months for weaned devils between January and April or 6 months over the remainder of the year.

Additional notes:

- If assessing the impact of traffic associated with a proposed development on the devil, it is necessary to understand the current roadkill rate, potential construction phase roadkill rate, and potential post-development roadkill rate.
- It can be difficult to attribute the relative contribution of an individual proposed development to roadkill rates on public roads. Where this is an issue, it should be resolved by extending the impact assessment area to the point on a road at which it no longer represents a potential increase in the risk of roadkill of greater than 10 % using a parameter relevant to the proposed development or activity (e.g. to a point where the proposed land use activity is no longer responsible for a greater than 10 % increase in the volume or speed of night time traffic)".

The *Guidelines* intend for roadkill mitigation to be implemented if a development is projected to increase the rate of roadkill by more than 10%. Devils (and quolls) are mainly nocturnal, hence the concern is primarily if a project will result in a substantial increase in traffic between dusk and dawn. Even if this proposal were to generate an increase of greater than 10% in daytime traffic, there is little evidence that this would lead to any increase in the rate of roadkill of devils (and quolls). As this project is understood, the risk of an increase in the rate of roadkilled devils (and quolls) is very low because: (a) the quarry will be operated as needed only; (b) all vehicle movements will be in daytime hours, and (c) traffic volumes are likely to be low and restricted to the existing internal farm road that can be limited to an appropriate speed during nocturnal, dusk and dawn hours to minimise the risk of roadkill (e.g. 40 km/h) and are otherwise restricted to this speed or less due to their windy nature, relatively narrow width and location on an operational farm with stock, vehicle and people movements.

On this basis, unless the proponent presents evidence that clearly demonstrates a significant risk of the incidence of roadkill of devils (and quolls) increasing (e.g. if there will be substantial dusk to dawn vehicle movements), this project should not require special management for the Tasmanian devil, spotted-tailed quoll and eastern quoll.

- *Perameles gunnii* (eastern barred bandicoot)

Potential habitat is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland. Significant habitat is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species – this site is not within the core range (FPA 2024), in fact the species is not listed in FPA (2024).

Woodlands and open forests with a grassy understorey and grassland habitat elements are present within and surrounding the study area. No evidence of this species was noted (such as distinctive diggings), however, it is likely that the species utilises the greater area for foraging. Any proposal is unlikely to have a significant impact on this species within the broader context of land use history in the area.

- *Tyto novaehollandiae* subsp. *castanops* (masked owl)

Potential habitat is all areas with trees with large hollows (≥15 cm entrance diameter). Significant habitat for the masked owl is any area of native dry forest, within the core range, with trees with large hollows (≥15 cm entrance diameter) (FPA 2024). Marginally outside the lease areas, a single

tree matching the conservative description of potential nesting habitat was recorded (Plate 17, Figure 13). There was no evidence of use by the masked owl around the base of this tree (such as feathers, whitewash, pellets, carrion, etc.), although it is recognised that such evidence of contemporary use can be hidden. Tapping of the tree failed to elicit a response from any occupants of potential hollows. Given that this tree is outside the lease area and also ca. 125 m from the edge of the existing quarry, any works are not anticipated to impact on this tree (even if it were occupied) such that further survey and/or management is not considered warranted.

- *Lathamus discolor* (swift parrot)

Potential foraging habitat is absent because both *Eucalyptus globulus* (blue gum) and *Eucalyptus ovata* (black gum) are absent. Potential nesting habitat is also considered to be absent. Within the actual quarry footprint and its immediate surrounds (i.e. where any works will be undertaken), there are no individuals of *Eucalyptus* present (e.g. Plates 7-12). Within the wider area, a single stag with hollows was recorded on the margin of the main area of pasture (Plate 17, Figure 13).

Plate 17. Only hollow-bearing tree (stag) recorded from lease areas (no intention to remove this tree)

- *Aquila audax* subsp*. fleayi* (wedge-tailed eagle)

Note that the following also effectively considers the potential impact to *Haliaeetus leucogaster* (white-bellied sea-eagle).

Potential habitat comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is a wide variety of forest (including areas subject to native forest silviculture) and non-forest habitats. Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest. Nest trees are usually amongst the largest in a locality. They are generally in sheltered positions on leeward slopes, between the lower and mid sections of a slope and with the top of the tree usually lower than the ground level of the top of the ridge, although in some parts of the State topographic shelter is not always a significant factor (e.g. parts of the northwest and Central Highlands). Nests are usually not constructed close to sources of

disturbance and nests close to disturbance are less productive. More than one nest may occur within a territory but only one is used for breeding in any one year. Breeding failure often promotes a change of nest in the next year. Significant is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where the nest tree is still present) (FPA 2024).

There are four nests previously reported nests that may need to be taken into account in some manner, as follows (Figure 14a):

- RND #2491 ("660 me SE of 'Brinktop'")

  This nest is located ca. 1,535 m south-southeast of the southern edge of the quarry. The nest is well down on a slope in a protected gully system on the property to the south.

- RND #3307 ("South of Brinktop")

  This nest is located ca. 1,555 m south-southwest of the southern edge of the quarry. The nest is well down on a slope in a protected gully system on the property to the south.

- RND #3307 ("1 km northwest of Camden Sugarloaf")

  This nest is located ca. 1,807 m northwest of the northern edge of the quarry. The nest is in a heavily forested gully hidden from view from the extensive paddocks between the nest and Fingerpost Road.

- RND #3315 ("1 km north of Camden Sugarloaf")

  This nest is located ca. 2,125 m northwest of the northern edge of the quarry. The nest is in a heavily forested gully hidden from view from the extensive paddocks between the nest and Fingerpost Road.

No part of the lease area is within 500 m or 1,000 m (whether in line-of-sight or not) of any of these nest sites (Figure 14a). Line-of-sight modelling indicates that no part of the lease areas is within the 1,000 m line-of-sight zone of any of these nest sites (Figure 14b).

Eagle nest modelling indicates that within 500 m of the actual quarry footprint there is virtually no modelled nesting habitat (Figure 14c). Site assessment indicated that this area is low open forest dominated by *Eucalyptus amygdalina* with perhaps two larger trees, neither of which supported nests. Within the nominal 500-1,000 m zone from the actual quarry footprint, there is a marginal amount of additional potential habitat mapped (Figure 14c). However, when line-of-sight modelling from the actual quarry is undertaken, only the very low potential nesting habitat is included (Figure 14d).

That is, all forms of modelling indicates that activities within the quarry facility and its immediate surrounds will not impact in any reasonable manner on (a) known nest sites or (b) potential nest sites within the nominal 500 m or 1,000 m line-of-sight buffers.

Under the *Tasmanian Planning Scheme*, priority vegetation can include the concept of "it forms a significant habitat for a threatened fauna species" (see previous citation of definition of "priority vegetation" at **FINDINGS *Vegetation types*** Conservation significance of identified vegetation types), where "significant habitat" is defined under the *Scheme* as follows:

> "the habitat within the known or core range of a threatened fauna species, where any of the following applies:
>
> (a) is known to be of high priority for the maintenance of breeding populations throughout the species' range; or
>
> (b) the conversion of it to non-priority vegetation is considered to result in a long-term negative impact on breeding populations of the threatened fauna species".

Figure 13. Location of only hollow-bearing observed close to lease areas

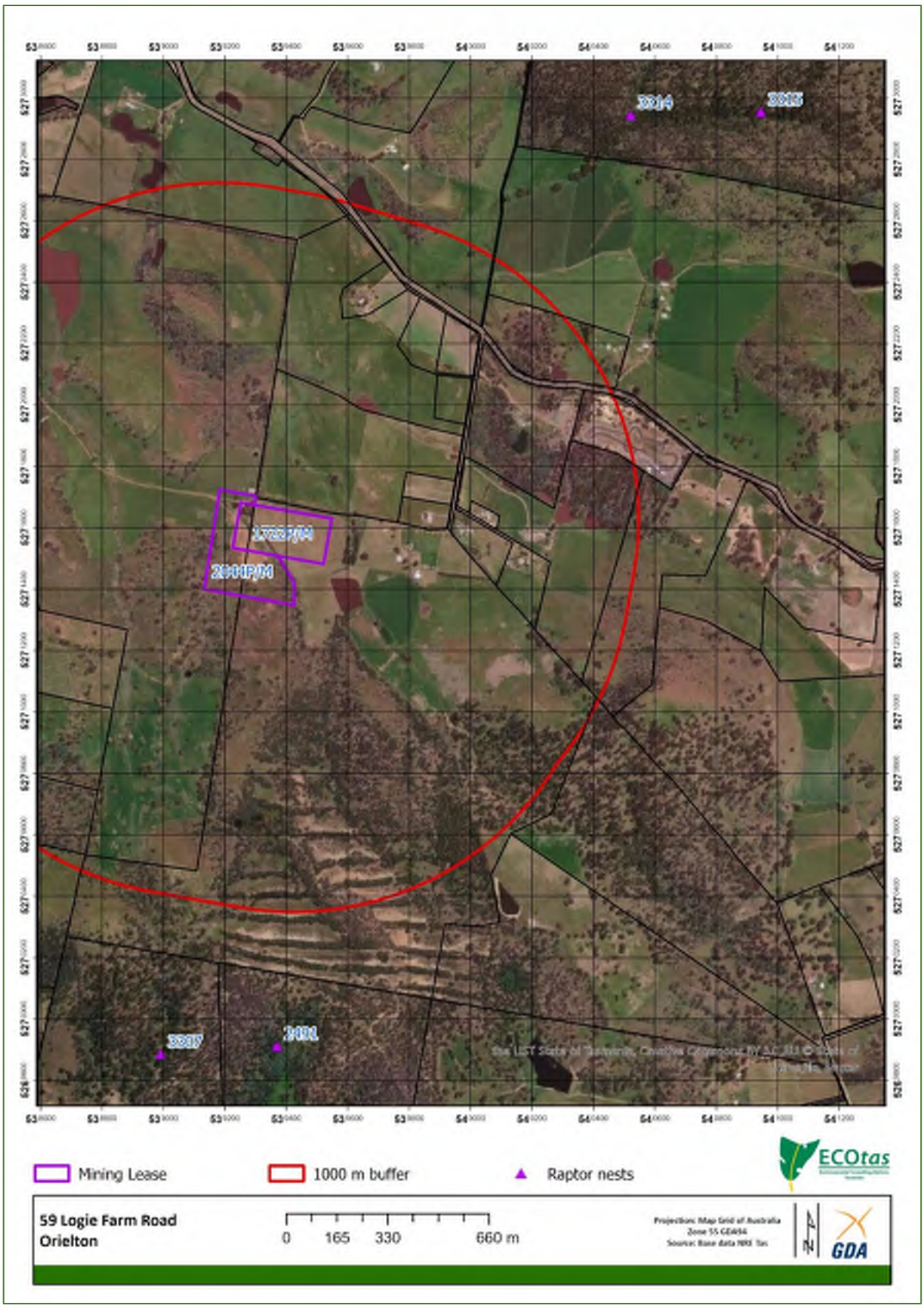

Figure 14a. Location of known eagle nests relative to lease areas showing notional 1,000 m buffer around boundary of total lease areas

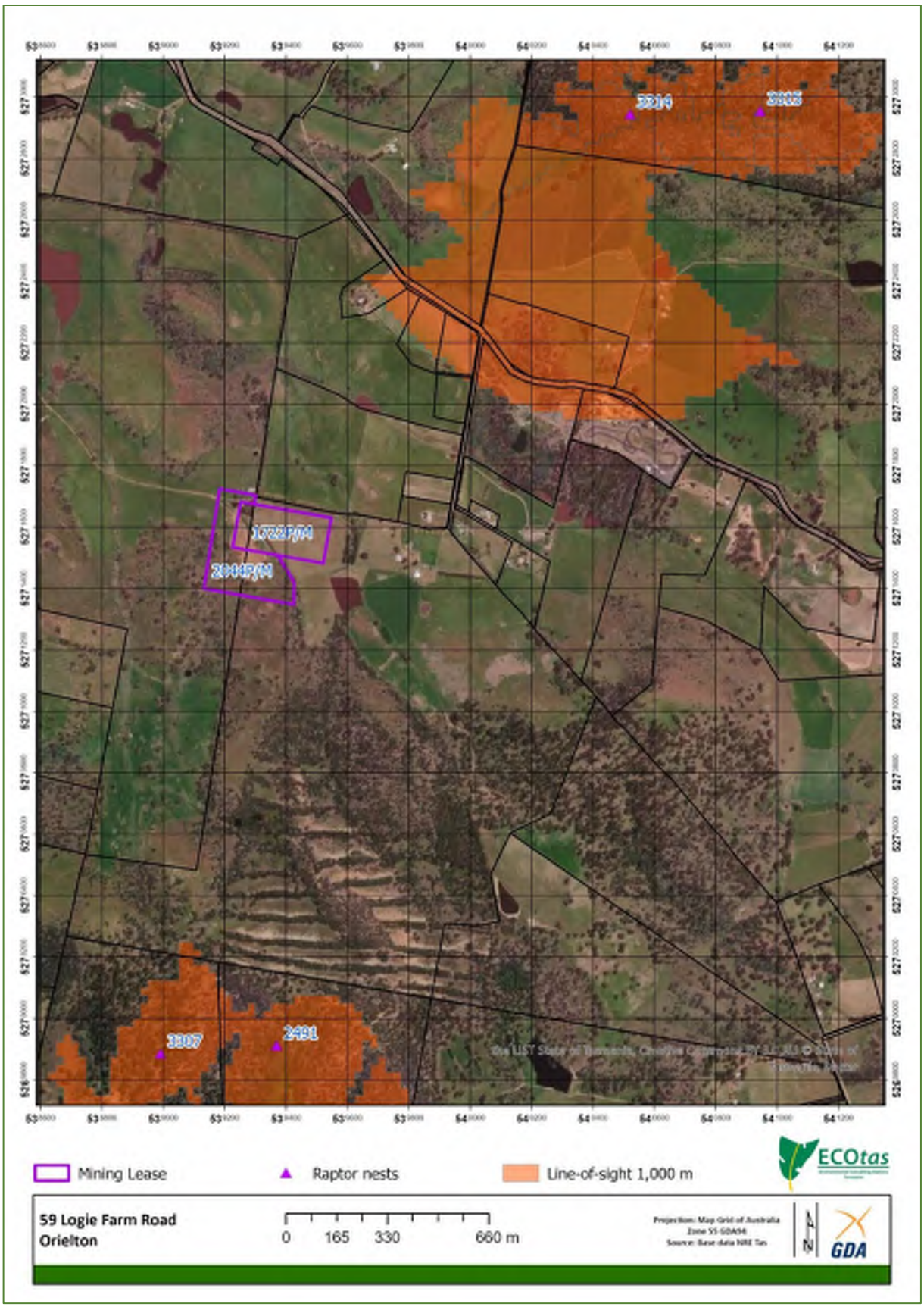

Figure 14b. Modelled line-of-sight from reported nest sites

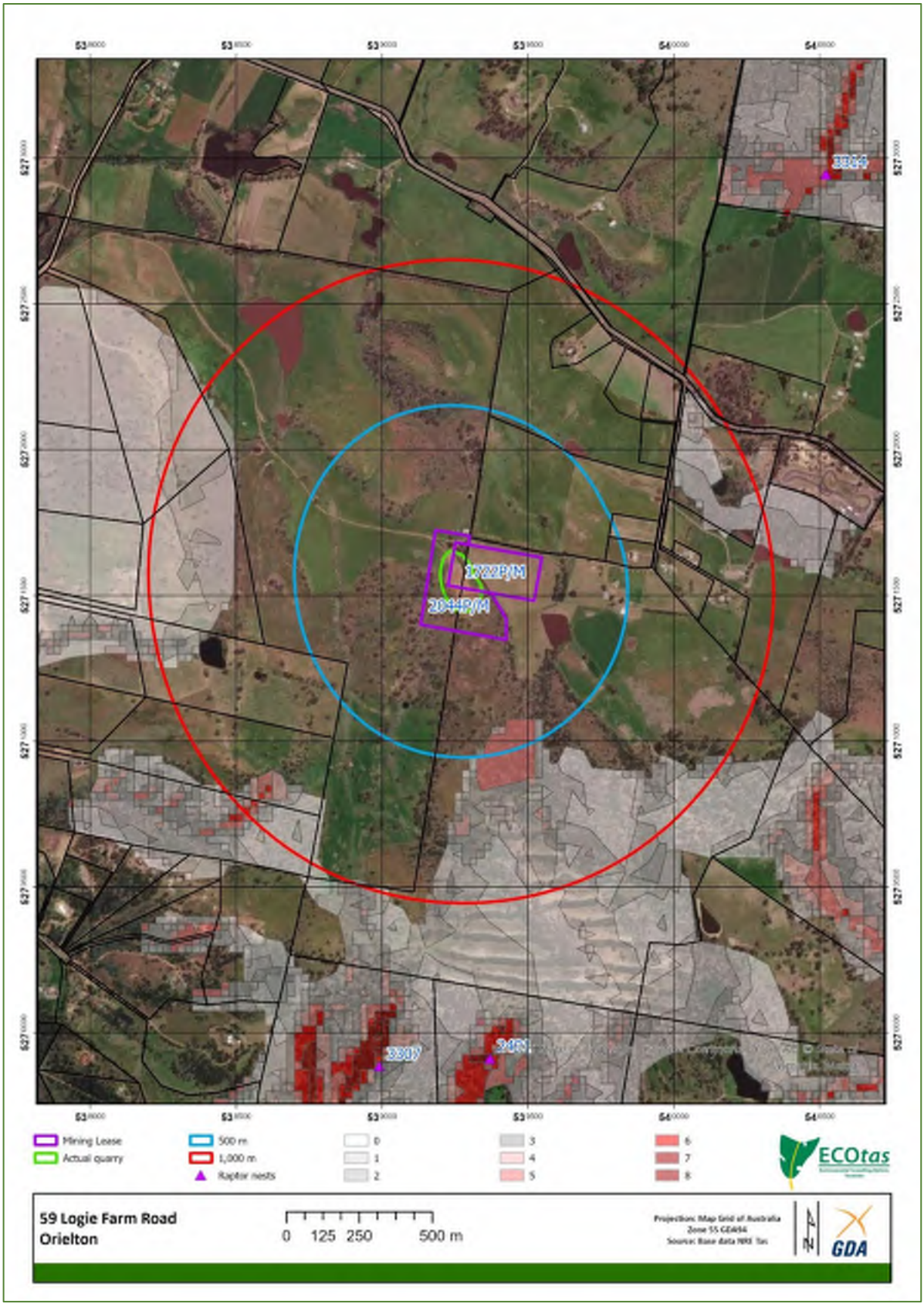

Figure 14c. Low elevation eagle nesting habitat model for study area and surrounds with actual quarry footprint and nominal 500 m and 1,000 m buffers around this indicated

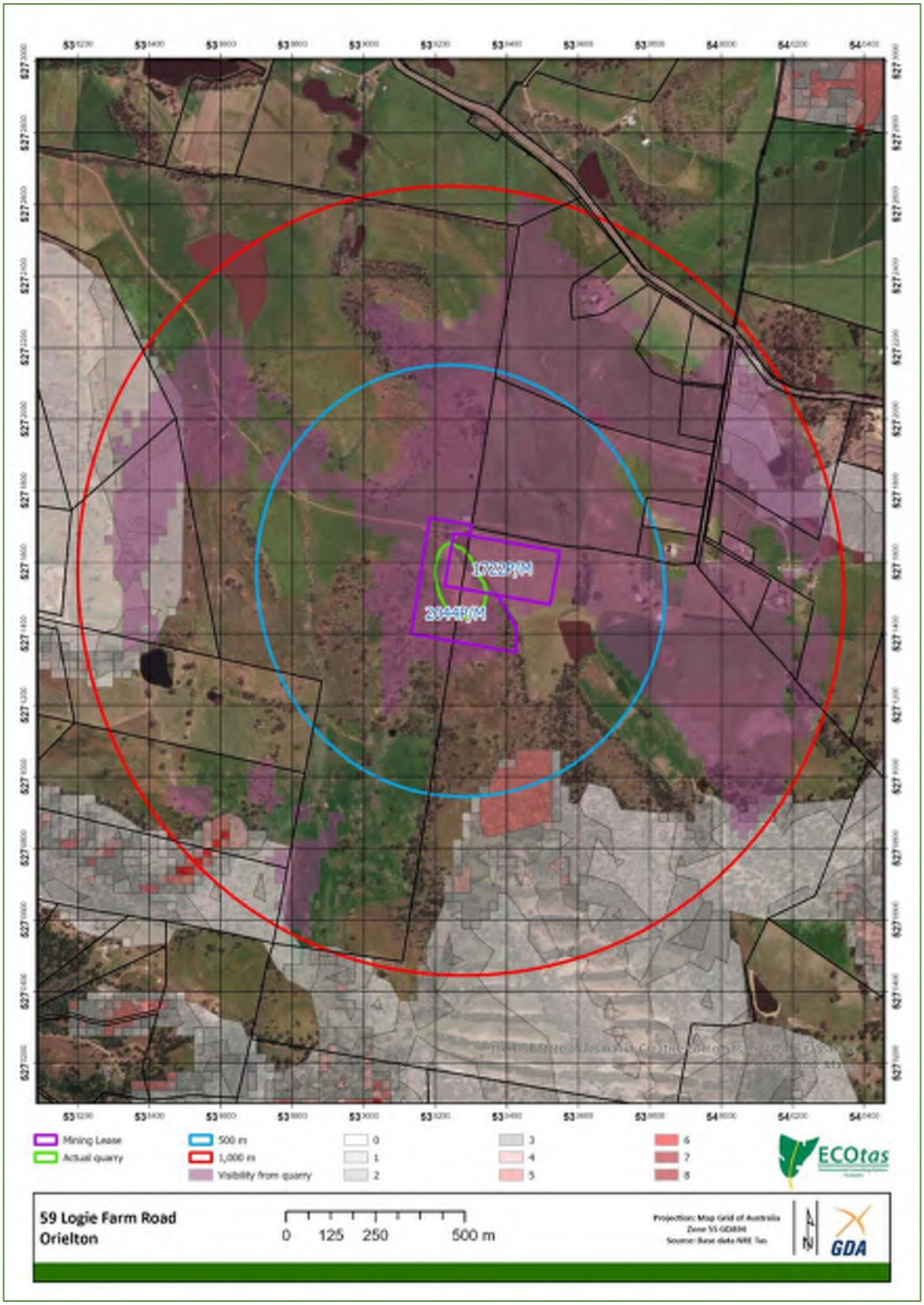

Figure 14d. Low elevation eagle nesting habitat model for study area and surrounds with actual quarry footprint and nominal 500 m and 1,000 m buffers around this indicated and modelled visibility (out to 1,000 m) from actual quarry indicated

FINDINGS *Threatened fauna* continued…

Problematically, the *Scheme* does not define the terms "known" or "core" range, which means this could rely on those used by other agencies such as the Forest Practices Authority and/or the Department of Natural Resources and Environment Tasmania, which are effectively presented in the relevant database reports (DNRET 2024a; FPA 2024). While the subject site is within the so-called "known or core range" of some listed fauna species, in no manner can any part of the site be assigned as being of "high priority for the maintenance of breeding populations throughout the species' range" at any reasonable scale (see Appendix D for a more detailed analysis of this) or be in any way construed as meeting the intent of a scenario in which "the conversion of it [i.e. "significant habitat"] to non-priority vegetation [could be] considered to result in a long-term negative impact on breeding populations of the threatened fauna species" (see also Appendix D for a more detailed analysis of this). The absence of "significant habitat" of threatened fauna means that the site does not "form[s] a significant habitat for a threatened fauna species" such that it cannot be priority vegetation (in relation to this value) pursuant to the C7.3.1 of the *State Planning Provisions*.

Other natural values

Weed species

Four plant species classified as declared weeds pursuant to the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were recorded from the study area, as follows (Figure 15):

- *Foeniculum vulgare* (fennel): scattered around northwestern end of quarry and also on its eastern edge;
- *Lycium ferocissimum* (african boxthorn): scattered around margins of quarry, along fenceline near plantings and on the slope south of the quarry;
- *Marrubium vulgare* (white horehound): as above; and
- *Nassella trichotoma* (serrated tussock): isolated non-fertile tussocks on eastern edge of quarry (not mapped, all hand-pulled and removed).

Additional "environmental weeds' (authors' opinion) are also present including (Figure 16):

- *Vinca major* (blue periwinkle): small patches on eastern verge of quarry;
- *Agapanthus praecox* subsp*. orientalis* (agapanthus): small patch of southeast fringe of quarry;
- *Verbascum thapsus* (great mullein): scattered rosettes (not mapped); and
- various species of thistle most notably *Silybum marianum* (variegated thistle): widespread (not mapped).

It is noted that EPA (2024) indicates the following in relation to weeds, pests and pathogens:

> There are 25 plant species that are declared pests under the *Biosecurity Regulations 2022* recorded within 5 km of the quarry.
>
> - List the weeds, pests and pathogens occurring on or near the site.
> - Evaluate the potential for the activity to introduce or spread weeds and diseases to, from and within the site.

- Develop a plan to control the spread of weeds and ensure that weeds present at the impact site are properly managed. Information about controlling the introduction and spread of weeds and the development of weed and disease management plans can be found in Section 4 of the DPIPWE (2015) *Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania*.
- Develop strict hygiene procedures that can be implemented as part of the day-to-day operations of the quarry to minimise the transportation of weed propagules in quarry material or attached to vehicles or machinery. Information about practical hygiene measures to implement can be found in Appendix 1 of the DPIPWE (2015) *Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania*.
- Discuss the proposed management measures for preventing the spread of weeds, pests and pathogens (e.g. vehicle washdown procedures).

Several planning manuals provide guidance on appropriate management actions, which can be referred to develop site-specific prescriptions for any proposed works in the study area. These manuals include:

- Allan, K. & Gartenstein, S. (2010). *Keeping It Clean: A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens*. NRM South, Hobart;
- Rudman, T. (2005). *Interim* Phytophthora cinnamomi *Management Guidelines*. Nature Conservation Report 05/7, Biodiversity Conservation Branch, Department of Primary Industries, Water & Environment, Hobart;
- Rudman, T., Tucker, D. & French, D. (2004). *Washdown Procedures for Weed and Disease Control*. Edition 1. Department of Primary Industries, Water & Environment, Hobart; and
- DPIPWE (2015). *Weed and Disease Planning and Hygiene Guidelines – Preventing the Spread of Weeds and Diseases in Tasmania*. Department of Primary Industries, Parks, Water & Environment, Hobart.

In this case, it is noted that Logie Farm has a well-developed and documented weed management system for the property (Lachie Van Balen pers. comm.) that includes active treatment of serrated tussock, gorse, briar rose, african boxthorn, thistle species, horehound and fennel. Site observations indicated that these actions are well-implemented with farm roads virtually free of weeds. The quarry facility has some occurrences of weeds (Figure 15) that will benefit from a primary treatment (i.e. an initial knockdown) followed by regular follow-up (e.g. every 6 months or so or at the start of the primary growing season). Any treatment is likely to be on-site (e.g. burning of piles after treatment) such that special management for transport of declared species should not be required. Logie Farm already operates a strict biosecurity system in terms of access such that further controls specific to the quarry operations should not be required. The existing access routes are all weed- and disease-free such that the risk of introducing new weeds to the site is very low.

On the understanding that the proposal is for works comprising working the existing facility to extract road base material but for this to occur the site must first be made safe, which requires some minor blasting and benching, with extraction and transport by conventional diggers and trucks, respectively, the latter using the existing farm/quarry road system, a stand-alone weed and hygiene management plan is not considered warranted. Rather, any weed management that does occur should be documented using the existing farm management system, which includes documenting the dates of activities, chemical/rates applied and sites treated using the live mapping system (Lachie Van Balen pers. comm.).

Figure 15. Distribution of declared and environmental weeds within the lease areas

Rootrot pathogen, *Phytophthora cinnamomi*

Phytophthora cinnamomi (PC) is widespread in lowland areas of Tasmania, across all land tenures. However, disease tends not to develop when soils are too cold or too dry. For these reasons, PC is not usually considered a threat to susceptible plant species that grow at elevations higher than about 700 m or where annual rainfall is less than about 600 mm (e.g. Midlands and Derwent Valley). Furthermore, disease is less likely to develop beneath a dense canopy of vegetation because shading cools the soils to below the optimum temperature for the pathogen. A continuous canopy of vegetation taller than about 2 m is usually sufficient to suppress disease. Hence PC is not usually considered a threat to susceptible plant species growing in wet sclerophyll forests, rainforests (except disturbed rainforests on infertile soils) and scrub e.g. teatree scrub (Rudman 2005; FPA 2009).

Based on the part of the State and the level of insolation, it is probably quite reasonable to treat this quarry as *Phytophthora*-free.

The following general recommendations can be applied to this facility:

- any water should be diverted away from active areas using drains and/or culverts where necessary, to ensure a dry working area;
- the top edge of active quarry areas should be scalped clean where possible to ensure a machine-width clearing free of topsoil and organic matter around the top of the quarry (this will reduce the risk of topsoil contamination of the quarry); and
- all earth-moving machinery entering the quarry from other locations should be washed down to prevent the introduction of weeds and diseases.

Myrtle wilt

Myrtle wilt, caused by a wind-borne fungus (*Chalara australis*), occurs naturally in rainforest where myrtle beech (*Nothofagus cunninghamii*) is present. The fungus enters wounds in the tree, usually caused by damage from wood-boring insects, wind damage and forest clearing. The incidence of myrtle wilt often increases forest clearing events such as windthrow and wildfire.

The study area does not support *Nothofagus cunninghamii*. No special management is required.

Myrtle rust

Myrtle rust is a disease limited to plants in the Myrtaceae family. This plant disease is a member of the guava rust complex caused by *Austropuccinia psidii*, a known significant pathogen of Myrtaceae plants outside Australia. Infestations are currently limited to NSW, Victoria, Queensland and Tasmania (DPIPWE 2015).

No evidence of myrtle rust was noted.

Chytrid fungus and other freshwater pathogens

Native freshwater species and habitat are under threat from freshwater pests and pathogens including *Batrachochytrium dendrobatidis* (chytrid frog disease), *Mucor amphibiorum* (platypus mucor disease) and the freshwater algal pest *Didymosphenia geminata* (didymo) (Allan &

Gartenstein 2010). Freshwater pests and pathogens are spread to new areas when contaminated water, mud, gravel, soil and plant material or infected animals are moved between sites. Contaminated materials and animals are commonly transported on boots, equipment, vehicles tyres and during road construction and maintenance activities. Once a pest pathogen is present in a water system it is usually impossible to eradicate. The manual *Keeping it Clean: A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens* (Allan & Gartenstein 2010) provides information on how to prevent the spread of freshwater pests and pathogens in Tasmanian waterways wetlands, swamps and boggy areas.

The study area has a small dam fed by an ephemeral watercourse as well as various table drains beside roads. Special management should not be required but see recommendations under Rootrot pathogen in relation to maintaining a well-drained work area.

Additional "Matters of National Environmental Significance" – Threatened Ecological Communities

CofA (2024) indicates that the following threatened ecological communities listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) are likely to occur within the area:

- Lowland Native Grasslands of Tasmania [Critically Endangered];
- Tasmanian Forests and Woodlands dominated by Black Gum or Brookers Gum (*Eucalyptus ovata* / E*. brookeriana*) [Critically Endangered]; and
- Tasmanian White Gum (*Eucalyptus viminalis*) Wet Forest [Critically Endangered].

Existing vegetation mapping (Figure 8) and revised vegetation mapping (Figure 9) indicates that these communities are not present within or adjacent to the lease areas i.e. there are no implications under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* in relation to threatened ecological communities.

Additional "Matters of National Environmental Significance" – Wetlands of International Importance (Ramsar)

CofA (2024) indicates the study area is within a Ramsar site, namely Pitt Water-Orielton Lagoon. The study area is within the catchment of Inverquharity Rivulet, which discharges into the Coal River, which in turn has its outfall into Pitt Water (i.e. to the Ramsar site). However, the site is within the upper catchment of this drainage system with one minor ephemeral headwater watercourse only. This watercourse passes through extensive farmland and through six variously-sized on-farm water storages and under Prossers Road (and various on-farm roads and tracks). That is, minor activities within the existing quarry facility are not anticipated to have a measurable impact on Ramsar values, such that there are no implications under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* in relation to wetlands of international importance.

DISCUSSION

Summary of key findings

Threatened flora

- No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The absence of populations of threatened flora means that the site is not "a threatened flora species" [sic] such that it cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(b) of the *State Planning Provisions*.

Threatened fauna

- No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The study area supports potential habitat (to varying degrees of marginality) for the following species:
  - *Sarcophilus harrisii* (Tasmanian devil);
  - *Dasyurus maculatus* subsp*. maculatus* (spotted-tailed quoll); and
  - *Dasyurus viverrinus* (eastern quoll);
  - *Perameles gunnii* (eastern barred bandicoot);
  - *Aquila audax* subsp. *fleayi* (wedge-tailed eagle); and
  - *Tyto novaehollandiae* subsp. *castanops* (masked owl).
- The absence of "significant habitat for a threatened fauna species", at any reasonable scale or interpretation of the concept, means that the site cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(c) of the *State Planning Provisions*.

Vegetation types

- The study area supports the following TASVEG mapping units:
  - agricultural land (TASVEG code: FAG);
  - regenerating cleared land (TASVEG code: FRG);
  - extra-urban miscellaneous (TASVEG code: FUM); and
  - *Eucalyptus viminalis* grassy forest and woodland (TASVEG code: DVG).
- Occurrences of DVG do not equate to a native vegetation community listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.
- Occurrences of DVG do not equate to a threatened ecological community listed under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999*.
- The absence of "native vegetation…[that]…forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the *Nature Conservation Act 2002*" means that the site cannot be "priority vegetation" (in relation to this value) pursuant to C7.3.1(a) of the *State Planning Provisions*.

Weeds

- Four plant species classified as declared weeds pursuant to the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were recorded from the study area, as follows:
  - *Foeniculum vulgare* (fennel): scattered around northwestern end of quarry and also on its eastern edge;
  - *Lycium ferocissimum* (african boxthorn): scattered around margins of quarry, along fenceline near plantings and on the slope south of the quarry;
  - *Marrubium vulgare* (white horehound): as above; and
  - *Nassella trichotoma* (serrated tussock): isolated non-fertile tussocks on eastern edge of quarry (not mapped, all hand-pulled and removed).
- Additional "environmental weeds' (authors' opinion) are also present including:
  - *Vinca major* (blue periwinkle): small patches on eastern verge of quarry;
  - *Agapanthus praecox* subsp. *orientalis* (agapanthus): small patch of southeast fringe of quarry;
  - *Verbascum thapsus* (great mullein): scattered rosettes; and
  - various species of thistle most notably *Silybum marianum* (variegated thistle): widespread.

Plant and animal disease

- No evidence of *Phytophthora cinnamomi* (PC, rootrot) was recorded from within or adjacent to the study area.
- No evidence of myrtle wilt was recorded from within or adjacent to the study area.
- No evidence of myrtle rust was recorded from recorded from within or adjacent to the study area.

Legislative and policy implications

Some commentary is provided below with respect to the key threatened species, vegetation management and other relevant legislation. Note that there may be other relevant policy instruments in addition to those discussed. The following information does not constitute legal advice and it is recommended that independent advice is sought from the relevant agency/authority.

Tasmanian *Threatened Species Protection Act 1995*

Threatened flora and fauna on this Act are managed under Section 51, as follows:

> 51. Offences relating to listed taxa
>
> (1) Subject to subsections (2) and (3), a person must not knowingly, without a permit –
>
> (a) take, keep, trade in or process any specimen of a listed taxon of flora or fauna; or
>
> (b) disturb any specimen of a listed taxon of flora or fauna found on land subject to an interim protection order; or

(c) disturb any specimen of a listed taxon of flora or fauna contrary to a land management agreement; or

(d) disturb any specimen of a listed taxon of flora or fauna that is subject to a conservation covenant entered into under Part 5 of the *Nature Conservation Act 2002*; or

(e) abandon or release any specimen of a listed taxon of flora or fauna into the wild.

(2) A person may take, keep or process, without a permit, a specimen of a listed taxon of flora in a domestic garden.

(3) A person acting in accordance with a certified forest practices plan or a public authority management agreement may take, without a permit, a specimen of a listed taxon of flora or fauna, unless the Secretary, by notice in writing, requires the person to obtain a permit.

(4) A person undertaking dam works in accordance with a Division 3 permit issued under the *Water Management Act 1999* may take, without a permit, a specimen of a listed taxon of flora or fauna.

The simplest interpretation of this is that any activity that results in a specimen (i.e. individual) of listed flora or fauna being "knowingly taken" would require a permit to be issued through Conservation Assessments (Department of Natural Resources and Environment Tasmania), through a formal application process. Note that the Act does not make reference to "potential habitat" such that activities that result in loss of/disturbance to potential habitat (but not known sites) – which mainly refers to threatened fauna – would not require a permit.

No known sites of threatened flora or fauna will be impacted by any proposed development so a permit should be not required under this Act.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* an action will require approval from the minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

Matters of national environmental significance considered under the EPBCA include:

- listed threatened species and communities
- listed migratory species;
- Ramsar wetlands of international importance;
- Commonwealth marine environment;
- world heritage properties;
- national heritage places;
- the Great Barrier Reef Marine Park;
- nuclear actions; and
- a water resource, in relation to coal seam gas development and large coal mining development.

The relevant Commonwealth agency provides a policy statement titled *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (CofA 2013, herein the *Guidelines*), which provides overarching guidance on determining whether an action is likely to have a significant impact on a matter protected under the EPBCA.

The *Guidelines* define a **significant impact** as:

> *"…an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts"*

and note that:

> *"…all of these factors [need to be considered] when determining whether an action is likely to have a significant impact on matters of national environmental significance".*

The *Guidelines* provide advice on when a significant impact may be likely:

> *"To be 'likely', it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility.*
>
> *If there is scientific uncertainty about the impacts of your action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment".*

The *Guidelines* provide a set of Significant Impact Criteria, which are "intended to assist…in determining whether the impacts of [the] proposed action on any matter of national environmental significance are likely to be significant impacts". It is noted that the criteria are "intended to provide general guidance on the types of actions that will require approval and the types of actions that will not require approval…[and]…not intended to be exhaustive or definitive".

Listed ecological communities

The study area does not support any such communities.

Threatened flora

The study area does not support populations of EPBCA-listed flora, nor significant potential habitat of such species.

Threatened fauna

The study area may support populations of threatened fauna listed on the Act, most notably the Tasmanian devil, spotted-tailed quoll, eastern quoll and eastern barred bandicoot (habitat is far from ideal). Note that the study area is within the range of several other species listed on the Act but it is unlikely that any proposal will result in a significant impact on these species (this includes wide-ranging species such as the wedge-tailed eagle and masked owl – refer to **FINDINGS *Threatened fauna*** and Appendix D for more details on these species).

The *Guidelines* consider a "significant impact" to comprise loss that is likely to lead to a long-term decrease in the size of an important population of a species; reduce the area of occupancy of an important population; fragment an existing important population into two or more populations (unlikely); adversely affect habitat critical to the survival of a species; disrupt the breeding cycle of an important population; modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline; result in invasive species that are harmful to a threatened species becoming established in the threatened species' habitat; introduce disease that may cause the species to decline; or interfere substantially with the recovery of the species.

Given the limited activity within an area of an existing quarry site, it is not anticipated that the proposal will trigger the significant impact thresholds in relation to threatened fauna species.

Tasmanian *Forest Practices Act 1985* and associated *Forest Practices Regulations 2017*

The Act provides this definition of the concept of "clearing":

> *clearing of trees* means the removal of trees by–
>
> (a) clearing, cutting, pushing or otherwise removing; or
>
> (b) destroying the trees in any way.

The Act provides this definition of the concept of "trees":

> *trees* means –
>
> (a) any woody plants with a height or potential height of 5 metres or more, whether or not living, dead, standing or fallen, that are–
>
> (i) native to Tasmania; or
>
> (ii) introduced into Tasmania and used for the processing or harvesting of timber; and
>
> (b) tree ferns [where *tree fern* means a plant of the species *Dicksonia antarctica*].

Within the mining lease area on this basis, even the removal of seedlings, saplings, logs or trunks (dead or alive) of various species of trees and tall shrubs may constitute "clearing" of "trees" under the Act.

However, Section 4 of the *Forest Practices Regulations 2017* specifies the following circumstance in which an FPP is not required, as follows:

> 4. Circumstances in which forest practices plan, &c., not required
>
> (i) the harvesting of timber or the clearing of trees on any land, or the clearance and conversion of a threatened native vegetation community on any land, in the course of mineral exploration activities, or mining activities, that are authorised under –
>
> (i) a permit granted under the *Land Use Planning and Approvals Act 1993*; or
>
> (ii) an exploration licence within the meaning of the *Mineral Resources Development Act 1995*; or
>
> (iii) a retention licence within the meaning of the *Mineral Resources Development Act 1995*; or
>
> (iv) a mining lease within the meaning of the *Mineral Resources Development Act 1995*.

It is understood that the quarry will be operated under a mining lease pursuant to the *Mineral Resources Development Act 1995*, such that a Forest Practices Plan would not be required.

Tasmanian *Nature Conservation Act 2002*

Schedule 3A of the Act lists native vegetation communities classified as threatened within Tasmania. The proposed development area does not support any such vegetation communities.

Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*)

No plant species classified as a declared weeds within the meaning of the Tasmanian *Weed Management Act 1999* were detected from area mining lease area, such that the Act has direct application, noting it also has application by reference to the *General Biosecurity Duty* under the

Tasmanian *Biosecurity Act 2019* (https://nre.tas.gov.au/biosecurity-tasmania/general-biosecurity-duty-(gbd).

Tasmanian *Land Use Planning and Approvals Act 1993*

The applicable planning scheme is the *Tasmanian Planning Scheme – Sorell & Clarence Local Provisions Schedules*. The findings of the present natural values assessment have not indicated any particular constraints to the proposal under the relevant zone provisions but the recommendations on weed and hygiene management are highlighted. Particular reference is made to the presence of the Priority Vegetation Area overlay over parts of both lease area – site assessment has confirmed the absence of "priority vegetation" such that the relevant development standards should be able to be satisfied. Special management of the watercourse is not recommended, noting that it flows through highly modified vegetation adjacent to (but not through) the quarry and then into an existing small dam before discharging along a continuation of the watercourse through extensive paddocks and several on-farm dams.

Recommendations

The recommendations provided below are a summary of those provided in relation to each of the natural values described in the main report. The main text of the report provides the relevant context for the recommendations.

Vegetation types

It is noted that the proposal is wholly within an existing quarry and its disturbed fringes i.e. the proposal does not include the clearance and conversion of, or disturbance to, threatened native vegetation (or indeed any native vegetation per se) in any measurable sense – no special management recommended.

Threatened flora

None identified – no special management recommended.

Threatened fauna

None identified – no special management recommended (noting the commentary made under Vegetation types).

Weed and hygiene management

In this case, it is noted that Logie Farm has a well-developed and documented weed management system for the property (Lachie Van Balen pers. comm.) that includes active treatment of serrated

tussock, gorse, briar rose, african boxthorn, thistle species, horehound and fennel. Site observations indicated that these actions are well-implemented with farm roads virtually free of weeds.

The quarry facility has some occurrences of weeds that will benefit from a primary treatment (i.e. an initial knockdown) followed by regular follow-up (e.g. every 6 months or so or at the start of the primary growing season). Any treatment is likely to be on-site (e.g. burning of piles after treatment) such that special management for transport of declared species should not be required. Logie Farm already operates a strict biosecurity system in terms of access such that further controls specific to the quarry operations should not be required. The existing access routes are all weed- and disease-free such that the risk of introducing new weeds to the site is very low.

On the understanding that the proposal is for works comprising working the existing facility to extract road base material but for this to occur the site must first be made safe, which requires some minor blasting and benching, with extraction and transport by conventional diggers and trucks, respectively, the latter using the existing farm/quarry road system, a stand-alone weed and hygiene management plan is not considered warranted. Rather, any weed management that does occur should be documented using the existing farm management system, which includes documenting the dates of activities, chemical/rates applied and sites treated using the live mapping system (Lachie Van Balen pers. comm.).

In relation to hygiene management, the following general recommendations can be applied to this facility:

- any water should be diverted away from active areas using drains and/or culverts where necessary, to ensure a dry working area;
- the top edge of active quarry areas should be scalped clean where possible to ensure a machine-width clearing free of topsoil and organic matter around the top of the quarry (this will reduce the risk of topsoil contamination of the quarry); and
- all earth-moving machinery entering the quarry from other locations should be washed down to prevent the introduction of weeds and diseases.

Legislative and policy implications

A permit under the Tasmanian *Threatened Species Protection Act 1995* should not be required.

A formal referral to the relevant Commonwealth government agency under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* should not be required but this should be confirmed by the client through their own consideration of the *Significant Impact Guidelines* (or through discussion with the EPA, NRE Tas and/or the relevant Commonwealth agency).

It is assumed a development application may be required to be prepared under the provisions of the *Tasmanian Planning Scheme.* There are no particular constraints with respect to natural values but the recommendations in relation to weed and hygiene management are highlighted.

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APPENDIX A. Vegetation community structure and composition

The table below provides information on the structure and composition of the native vegetation mapping unit identified from the study area.

***Eucalyptus viminalis* grassy forest and woodland (TASVEG code: DVG)**
DVG occurs on the insolated north-facing slopes west, southwest and south of the existing quarry. The area mapped as DVG has a very open woodland structure, most barely qualifying as DVG and perhaps better considered as a facies of GCL or FAG (or a mosaic of the two) or perhaps *Bursaria* – *Acacia* woodland and scrub (TASVEG code: NBA). *Eucalyptus viminalis* forms a sparse and low canopy, generally over a scattered layer of tall shrubs, in turn over a grassy understorey dominated by naturalised species, with native species only locally dominant. A long grazing history has altered the structure and composition of DVG, although it is relatively free of declared weeds and shows no symptoms of plant disease apart from scattered trees with "ginger tree syndrome".

LHS. Looking into DVG from north to south (western edge of 2044P/M)
RHS. Looking east-southeast into open DVG on slopes southwest of quarry in 2044P/M

Stratum	**Height (m)** **Cover (%)**	**Species** (underline = dominant, parentheses = sparse; + = present)
Trees	15-18 m 5-20%	*Eucalyptus viminalis*
Tall shrubs	4-8 m 5-30%	*Bursaria spinosa*, *Allocasuarina verticillata*
Low shrubs	<1 m <5%	*Lissanthe strigosa, Styphelia humifusa, Eucalyptus viminalis*
Grasses	90%	*Poa labillardierei, Dactylis glomerata, Themeda triandra, Austrostipa stuposa, Agrostis capillaris*
Graminoids	<5%	*Lepidosperma laterale*
Herbs	variable	*Oxalis perennans, Silybum marianum, Cirsium vulgare, Hypochaeris radicata, Stellaria media, Dichondra repens, Galium aparine*

APPENDIX B. Vascular plant species recorded from study area

Botanical nomenclature follows *A Census of the Vascular Plants of Tasmania* (de Salas & Baker 2023), with family placement updated to reflect the nomenclatural changes recognised in the *Flora of Tasmania Online* (de Salas 2024+) and APG (2016); common nomenclature follows *The Little Book of Common Names of Tasmanian Plants* (Wapstra et al. 2005+, updated online at www.nre.tas.gov.au).

e = endemic to Tasmania; i = naturalised in Tasmania

DW = declared weed pursuant to Tasmanian *Biosecurity Regulations 2022*

EW = environmental weed (authors' opinion)

Table B1. Summary of vascular species recorded from study area

	ORDER		
STATUS	**DICOTYLEDONAE**	**MONOCOTYLEDONAE**	**PTERIDOPHYTA**
	18	12	-
e	-	-	-
i	29	12	-
Sum	**47**	**24**	**0**
TOTAL	**71**		

DICOTYLEDONAE			
	APIACEAE		
	Daucus glochidiatus	australian carrot	
i	*Foeniculum vulgare*	fennel	DW
	APOCYNACEAE		
i	*Vinca major*	blue periwinkle	EW
	ASTERACEAE		
i	*Arctotheca calendula*	capeweed	
i	*Calendula arvensis*	field marigold	
i	*Cirsium vulgare*	spear thistle	
	Euchiton japonicus	common cottonleaf	
	Senecio minimus	shrubby fireweed	
i	*Silybum marianum*	variegated thistle	EW
	BRASSICACEAE		
i	*Brassica* x *napus*	rape	
i	*Capsella bursa-pastoris*	shepherds purse	
i	*Cardamine hirsuta*	hairy bittercress	
i	*Erophila verna* subsp. *verna*	spring whitlowgrass	
	CARYOPHYLLACEAE		
i	*Cerastium glomeratum*	sticky mouse-ear	
i	*Polycarpon tetraphyllum*	fourleaf allseed	
i	*Sagina apetala*	annual pearlwort	
i	*Stellaria media*	garden chickweed	
	CASUARINACEAE		
	Allocasuarina verticillata	drooping sheoak	
	CRASSULACEAE		
	Crassula decumbens var. *decumbens*	spreading stonecrop	
	Crassula sieberiana	rock stonecrop	
	DROSERACEAE		
	Drosera auriculata	tall sundew	
	ERICACEAE		
	Lissanthe strigosa subsp. *subulata*	peachberry heath	
	Styphelia humifusa	native cranberry	
	EUPHORBIACEAE		
i	*Euphorbia peplus*	petty spurge	
	FABACEAE		
	Acacia dealbata subsp. *dealbata*	silver wattle	

	Acacia mearnsii	black wattle	
i	*Trifolium repens*	white clover	
i	*Trifolium subterraneum*	subterranean clover	
	GENTIANACEAE		
i	*Centaurium erythraea*	common centaury	
	GERANIACEAE		
i	*Erodium botrys*	long heronsbill	
i	*Erodium cicutarium*	common heronsbill	
	Geranium solanderi	southern cranesbill	
	LAMIACEAE		
i	*Marrubium vulgare*	white horehound	DW
	MYRTACEAE		
	Eucalyptus viminalis subsp. *viminalis*	white gum	
	OXALIDACEAE		
	Oxalis perennans	grassland woodsorrel	
	PAPAVERACEAE		
i	*Fumaria muralis* subsp. *muralis*	wall fumitory	
	PITTOSPORACEAE		
	Bursaria spinosa subsp. *spinosa*	prickly box	
	PLANTAGINACEAE		
i	*Callitriche stagnalis*	mud waterstarwort	
i	*Plantago lanceolata*	ribwort plantain	
	POLYGONACEAE		
i	*Acetosella vulgaris*	sheep sorrel	
	ROSACEAE		
	Acaena echinata	spiny sheepsburr	
	Acaena novae-zelandiae	common buzzy	
	RUBIACEAE		
i	*Galium aparine*	cleavers	
	SCROPHULARIACEAE		
i	*Verbascum thapsus*	great mullein	EW
	SOLANACEAE		
i	*Lycium ferocissimum*	african boxthorn	DW
	Solanum laciniatum	kangaroo apple	
	URTICACEAE		
i	*Urtica urens*	stinging nettle	
	MONOCOTYLEDONAE		
	AMARYLLIDACEAE		
i	*Agapanthus praecox* subsp. *orientalis*	agapanthus	EW
	ASPARAGACEAE		
	Arthropodium minus	small vanilla-lily	
	CYPERACEAE		
	Carex breviculmis	shortstem sedge	
	Carex iynx	tussock sedge	
	Lepidosperma laterale	variable swordsedge	
	JUNCACEAE		
	Juncus bufonius	toad rush	
	Juncus pallidus	pale rush	
	Juncus sarophorus	broom rush	
	POACEAE		
i	*Agrostis capillaris*	browntop bent	
i	*Agrostis stolonifera*	creeping bent	
i	*Aira caryophyllea* subsp. *caryophyllea*	silvery hairgrass	
i	*Anthoxanthum odoratum*	sweet vernalgrass	
	Austrostipa scabra subsp. *falcata*	sickle speargrass	
	Austrostipa stuposa	corkscrew speargrass	
i	*Bromus diandrus*	great brome	
i	*Bromus hordeaceus*	soft brome	
i	*Cynosurus echinatus*	rough dogstail	
	Lachnagrostis filiformis	common blowngrass	
i	*Nassella trichotoma*	serrated tussock	DW
i	*Poa annua*	winter grass	
	Poa labillardierei var. *labillardierei*	silver tussockgrass	
	Rytidosperma setaceum	bristly wallabygrass	
i	*Vulpia bromoides*	squirreltail fescue	
	TYPHACEAE		
i	*Typha latifolia*	great reedmace	

APPENDIX C. Analysis of database records of threatened flora

Table C1 provides a listing of threatened flora from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Table C1. Threatened flora records from within 5,000 m of boundary of study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from DNRET' *Natural Values Atlas* (DNRET 2024a) and other sources where indicated. Habitat descriptions are taken from FPA (2022) and TSS (2003+), except where otherwise indicated. Species marked with # are listed in CofA (2024).

Scientific name **Common name**	**Status** TSPA EPBCA	**Tasmanian habitat description (and distribution)**	**Comments on study area and database records**
Austrostipa bigeniculata doublejointed speargrass	r -	*Austrostipa bigeniculata* is found mainly in the southeast and Midlands in open woodlands and grasslands, where it is often associated with *Austrostipa nodosa.*	Potential habitat present. Species not detected (no significant seasonal constraint on detection and/or identification).
Austrostipa blackii crested speargrass	r -	The habitat of *Austrostipa blackii* is poorly understood because of confusion with other species. In its "pure" form (i.e. long coma), *A. blackii* is a species of very near-coastal sites such as the margins of saline lagoons, creek outfalls and vegetated dunes. Further inland, where it seems to grade into other species, it occurs in open grassy woodlands.	As above.
Barbarea australis riverbed wintercress	e EN # only	*Barbarea australis* is a riparian species found near river margins, creek beds and along flood channels adjacent to the river. It tends to favour the slower reaches, and has not been found on steeper sections of rivers. It predominantly occurs in flood deposits of silt and gravel deposited as point bars and at the margins of base flows, or more occasionally or between large cobbles on sites frequently disturbed by fluvial processes. Some of the sites are a considerable distance from the river, in flood channels scoured by previous flood action, exposing river pebbles. Most populations are in the Central Highlands, but other populations occur in the northeast and upland areas in the central north.	Potential habitat absent (atypical of all recorded locations).
Brachyscome rigidula cutleaf daisy	v -	*Brachyscome rigidula* is found in the Midlands, East Coast and in parts of the eastern Central Highlands of Tasmania, where it occurs in rough pasture, grassland and grassy woodland on dry rocky hills and flats.	Potential habitat present. Species not detected (no significant seasonal constraint on detection and/or identification).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
Caladenia caudata tailed spider-orchid	v VU # only	*Caladenia caudata* has highly variable habitat, which includes the central north: *Eucalyptus obliqua* heathy forest on low undulating hills; the northeast: *E. globulus* grassy/heathy coastal forest, *E. amygdalina* heathy woodland and forest, *Allocasuarina* woodland; and the southeast: *E. amygdalina* forest and woodland on sandstone, coastal *E. viminalis* forest on deep sands. Substrates vary from dolerite to sandstone to granite, with soils ranging from deep windblown sands, sands derived from sandstone and well-developed clay loams developed from dolerite. A high degree of insolation is typical of many sites.	Potential habitat absent (atypical of all recorded locations).
Calocephalus citreus lemon beautyheads	r -	*Calocephalus citreus* inhabits disturbed dry grasslands, and is found from a few locations in the southeast of the State.	Potential habitat very marginally present but highly atypical. Species not detected (no significant seasonal constraint on detection and/or identification).
Colobanthus curtisiae grassland cupflower	r VU # only	*Colobanthus curtisiae* occurs in lowland grasslands and grassy woodlands but is also prevalent on rocky outcrops and margins of forest on dolerite on the Central Highlands (including disturbed sites such as log landings and snig tracks).	Potential habitat present, mainly in the form of exposed rock plates. Species not detected. There is a significant seasonal constraint on detection and/or identification) of this species but given that other ephemeral spring-flowering herbs were detected on potential habitat within and outside the lease areas (e.g. *Millotia tenuifolia*, *Hyalosperma demissum*, etc.), the timing was considered appropriate.
Dianella amoena grassland flaxlily	r EN #	*Dianella amoena* occurs mainly in the northern and southern Midlands, where it grows in native grasslands and grassy woodlands.	Potential habitat present. Species not detected (no significant seasonal constraint on detection and/or identification).
Epacris virgata twiggy heath	e EN # only	*Epacris virgata* is restricted to a small area of undulating terrain in the foothills of the Dazzler Range near Beaconsfield, where it occurs on serpentinite-derived soils in dry sclerophyll forest at an elevation of 40-80 m a.s.l.	Potential habitat absent (site is on dolerite and in southeast Tasmania).
Eryngium ovinum blue devil	v -	*Eryngium ovinum* occurs in a range of lowland vegetation types most often on fertile heavy clay soils derived from dolerite. Vegetation types include open grasslands usually dominated by *Themeda triandra* (kangaroo grass), grassy forests and woodlands on slopes, ridges and broad flats, and also roadside verges (representing remnant populations),	Potential habitat present. Species not detected (no significant seasonal constraint on detection and/or identification).
Glycine latrobeana clover glycine	v VU # only	*Glycine latrobeana* occurs in a range of habitats, geologies and vegetation types. Soils are usually fertile but can be sandy when adjacent to or overlaying fertile soils. The species mainly occurs on flats and undulating	Potential habitat present. Species not detected. There is a significant seasonal constraint on detection and/or identification) of this species but given that other ephemeral spring-flowering herbs were detected

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
		terrain over a wide geographical range, including near-coastal environments, the Midlands, and the Central Plateau. It mainly occurs in grassy/heathy forests and woodlands and native grasslands.	on potential habitat within and outside the lease areas (e.g. *Millotia tenuifolia*, *Hyalosperma demissum*, etc.), the timing was considered appropriate.
Haloragis heterophylla variable raspwort	r -	*Haloragis heterophylla* occurs in poorly-drained sites (sometimes only marginally so), which are often associated with grasslands and grassy woodlands with a high component of *Themeda triandra* (kangaroo grass). It also occurs in grassy/sedgy *Eucalyptus ovata* forest and woodland, shrubby creek lines, and broad sedgy/grassy flats, wet pasture and margins of farm dams.	Potential habitat present (around margins of small dam in north of leases and in the minor drainage features to the west of the existing quarry). Species not detected (no significant seasonal constraint on detection and/or identification).
Isoetopsis graminifolia grass cushion	v -	*Isoetopsis graminifolia* grows in native grasslands, usually dominated by *Themeda triandra* (kangaroo grass), or on rockplates, the underlying substrate being mostly basalt or dolerite. The elevation range of recorded sites is 20-360 m a.s.l. in areas of low rainfall.	Potential habitat present. Species not detected. There is a significant seasonal constraint on detection and/or identification) of this species but given that other ephemeral spring-flowering herbs were detected on potential habitat within and outside the lease areas (e.g. *Millotia tenuifolia*, *Hyalosperma demissum*, etc.), the timing was considered appropriate.
Lepidium hyssopifolium soft peppercress	e EN #	The native habitat of *Lepidium hyssopifolium* is the growth suppression zone beneath large trees in grassy woodlands and grasslands (e.g. over-mature black wattles and isolated eucalypts in rough pasture). *Lepidium hyssopifolium* is now found primarily under large exotic trees on roadsides and home yards on farms. It occurs in the eastern part of Tasmania between sea-level to 500 metres a.s.l. in dry, warm and fertile areas on flat ground on weakly acid to alkaline soils derived from a range of rock types. It can also occur on frequently slashed grassy/weedy roadside verges where shade trees are absent.	Potential habitat technically present because the species can occur in a wide range of disturbed and semi-disturbed habitats. Species not detected (no significant seasonal constraint on detection and/or identification).
Leucochrysum albicans subsp. *tricolor* grassland paperdaisy	e EN # only	*Leucochrysum albicans* subsp. *tricolor* occurs in the west and on the Central Plateau and the Midlands, mostly on basalt soils in open grassland. This species would have originally occupied *Eucalyptus pauciflora* woodland and tussock grassland, though most of this habitat is now converted to improved pasture or cropland.	Potential habitat marginally present. Species not detected (no seasonal constraint on detection and/or identification).
Paraprasophyllum [syn. *Prasophyllum*] *apoxychilum* tapered leek-orchid	v EN # only	*Paraprasophyllum apoxychilum* is restricted to eastern and northeastern Tasmania where it occurs in coastal heathland or grassy and scrubby open eucalypt forest on sandy and clay loams, often among rocks. It occurs at a range of elevations and seems to be	Potential habitat absent (atypical of all recorded locations).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
		strongly associated with dolerite in the east and southeast of its range.	
Pterostylis commutata midlands greenhood	e CR # only	*Pterostylis commutata* is restricted to Tasmania's Midlands, where it occurs in native grassland and *Eucalyptus pauciflora* grassy woodland on well-drained sandy soils and basalt loams.	Potential habitat absent (atypical of all recorded locations).
Pterostylis ziegeleri grassland greenhood	v VU # only	*Pterostylis ziegeleri* occurs in the State's south, east and north, with an outlying occurrence in the northwest. In coastal areas, the species occurs on the slopes of low stabilised sand dunes and in grassy dune swales, while in the Midlands it grows in native grassland or grassy woodland on well-drained clay loams derived from basalt.	Potential habitat absent (atypical of all recorded locations).
Rumex bidens mud dock	v -	*Rumex bidens* grows at the margins of lakes, swamps, and slow-moving rivers and streams, and may also occur in drainage channels.	Potential habitat technically present (small dam in north of leases), albeit highly atypical. Species not detected (no significant seasonal constraint on detection and/or identification).
Scleranthus fasciculatus spreading knawel	v -	*Scleranthus fasciculatus* is only recorded from a few locations in the Midlands and southeast. The vegetation at most of the sites is *Poa* grassland/grassy woodland. *Scleranthus fasciculatus* appears to need gaps between the tussock spaces for its survival and both fire and stock grazing maintain the openness it requires. Often found in areas protected from grazing such as fallen trees and branches.	Potential habitat present. Species not detected from mining leases (no significant seasonal constraint on detection and/or identification). Species detected on ridgeline ca. 1.3 km south of mining leases, indicating that survey timing was appropriate for this suite of perennial herbs. Refer to **FINDINGS *Plant species*** Threatened flora for more details.
Senecio psilocarpus swamp fireweed	e VU # only	*Senecio psilocarpus* is known from six widely scattered sites in the northern half of the State, including King and Flinders islands. It occurs in swampy habitats including broad valley floors associated with rivers, edges of farm dams amongst low-lying grazing/cropping ground, herb-rich native grassland in a broad swale between stable sand dunes, adjacent to wetlands in native grassland, herbaceous marshland and low-lying lagoon systems.	Potential habitat absent (atypical of all recorded locations).
Senecio squarrosus leafy fireweed	r -	*Senecio squarrosus* occurs in a wide variety of habitats. One form occurs predominantly in lowland damp tussock grasslands. The more widespread and common form occurs mainly in dry forests (often grassy) but extends to wet forests and other vegetation types.	Potential habitat present. Species not detected (no significant seasonal constraint on detection and/or identification).
Spyridium lawrencei small-leaf dustymiller	v EN # only	*Spyridium lawrencei* occurs on the Central East Coast and the Eastern Midlands, with its main populations centred on the Swan, Apsley and St Pauls rivers, with an outlying population in the Three Thumbs area, south of	Potential habitat absent (atypical of all recorded locations).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on study area and database records
		Orford. The species mainly occurs in the zone between riparian vegetation, woodland or forest, and occasionally pasture. It also occurs on rock plates on forested slopes. It can be maintained by regular disturbances such as fire or flooding.	
Stenanthemum pimeleoides propeller plant	v VU # only	*Stenanthemum pimeleoides* is restricted to Tasmania's central East Coast and the Northern Midlands, where it occurs in dry sclerophyll forest or woodland with an open heathy or shrubby understorey. The topography tends to be flat to gently sloping. The species occurs in the drier parts of the State with rainfall between 500-800 mm per year, and usually at elevations below 100 m.	Potential habitat absent (atypical of all recorded locations).
Vittadinia burbidgeae smooth new-holland-daisy	r -	*Vittadinia burbidgeae* occurs in native grassland and grassy woodland.	Potential habitat present. Species not detected (no significant seasonal constraint on detection and/or identification).
Vittadinia cuneata var. *cuneata* fuzzy new-holland-daisy	r -	*Vittadinia cuneata* var. *cuneata* occurs in native grassland and grassy woodland.	As above.
Vittadinia gracilis woolly new-holland-daisy	r -	*Vittadinia gracilis* occurs in native grassland and grassy woodland.	As above.
Vittadinia muelleri narrowleaf new-holland-daisy	r -	*Vittadinia muelleri* occurs in native grassland and grassy woodland.	Potential habitat present. Species not detected from mining leases (no significant seasonal constraint on detection and/or identification). Species detected on ridgeline ca. 1.3 km south of mining leases, indicating that survey timing was appropriate for this suite of perennial herbs. Refer to **FINDINGS *Plant species*** Threatened flora for more details.
Xerochrysum palustre swamp everlasting	v VU # only	*Xerochrysum palustre* has a scattered distribution with populations in the northeast, east coast, Central Highlands and Midlands, all below about 700 m elevation. It occurs in wetlands, grassy to sedgy wet heathlands and extends to associated heathy *Eucalyptus ovata* woodlands. Sites are usually inundated for part of the year.	Potential habitat absent (atypical of all recorded locations).

APPENDIX D. Analysis of database records of threatened fauna

Table D1 provides a listing of threatened fauna from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Table D1. Threatened fauna records from 5,000 m of boundary of study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from the DNRET's *Natural Values Atlas* (DNRET 2024a), Bryant & Jackson (1999), FPA (2024) and McNab (2022); marine, wholly pelagic and littoral species such as marine mammals, fish and offshore seabirds are excluded. Species marked with # are listed in CofA (2024). Note that the use of the descriptions of "potential habitat" and "significant habitat" as provided in FPA (2024) does not imply a direct relationship between these concepts and the concept of "significant habitat" as per C7.3.1 of the *State Planning Provisions*.

Scientific name **Common name**	**Status** TSPA EPBCA	**Tasmanian habitat description (and distribution)**	**Comments on assessment area and database records**
Accipiter novaehollandiae grey goshawk	e -	***Potential habitat*** is native forest with mature elements below 600 m altitude, particularly along watercourses. ***Significant habitat*** may be summarised as areas of wet forest, rainforest and damp forest patches in dry forest, with a relatively closed mature canopy, low stem density, and open understorey in close proximity to foraging habitat and a freshwater body (i.e. stream, river, lake, swamp, etc.).	***Potential habitat*** absent. ***Significant habitat*** absent. This species should not require further consideration.
Antechinus vandycki Tasman Peninsula antechinus	v -	***Potential habitat*** includes damp forest, wet forest, rainforest and wet scrub vegetation communities, as well as plantation forests with understorey species typical of damp or wet forest, or with no understorey but adjacent to wet forest. It does not include dry forest or heathland, or plantation forests with an understorey comprised of typical dry forest understorey species.	***Potential habitat*** absent. The listing in DNRET (2024a) is considered erroneous – the species is restricted to the Tasman Peninsula. This species should not require further consideration.
Antipodia chaostola tax. *leucophaea* chaostola skipper	e EN #	***Potential habitat*** is dry forest and woodland supporting *Gahnia radula* (usually on sandstone and other sedimentary rock types) or *Gahnia microstachya* (usually on granite-based substrates).	***Potential habitat*** absent (no *Gahnia* species present). This species should not require further consideration.
Apus pacificus fork-tailed swift	- - # only	Seasonal migrant (December through March) with habitat open skies over any habitat, more commonly associated with forested hills and mountains (McNab 2022).	***Potential habitat*** widespread but this is a species that flies at high altitude, very fast and highly mobile, feeding on the wing and virtually never perches (McNab 2022). This species should not require further consideration.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on assessment area and database records
Aquila audax subsp. *fleayi* tasmanian wedge-tailed eagle	e EN #	***Potential habitat*** comprises ***potential nesting habitat*** and ***potential foraging habitat***. ***Potential foraging habitat*** is a wide variety of forest (including areas subject to native forest silviculture) and non-forest habitats. ***Potential nesting habitat*** is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest. Nest trees are usually amongst the largest in a locality. They are generally in sheltered positions on leeward slopes, between the lower and mid sections of a slope and with the top of the tree usually lower than the ground level of the top of the ridge, although in some parts of the State topographic shelter is not always a significant factor (e.g. parts of the northwest and Central Highlands). Nests are usually not constructed close to sources of disturbance and nests close to disturbance are less productive. ***Significant habitat*** is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where the nest tree is still present).	***Potential foraging habitat*** present. ***Potential nesting habitat*** absent from within lease areas (pasture and "rough pasture", low open woodland, open quarry). Surrounding areas of same low stature lacking eucalypts (refer to Figure 14 for modelling that shows low potential for nests). ***Significant habitat*** absent (no known nests within 500 m or 1,000 m line-of-sight of lease area – see Figure 14). On-ground searches of all marginal potential nesting habitat within 500 m and 1,000 m line-of-sight of the quarry failed to detect any novel nests. This species should not require further consideration but refer to **FINDINGS *Threatened fauna*** for more details.
Botaurus poiciloptilus Australasian bittern	- EN #	***Potential habitat*** is comprised of wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds or cutting grass growing over a muddy or peaty substrate (TSSC 2011).	***Potential habitat*** absent (no wetlands). This species should not require further consideration.
Bubulcus coromandus [syn. *B. ibis*, *Ardea ibis*] cattle egret	- - # only	Seasonal migrant (April through October) with habitat agricultural lands, crops, dams, pastures, particularly those with cattle, mudflats and wetlands (McNab 2022).	***Potential habitat*** absent, except in a general sense only. This species should not require further consideration.
Ceyx azureus subsp. *diemenensis* [syn. *Alcedo azurea* subsp. *diemenensis*] Tasmanian azure kingfisher	e EN # only	***Potential habitat*** comprises ***potential foraging habitat*** and ***potential breeding habitat***. ***Potential foraging habitat*** is primarily freshwater (occasionally estuarine) waterbodies such as large rivers and streams with well-developed overhanging vegetation suitable for perching and water deep enough for dive-feeding. ***Potential breeding habitat*** is usually steep banks of large rivers (a breeding site is a hole (burrow) drilled in the bank).	***Potential foraging habitat*** absent (only one highly ephemeral watercourse present). ***Potential breeding habitat*** absent (as above). This species should not require further consideration.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on assessment area and database records
Dasyurus maculatus subsp. *maculatus* spotted-tailed quoll	r VU #	***Potential habitat*** is coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex and steep rocky areas are present, and includes remnant patches in cleared agricultural land. ***Significant habitat*** is all potential denning habitat within the core range of the species. ***Potential denning habitat*** for the spotted-tailed quoll includes 1) any forest remnant (>0.5 ha) in a cleared or plantation landscape that is structurally complex (high canopy, with dense understorey and ground vegetation cover), free from the risk of inundation, or 2) a rock outcrop, rock crevice, rock pile, burrow with a small entrance, hollow logs, large piles of coarse woody debris and caves. ***FPA's Fauna Technical Note 10*** can be used as a guide in the identification of potential denning habitat.	***Potential habitat*** present, although the site provides effectively no denning opportunities. ***Significant habitat*** absent (within potential range only). This species should not require further consideration but refer to **FINDINGS *Threatened fauna*** for more details.
Dasyurus viverrinus eastern quoll	- EN	***Potential habitat*** is a variety of habitats including rainforest, heathland, alpine areas and scrub. However, it seems to prefer dry forest and native grassland mosaics which are bounded by agricultural land.	***Potential habitat*** present, although the site provides effectively no denning opportunities. This species should not require further consideration but refer to **FINDINGS *Threatened fauna*** for more details.
Gallinago hardwickii Lathams snipe	- - # only	Seasonal migrant that prefers brackish, fresh and saline habitats including lagoons, lakes, marshes, swamps, wet grasslands and paddocks and wetlands with tussockgrasses (McNab 2022).	***Potential habitat*** absent, except in a general sense only. This species should not require further consideration.
Haliaeetus leucogaster white-bellied sea-eagle	v -	***Potential habitat*** comprises ***potential nesting habitat*** and ***potential foraging habitat***. ***Potential foraging habitat*** is any large waterbody (including sea coasts, estuaries, wide rivers, lakes, impoundments and even large farm dams) supporting prey items (fish). ***Potential nesting habitat*** is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest within 5 km of the coast (nearest coast including shores, bays, inlets and peninsulas), large rivers (class 1), lakes or complexes of large farm dams. Scattered trees along river banks or pasture land may also be used. ***Significant habitat*** is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where nest tree still present).	***Potential foraging habitat*** present (although it would be mainly over open water). ***Potential nesting habitat*** absent from within lease areas (pasture and "rough pasture", low open woodland, open quarry). Surrounding areas of same low stature lacking eucalypts (refer to Figure 14 for modelling that shows low potential for nests). ***Significant habitat*** absent (no known nests within 500 m or 1,000 m line-of-sight of lease area – see Figure 14). On-ground searches of all marginal potential nesting habitat within 500 m and 1,000 m line-of-sight of the quarry failed to detect any novel nests. This species should not require further consideration.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on assessment area and database records
Hirundapus caudacutus white-throated needletail	- VU #	Seasonal migrant (December through March) with habitat open skies over any habitat, more commonly associated with forested hills and mountains (McNab 2022).	***Potential habitat*** widespread but this is a species that flies at high altitude, very fast and highly mobile, feeding on the wing and virtually never perches (McNab 2022). This species should not require further consideration.
Lathamus discolor swift parrot	e CR #	***Potential breeding habitat*** comprises ***potential foraging habitat*** and ***potential nesting habitat***, and is based on definitions of foraging and nesting trees. ***Potential foraging habitat*** comprises *E. globulus* or *E. ovata* trees that are old enough to flower. In the Eastern Tiers, potential foraging habitat also includes *E. brookeriana* where it has the potential to contribute a substantial foraging resource. The occurrence of foraging-habitat can be remotely assessed, although only to a limited extent, by using mapping layers such as GlobMap (DPIPWE 2010). Due to the scale and inadequacies in current foraging-habitat mapping, potential foraging-habitat density within operational areas should be identified by ground-based surveys as per Table B in the swift parrot habitat assessment Technical Note. For management purposes ***potential nesting habitat*** is considered to comprise eucalypt forests that contain hollow-bearing trees. ***Significant habitat*** is all potential breeding habitat within the SE potential breeding range and the NW breeding areas.	***Potential foraging habitat*** absent (*Eucalyptus globulus* and *Eucalyptus ovata* absent). ***Potential nesting habitat*** absent (sparse open woodland generally lacking trees with hollows – only one such tree mapped outside any area proposed for impact, Figure 13). The topography and forest type are highly atypical of all known breeding sites, which tend to be in old-growth forests rich in hollow-bearing trees, usually on the higher ridges and upper slopes. ***Significant habitat*** absent. This species should not require further consideration.
Lissotes latidens broad-toothed stag beetle	e EN # only	***Potential habitat*** ranges from patches of wet forest within dry eucalypt forest (especially drainage lines and wet gullies) to wet eucalypt forest and rainforest, noting that areas where logs occupy more than 10% of the forest floor are preferred. ***Significant habitat*** is all potential habitat within the known range.	***Potential habitat*** absent (open quarry, "rough pasture", and grassy woodland). ***Significant habitat*** absent (as above). This species should not require further consideration.
Litoria raniformis green and golden frog	v VU # only	***Potential habitat*** is permanent and temporary waterbodies, usually with vegetation in or around them, including features such as natural lagoons, permanently or seasonally inundated swamps and wetlands, farm dams, irrigation channels, artificial water-holding sites such as old quarries, slow-flowing stretches of streams and rivers and drainage features. ***Significant habitat*** is still or very slow flowing water bodies, with at least some vegetation, and a lack of obvious pollutants (oil, chemicals, etc.).	***Potential habitat*** marginally present in the form of a small dam). ***Significant habitat*** possibly present (although species absent). Site assessment failed to detect evidence of the species (e.g. spawn, tadpoles, adults, calling adults). This species should not require further consideration.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on assessment area and database records
Myiagra cyanoleuca satin flycatcher	- - # only	Seasonal migrant (November through march) with habitat scrub, wet and dry sclerophyll forests, woodlands and creeklines (McNab 2022).	***Potential habitat*** present. This is a spring-summer migrant that may occasionally utilise the greater assessment area for foraging and possibly nesting (atypical). This species should not require further consideration at the scale of proposed works relative to potential habitat in the wider area.
Neophema chrysostoma blue-winged parrot	- VU # only	Seasonal migrant (October through April) with habitat agricultural lands, crops, dams, paddocks, coastal scrub, open grassy woodlands, heathland and saltmarshes (McNab 2022).	***Potential habitat*** present. The species may occasionally utilise the greater assessment area for foraging but nesting is not indicated because of the lack of hollow-bearing trees – only one such tree mapped outside any area proposed for impact, Figure 13). This species should not require further consideration at the scale of proposed works relative to potential habitat in the wider area.
Pardalotus quadragintus forty-spotted pardalote	e EN #	***Potential habitat*** is any forest and woodland supporting *Eucalyptus viminalis* (white gum) where the canopy cover of *E. viminalis* is greater than or equal to 10% or where *E. viminalis* occurs as a localised canopy dominant or codominant in patches exceeding 0.25 ha. ***Significant habitat*** is all potential habitat associated with known colonies and such habitat within 500 m of known colonies.	***Potential habitat*** marginally present (*Eucalyptus viminalis* present but not as indicated). ***Significant habitat*** absent. This site is well outside the recognised contemporary range of the species such that it should not require further consideration.
Perameles gunnii subsp. *gunnii* eastern barred bandicoot	- VU #	***Potential habitat*** is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland. ***Significant habitat*** is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species.	***Potential habitat*** present. ***Significant habitat*** absent (very open and heavily grazed "rough pasture"). This species should not require further consideration.
Prototroctes maraena australian grayling	v VU #	***Potential habitat*** is all streams and rivers in their lower to middle reaches. Areas above permanent barriers (e.g. Prosser River dam, weirs) that prevent fish migration, are not potential habitat.	***Potential habitat*** absent (only one highly ephemeral watercourse present). This species should not require further consideration.
Pseudemoia pagenstecheri tussock skink	v -	***Potential habitat*** is grassland and grassy woodland (including rough pasture with paddock trees), generally	***Potential habitat*** very marginally present (while there is some "rough pasture" and open grassy woodland,

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on assessment area and database records
		with a greater than 20% cover of native grass species, especially where medium to tall tussocks are present.	the tussockgrass cover is atypical of reported sites for the species). There is no proposal to impact on even this marginal potential habitat such that this species should not require further consideration.
Sarcophilus harrisii tasmanian devil	e EN #	***Potential habitat*** all terrestrial native habitats, forestry plantations and pasture. Devils require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and hunting habitat (open understorey mixed with patches of dense vegetation) within their home range (427 km^2). ***Significant habitat*** is a patch of potential denning habitat where three or more entrances (large enough for a devil to pass through) may be found within 100 m of one another, and where no other potential denning habitat with three or more entrances may be found within a 1 km radius, being the approximate area of the smallest recorded devil home range. ***Potential denning habitat*** is areas of burrowable, well-drained soil, log piles or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass.	***Potential habitat*** present, although the site provides effectively no denning opportunities. ***Significant habitat*** absent (within potential range only). This species should not require further consideration but refer to **FINDINGS *Threatened fauna*** for more details.
Tyto novaehollandiae subsp. *castanops* masked owl	e VU #	***Potential habitat*** is all areas with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may constitute potential habitat. ***Significant habitat*** is any areas within the core range of native dry forest with trees over 100 cm dbh with large hollows (≥15 cm entrance diameter).	***Potential habitat*** absent (there is one tree with large hollows that meet the criteria although the tree is in an exposed location and realistically probably too small for nesting – see Figure 13). ***Significant habitat*** absent (as above). There is no proposal to impact on the single hollow-bearing such that this species should not require further consideration but refer to **FINDINGS *Threatened fauna*** for more details.

APPENDIX E. DNRET's *Natural Values Atlas* report for study area

Appended as pdf file.

APPENDIX F. Forest Practices Authority's *Biodiversity Values Atlas* report for study area

Appended as pdf file.

APPENDIX G. CofA's *Protected Matters* report for study area

Appended as pdf file.

ATTACHMENTS

- .shp file of revised vegetation mapping
- .shp file of point locations of weeds
- .shp file of point location of large hollow-bearing tree

Appendix 3 EPBC Act Protected Matters Report

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 19-Sep-2024

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	57
Listed Migratory Species:	30

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	37
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	5
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	5
Key Ecological Features (Marine):	None
Biologically Important Areas:	5
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places			[Resource Information]
Name	State	Legal Status	Buffer Status
Historic			
Richmond Bridge	TAS	Listed place	In buffer area only

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Pitt water-orielton lagoon	Within Ramsar site	In feature area

Listed Threatened Ecological Communities			[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Lowland Native Grasslands of Tasmania	Critically Endangered	Community likely to occur within area	In buffer area only
Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (Eucalyptus ovata / E. brookeriana)	Critically Endangered	Community likely to occur within area	In feature area
Tasmanian white gum (Eucalyptus viminalis) wet forest	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species			[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aquila audax fleayi			
Tasmanian Wedge-tailed Eagle, Wedge-tailed Eagle (Tasmanian) [64435]	Endangered	Breeding likely to occur within area	In feature area
Ardenna grisea			
Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Ceyx azureus diemenensis Tasmanian Azure Kingfisher [25977]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Breeding known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pardalotus quadragintus Forty-spotted Pardalote [418]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Tyto novaehollandiae castanops (Tasmanian population)](#)			
Masked Owl (Tasmanian) [67051]	Vulnerable	Breeding known to occur within area	In feature area
FISH			
[Prototroctes maraena](#)			
Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area	In feature area
FROG			
[Litoria raniformis](#)			
Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat known to occur within area	In feature area
INSECT			
[Antipodia chaostola leucophaea](#)			
Tasmanian Chaostola Skipper, Heath-sand Skipper [77672]	Endangered	Species or species habitat may occur within area	In buffer area only
[Lissotes latidens](#)			
Broad-toothed Stag Beetle, Wielangta Stag Beetle [66760]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
[Dasyurus maculatus maculatus (Tasmanian population)](#)			
Spotted-tail Quoll, Spot-tailed Quoll, Tiger Quoll (Tasmanian population) [75183]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Dasyurus viverrinus](#)			
Eastern Quoll, Luaner [333]	Endangered	Species or species habitat known to occur within area	In feature area
[Perameles gunnii gunnii](#)			
Eastern Barred Bandicoot (Tasmania) [66651]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Sarcophilus harrisii](#)			
Tasmanian Devil [299]	Endangered	Species or species habitat likely to occur within area	In feature area
PLANT			
[Barbarea australis](#)			
Native Wintercress, Riverbed Wintercress [12540]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caladenia caudata Tailed Spider-orchid [17067]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Colobanthus curtisiae Curtis' Colobanth [23961]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Dianella amoena Matted Flax-lily [64886]	Endangered	Species or species habitat known to occur within area	In feature area
Epacris virgata Pretty Heath, Dan Hill Heath [20375]	Endangered	Species or species habitat may occur within area	In buffer area only
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat likely to occur within area	In feature area
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat may occur within area	In feature area
Prasophyllum apoxychilum Tapered Leek-orchid [64947]	Endangered	Species or species habitat may occur within area	In feature area
Pterostylis commutata Midland Greenhood [64535]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pterostylis ziegeleri Grassland Greenhood, Cape Portland Greenhood [64971]	Vulnerable	Species or species habitat may occur within area	In feature area
Senecio psilocarpus Swamp Fireweed, Smooth-fruited Groundsel [64976]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Spyridium lawrencei Small-leaf Spyridium [27036]	Endangered	Species or species habitat may occur within area	In feature area
Stenanthemum pimeleoides Spreading Stenanthemum, Propellor Plant [15450]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Migratory Marine Species

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Scientific Name	Threatened Category	Presence Text	Buffer Status
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat likely to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa lapponica			
Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Pluvialis fulva			
Pacific Golden Plover [25545]		Species or species habitat likely to occur within area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Unknown		
Commonwealth Land - [60306]	TAS	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna grisea as Puffinus griseus			
Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

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Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Breeding known to occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat likely to occur within area	In buffer area only
Sterna striata White-fronted Tern [799]		Migration route may occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Frogmore Creek Vineyard #1	Conservation Covenant	TAS	In buffer area only
Frogmore Creek Vineyard #2	Conservation Covenant	TAS	In buffer area only
Lowlands Richmond	Conservation Covenant	TAS	In buffer area only
Pitt Water	Nature Reserve	TAS	In buffer area only
Richmond Gaol	Historic Site	TAS	In buffer area only

Regional Forest Agreements	[Resource Information]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State	Buffer Status
Tasmania RFA	Tasmania	In feature area

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Tasmania Natural Gas Project - Stage 3	2001/212	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Industry/commercial precinct between Kennedy Rd and Tasman Hwy	2006/2557	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Coal River Valley water recycling scheme	2002/898	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
South East Irrigation Scheme	2013/6843	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Biologically Important Areas			[Resource Information]
Scientific Name	Behaviour	Presence	Buffer Status
Seabirds			
Ardenna grisea Sooty Shearwater [82651]	Foraging	Known to occur	In buffer area only
Ardenna tenuirostris Short-tailed Shearwater [82652]	Foraging	Known to occur	In buffer area only
Pelecanoides urinatrix Common Diving-petrel [1018]	Foraging	Known to occur	In buffer area only
Pterodroma mollis Soft-plumaged Petrel [1036]	Foraging	Known to occur	In buffer area only
Thalassarche cauta cauta Shy Albatross [82345]	Foraging likely	Likely to occur	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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Appendix 4 Threatened Fauna Range Boundaries

Threatened Fauna Range Boundaries

Search Point 539320E,5271540N is within the following fauna range boundaries as at Thu Sep 19 2024 13:45:45 GMT+1000 (Australian Eastern Standard Time)

Common name	Species name	Range Class	Habitat Description
grey goshawk	Accipiter novaehollandiae	Potential Range	Potential habitat for the grey goshawk is native forest with mature elements below 600 m altitude, particularly along watercourses. FPA's Fauna Technical Note 12 can be used as a guide in the identification of grey goshawk habitat. Significant habitat for the grey goshawk may be summarised as areas of wet forest, rainforest and damp forest patches in dry forest, with a relatively closed mature canopy, low stem density, and open understorey in close proximity to foraging habitat and a freshwater body (i.e. stream, river, lake, swamp, etc.). FPA's Fauna Technical Note 12 can be used as a guide in the identification of grey goshawk habitat.
chaostola skipper	Antipodia chaostola	Potential Range	Potential habitat for the Chaostola Skipper is dry forest and woodland supporting Gahnia radula (usually on sandstone and other sedimentary rock types) or Gahnia microstachya (usually on granite-based substrates).
wedge-tailed eagle	Aquila audax subsp. fleayi	Potential Range	Potential habitat for the wedge-tailed eagle comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is a wide variety of forest (including areas subject to native forest silviculture) and non-forest habitats. Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest. Nest trees are usually amongst the largest in a locality. They are generally in sheltered positions on leeward slopes, between the lower and mid sections of a slope and with the top of the tree usually lower than the ground level of the top of the ridge, although in some parts of the State topographic shelter is not always a significant factor (e.g. parts of the northwest and Central Highlands). Nests are usually not constructed close to sources of disturbance and nests close to disturbance are less productive. More than one nest may occur within a territory but only one is used for breeding in any one year. Breeding failure often promotes a change of nest in the next year. [see FPA's Fauna Technical Note 1 and FPA's Fauna Technical Note 6 for more information] Significant habitat for the wedge-tailed eagle is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where the nest tree is still present).
spotted-tailed quoll	Dasyurus maculatus subsp. maculatus	Potential Range	Potential habitat for the spotted-tailed quoll is coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex areas are present, and includes remnant patches in cleared agricultural land or plantation areas. Significant habitat for the spotted-tailed quoll is all potential denning habitat within the core range of the species. Potential denning habitat for the spotted-tailed quoll includes 1) any forest remnant (>0.5ha) in a cleared or plantation landscape that is structurally complex (high canopy, with dense understorey and ground vegetation cover), free from the risk of inundation, or 2) a rock outcrop, rock crevice, rock pile, burrow with a small entrance, hollow logs, large piles of coarse woody debris and caves. FPA's Fauna Technical Note 10 can be used as a guide in the identification of potential denning habitat.
eastern quoll	Dasyurus viverrinus	Core Range	Potential habitat for the Eastern quoll includes rainforest, heathland, alpine areas and scrub. However, it seems to prefer dry forest and native grassland mosaics which are bounded by agricultural land. Potential range for the Eastern Quoll is the whole of mainland Tasmania and Bruny Island.
eastern quoll	Dasyurus viverrinus	Potential Range	Potential habitat for the Eastern quoll includes rainforest, heathland, alpine areas and scrub. However, it seems to prefer dry forest and native grassland mosaics which are bounded by agricultural land. Potential range for the Eastern Quoll is the whole of mainland Tasmania and Bruny Island.
white-bellied sea-eagle	Haliaeetus leucogaster	Potential Range	Potential habitat for the White-Bellied Sea-eagle species comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is any large waterbody (including sea coasts, estuaries, wide rivers, lakes, impoundments and even large farm dams) supporting prey items (fish). Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest within 5 km of the coast (nearest coast including shores, bays, inlets and peninsulas), large rivers (Class 1), lakes or complexes of large farm dams. Scattered trees along river banks or pasture land may also be used. Significant habitat for the white-bellied sea-eagle is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where nest tree still present).
swift parrot	Lathamus discolor	Core Breeding Range	Potential breeding habitat for the Swift Parrot comprises potential foraging habitat and potential nesting habitat, and is based on definitions of foraging and nesting trees (see Table A in swift parrot habitat assessment Technical Note). Potential foraging habitat comprises E. globulus or E. ovata trees that are old enough to flower. In the Eastern Tiers, potential foraging habitat also includes E. brookeriana where it has the potential to contribute a substantial foraging resource. The occurrence of foraging-habitat can be remotely assessed, although only to a limited extent, by using mapping layers such as GlobMap (DPIPWE 2010). Due to the scale and inadequacies in current foraging-habitat mapping, potential foraging-habitat density within operational areas should be identified by ground-based surveys as per Table B in the swift parrot habitat assessment Technical Note. For management purposes potential nesting habitat is considered to comprise eucalypt forests that contain hollow-bearing trees. The FPA mature habitat availability map (see Technical Note 2) predicts the availability of hollow-bearing trees using the relevant definitions of habitat provided in Table C of the swift parrot habitat assessment Technical Note. The mature habitat availability map is designed to be used to make landscape-scale assessments and may not be reliable for stand-level assessments required during the development of a Forest Practices Plan. At the stand-level the availability and distribution of hollow-bearing trees across a coupe or operation area is best determined from a ground-based assessment (see Table C in the swift parrot habitat assessment Technical Note). Significant habitat is all potential breeding habitat within the SE potential breeding range and the NW breeding areas.
swift parrot	Lathamus discolor	SE Potential Range	Potential breeding habitat for the Swift Parrot comprises potential foraging habitat and potential nesting habitat, and is based on definitions of foraging and nesting trees (see Table A in swift parrot habitat assessment Technical Note). Potential foraging habitat comprises E. globulus or E. ovata trees that are old enough to flower. In the Eastern Tiers, potential foraging habitat also includes E. brookeriana where it has the potential to contribute a substantial foraging resource. The occurrence of foraging-habitat can be remotely assessed, although only to a limited extent, by using mapping layers such as GlobMap (DPIPWE 2010). Due to the scale and inadequacies in current foraging-habitat mapping, potential foraging-habitat density within operational areas should be identified by ground-based surveys as per Table B in the swift parrot habitat assessment Technical Note. For management purposes potential nesting habitat is considered to comprise eucalypt forests that contain hollow-bearing trees. The FPA mature habitat availability map (see Technical Note 2) predicts the availability of hollow-bearing trees

Common name	Species name	Range Class	Habitat Description
			using the relevant definitions of habitat provided in Table C of the swift parrot habitat assessment Technical Note. The mature habitat availability map is designed to be used to make landscape-scale assessments and may not be reliable for stand-level assessments required during the development of a Forest Practices Plan. At the stand-level the availability and distribution of hollow-bearing trees across a coupe or operation area is best determined from a ground-based assessment (see Table C in the swift parrot habitat assessment Technical Note). Significant habitat is all potential breeding habitat within the SE potential breeding range and the NW breeding areas.
green and golden frog	Litoria raniformis	Potential Range	Potential habitat for the green and gold frog is permanent and temporary waterbodies, usually with vegetation in or around them. Potential habitat includes features such as natural lagoons, permanently or seasonally inundated swamps and wetlands, farm dams, irrigation channels, artificial water-holding sites such as old quarries, slow-flowing stretches of streams and rivers and drainage features. Significant habitat for the green and gold frog is still or very slow flowing water bodies, with at least some vegetation, and a lack of obvious pollutants (oils, chemicals, etc). See FPA Fauna Technical Note 18 for further guidance on assessing significant habitat for the green and gold frog.
blue wing parrot	Neophema chrysostoma	Potential Range	Potential habitat for the BWP includes native Eucalypt forest, native Eucalypt woodlands, grasslands and wetlands.
forty-spotted pardalote	Pardalotus quadragintus	Potential Range	Potential habitat for the 40-spotted pardalote is any forest and woodland supporting Eucalyptus viminalis (white gum) where the canopy cover of E. viminalis is greater than or equal to 10% or where E. viminalis occurs as a localised canopy dominant or codominant in patches exceeding 0.25 ha. Significant habitat for the 40-spotted Pardalote is all potential habitat associated with known colonies and such habitat within 500 m of known colonies.
eastern barred bandicoot	Perameles gunnii	Potential Range	Potential habitat for the eastern barred bandicoot is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland. Significant habitat for the Eastern Barred Bandicoot is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species.
eastern barred bandicoot	Perameles gunnii	Core Range	Potential habitat for the eastern barred bandicoot is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland. Significant habitat for the Eastern Barred Bandicoot is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species.
australian grayling	Prototroctes maraena	Potential Range	Potential habitat for the Australian Grayling is all streams and rivers in their lower to middle reaches. Areas above permanent barriers (e.g. Prosser River dam, weirs) that prevent fish migration, are not potential habitat.
tasmanian devil	Sarcophilus harrisii	Potential Range	Potential habitat for the Tasmanian devil is all terrestrial native habitats, forestry plantations and pasture. Devils require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and hunting habitat (open understorey mixed with patches of dense vegetation) within their home range (4-27 km^2). Significant habitat for the Tasmanian devil is a patch of potential denning habitat where three or more entrances (large enough for a devil to pass through) may be found within 100 m of one another, and where no other potential denning habitat with three or more entrances may be found within a 1 km radius, being the approximate area of the smallest recorded devil home range (Pemberton 1990). Potential denning habitat for the Tasmanian devil is areas of burrowable, well-drained soil, log piles or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass. FPAs Fauna Technical Note 10 can be used as a guide in the identification of potential denning habitat.
masked owl	Tyto novaehollandiae	Potential Range	Potential habitat for the masked owl is all areas with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may also constitute potential habitat. Significant habitat for the masked owl is any area of native dry forest, within the core range, with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may also constitute significant habitat. See FPA Fauna Technical Note 17 for guidance on assessing masked owl habitat using on-ground and remote methods.
masked owl	Tyto novaehollandiae	Core Range	Potential habitat for the masked owl is all areas with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may also constitute potential habitat. Significant habitat for the masked owl is any area of native dry forest, within the core range, with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may also constitute significant habitat. See FPA Fauna Technical Note 17 for guidance on assessing masked owl habitat using on-ground and remote methods.

Showing 1 to 18 of 18 entries

Threatened Fauna Records

Fauna Records within 5000m of 539320E,5271540N at Thu Sep 19 2024 13:45:45 GMT+1000 (Australian Eastern Standard Time)

Records with the project code 'rnd' and same foreign ID (nest ID) have been simplified to only show the newest observation.

Species name	Common name	Reported Position accuracy (m)	X	Y	Distance (m)	Obs. type	Obs. date	Date accuracy	Obs. state	Project code + Foreign id	NVA id
Litoria raniformis	green and gold frog	1000	535112	5269083	4873	Sighting	1993-02-19	Unknown	Present	anuran anuran:anuran:4352/1	NVA
Litoria raniformis	green and gold frog	1000	535112	5269083	4873	Sighting	1993-02-19	Unknown	Present	anuran anuran:anuran:4352/1	NVA
Litoria raniformis	green and gold frog	1000	543812	5270083	4722	Sighting	1993-12-14	Unknown	Present	anuran anuran:anuran:3641/1	NVA
Litoria raniformis	green and gold frog	1000	543812	5270083	4722	Sighting	1993-12-14	Unknown	Present	anuran anuran:anuran:3641/1	NVA
Tyto novaehollandiae	masked owl	5000	535612	5268683	4681	Sighting	1985-10-29	Unknown	Present	fos cra-rfa:fos:13622/1	NVA
Tyto novaehollandiae	masked owl	5000	535612	5268683	4681	Sighting	1985-10-29	Unknown	Present	fos cra-rfa:fos:13622/1	NVA
Tyto novaehollandiae	masked owl	5000	535612	5268683	4681	Sighting	1987-01-01	Unknown	Present	fos cra-rfa:fos:13625/1	NVA
Tyto novaehollandiae	masked owl	5000	535612	5268683	4681	Sighting	1987-01-01	Unknown	Present	fos cra-rfa:fos:13625/1	NVA
Tyto novaehollandiae	masked owl	5000	536329	5269054	3889	Sighting	1981-06-16	Unknown	Present	qvm-fos cra-rfa:qvm-fos:12586/1	NVA
Tyto novaehollandiae	masked owl	5000	536329	5269054	3889	Sighting	1981-06-16	Unknown	Present	qvm-fos cra-rfa:qvm-fos:12586/1	NVA
Lathamus discolor	swift parrot	100	541712	5271683	2396	Sighting	1996-11-14	Unknown	Present	rtbg-rt cra-rfa:rtbg-rt:600/1	NVA
Lathamus discolor	swift parrot	100	541712	5271683	2396	Sighting	1996-11-14	Unknown	Present	rtbg-rt cra-rfa:rtbg-rt:600/1	NVA
Tyto novaehollandiae	masked owl	5000	535612	5268683	4681	Sighting	1985-10-25	Unknown	Present	tmag-fos cra-rfa:tmag-fos:13176/1	NVA
Tyto novaehollandiae	masked owl	5000	535612	5268683	4681	Sighting	1985-10-25	Unknown	Present	tmag-fos cra-rfa:tmag-fos:13176/1	NVA
Lathamus discolor	swift parrot	1000	542712	5272883	3648	Sighting	1983-10-28	Unknown	Present	tfm tfm:tfm:1266/1	NVA
Lathamus discolor	swift parrot	1000	542712	5272883	3648	Sighting	1983-10-28	Unknown	Present	tfm tfm:tfm:1266/1	NVA
Lathamus discolor	swift parrot	1000	541712	5271482	2393	Sighting	1983-10-28	Unknown	Present	tfm tfm:tfm:1260/1	NVA
Lathamus discolor	swift parrot	1000	541712	5271482	2393	Sighting	1983-10-28	Unknown	Present	tfm tfm:tfm:1260/1	NVA
Lathamus discolor	swift parrot	100	542712	5272883	3648	Sighting	1987-10-29	Unknown	Present	swp-87 tp:swp-87:1164/2	NVA
Lathamus discolor	swift parrot	100	542712	5272883	3648	Sighting	1987-10-29	Unknown	Present	swp-87 tp:swp-87:1164/2	NVA
Lathamus discolor	swift parrot	100	541712	5271482	2393	Sighting	1987-10-29	Unknown	Present	swp-87 tp:swp-87:1182/2	NVA
Lathamus discolor	swift parrot	100	541712	5271482	2393	Sighting	1987-10-29	Unknown	Present	swp-87 tp:swp-87:1182/2	NVA
Lathamus discolor	swift parrot	100	541860	5271443	2542	Sighting	2000-01-01	Decade	Present	fpaf 6341	NVA
Lathamus discolor	swift parrot	100	541860	5271443	2542	Sighting	2000-01-01	Decade	Present	fpaf 6341	NVA
Tyto novaehollandiae	masked owl	5000	536198	5268074	4665	Sighting	1985-10-25	Day	Present	tmagvert B4210	NVA
Tyto novaehollandiae	masked owl	5000	536198	5268074	4665	Sighting	1985-10-25	Day	Present	tmagvert B4210	NVA
Lathamus discolor	swift parrot	200	535807	5273080	3836	Sighting	2013-10-23	Month	Present	mwspr	NVA
Lathamus discolor	swift parrot	200	535807	5273080	3836	Sighting	2013-10-23	Month	Present	mwspr	NVA

Species name	Common name	Reported Position accuracy (m)	X	Y	Distance (m)	Obs. type	Obs. date	Date accuracy	Obs. state	Project code + Foreign id	NVA id
Lathamus discolor	swift parrot	50	543071	5272043	3785	Sighting	2017-06-04	Day	Present	dpiw-fauna	NVA
Lathamus discolor	swift parrot	50	543071	5272043	3785	Sighting	2017-06-04	Day	Present	dpiw-fauna	NVA
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	10	539371	5269913	1628	Nest	2024-02-20	Day	Present	rnd 2491	NVA
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	10	538992	5269885	1687	Nest	2024-02-20	Day	Present	rnd 3307	NVA
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	10	540522	5272944	1848	Nest	2024-02-20	Day	Present	rnd 3314	NVA
Eagle sp.	Eagle	10	540946	5272954	2155	Nest	2024-02-20	Day	Present	rnd 3315	NVA

Showing 1 to 34 of 34 entries

Threatened Flora Records

Flora Records within 2000m of 539320E, 5271540N at Thu Sep 19 2024 13:45:45 GMT+1000 (Australian Eastern Standard Time)

Species name	Common name	Reported Position accuracy (m)	X	Y	Distance (m)	Obs. type	Obs. date	Date accuracy	Obs. state	NVA id
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	100	539312	5272782	1242	Sighting	1993-01-01	Decade	Present	NVA
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	100	539312	5272782	1242	Sighting	1993-01-01	Decade	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	100	539212	5272883	1347	Sighting	1993-01-01	Decade	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	100	539212	5272883	1347	Sighting	1993-01-01	Decade	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	100	539312	5272782	1242	Sighting	1993-01-01	Decade	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	100	539312	5272782	1242	Sighting	1993-01-01	Decade	Present	NVA
Eryngium ovinum	blue devil	100	540612	5271883	1337	Sighting	1993-01-01	Decade	Present	NVA
Eryngium ovinum	blue devil	100	540612	5271883	1337	Sighting	1993-01-01	Decade	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	100	539262	5271883	348	Sighting	1993-10-01	Unknown	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	100	539262	5271883	348	Sighting	1993-10-01	Unknown	Present	NVA
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	100	539262	5271883	348	Sighting	1993-10-01	Unknown	Present	NVA
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	100	539262	5271883	348	Sighting	1993-10-01	Unknown	Present	NVA
Vittadinia cuneata var. cuneata	fuzzy new-holland-daisy	10	539487	5270109	1441	Sighting	2004-02-04	Day	Present	NVA
Vittadinia cuneata var. cuneata	fuzzy new-holland-daisy	10	539487	5270109	1441	Sighting	2004-02-04	Day	Present	NVA
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	20	537962	5270293	1844	Sighting	2005-01-24	Day	Present	NVA
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	20	537962	5270293	1844	Sighting	2005-01-24	Day	Present	NVA
Austrostipa blackii	crested speargrass	20	539831	5272585	1163	Sighting	2009-05-12	Day	Present	NVA
Austrostipa blackii	crested speargrass	20	539831	5272585	1163	Sighting	2009-05-12	Day	Present	NVA
Austrostipa blackii	crested speargrass	20	539990	5272783	1412	Sighting	2009-05-12	Day	Present	NVA
Austrostipa blackii	crested speargrass	20	539990	5272783	1412	Sighting	2009-05-12	Day	Present	NVA
Austrostipa blackii	crested speargrass	20	539905	5272916	1495	Sighting	2009-05-12	Day	Present	NVA
Austrostipa blackii	crested speargrass	20	539905	5272916	1495	Sighting	2009-05-12	Day	Present	NVA
Brachyscome rigidula	cutleaf daisy	10	538023	5270654	1571	Sighting	2010-09-17	Day	Present	NVA
Brachyscome rigidula	cutleaf daisy	10	538023	5270654	1571	Sighting	2010-09-17	Day	Present	NVA
Scleranthus fasciculatus	spreading knawel	10	537889	5270464	1790	Sighting	2010-09-17	Day	Present	NVA
Scleranthus fasciculatus	spreading knawel	10	537889	5270464	1790	Sighting	2010-09-17	Day	Present	NVA
Vittadinia muelleri	narrowleaf new-holland-daisy	25	539340	5272827	1287	Sighting	2007-12-11	Day	Present	NVA
Vittadinia muelleri	narrowleaf new-holland-daisy	25	539340	5272827	1287	Sighting	2007-12-11	Day	Present	NVA
Vittadinia muelleri	narrowleaf new-holland-daisy	100	538012	5270283	1814	Sighting	2005-02-01	Month	Present	NVA

Species name	Common name	Reported Position accuracy (m)	X	Y	Distance (m)	Obs. type	Obs. date	Date accuracy	Obs. state	NVA id
Vittadinia muelleri	narrowleaf new-holland-daisy	100	538012	5270283	1814	Sighting	2005-02-01	Month	Present	NVA
Scleranthus fasciculatus	spreading knawel	50	538166	5270604	1486	Sighting	2012-11-07	Day	Present	NVA
Scleranthus fasciculatus	spreading knawel	50	538166	5270604	1486	Sighting	2012-11-07	Day	Present	NVA
Vittadinia muelleri	narrowleaf new-holland-daisy	50	538166	5270604	1486	Sighting	2012-11-07	Day	Present	NVA
Vittadinia muelleri	narrowleaf new-holland-daisy	50	538166	5270604	1486	Sighting	2012-11-07	Day	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	10	538251	5272572	1486	Sighting	2020-12-03	Day	Present	NVA
Vittadinia gracilis	woolly new-holland-daisy	10	538251	5272572	1486	Sighting	2020-12-03	Day	Present	NVA

Showing 1 to 36 of 36 entries

Threatened Flora Survey Notes

SURVEY SKILL LEVEL

Refer to Threatened Flora Species Survey Notes (FPA 2016) for more information.

Survey skill level:

1: highly distinctive species – an FPO or forest planner can undertake surveys

2: distinctive species – a flora-competent forest planner can undertake surveys

3: non-distinctive species and species occupying specialised niches – only experienced field botanists can undertake surveys

PC Susceptibility Rating

Code	Description
Hs	Highly susceptible: expect >75% mortality of infected plants to be killed
Ms	Moderately susceptible: expect 25-75% mortality of infected plants
Prb	Probably highly or moderately susceptible but no records of Phytophthora infection
Ss	Slightly susceptible: symptomless but reduced vigour
S	Susceptible but unable to make a rating
Rh	Resistant host: Phytophthora persists but host shows no symptoms.
In	Susceptible habitat which may have flow on effect for species, and therefore species indirectly susceptible
Nc	Susceptible species, but habitat not conducive to disease

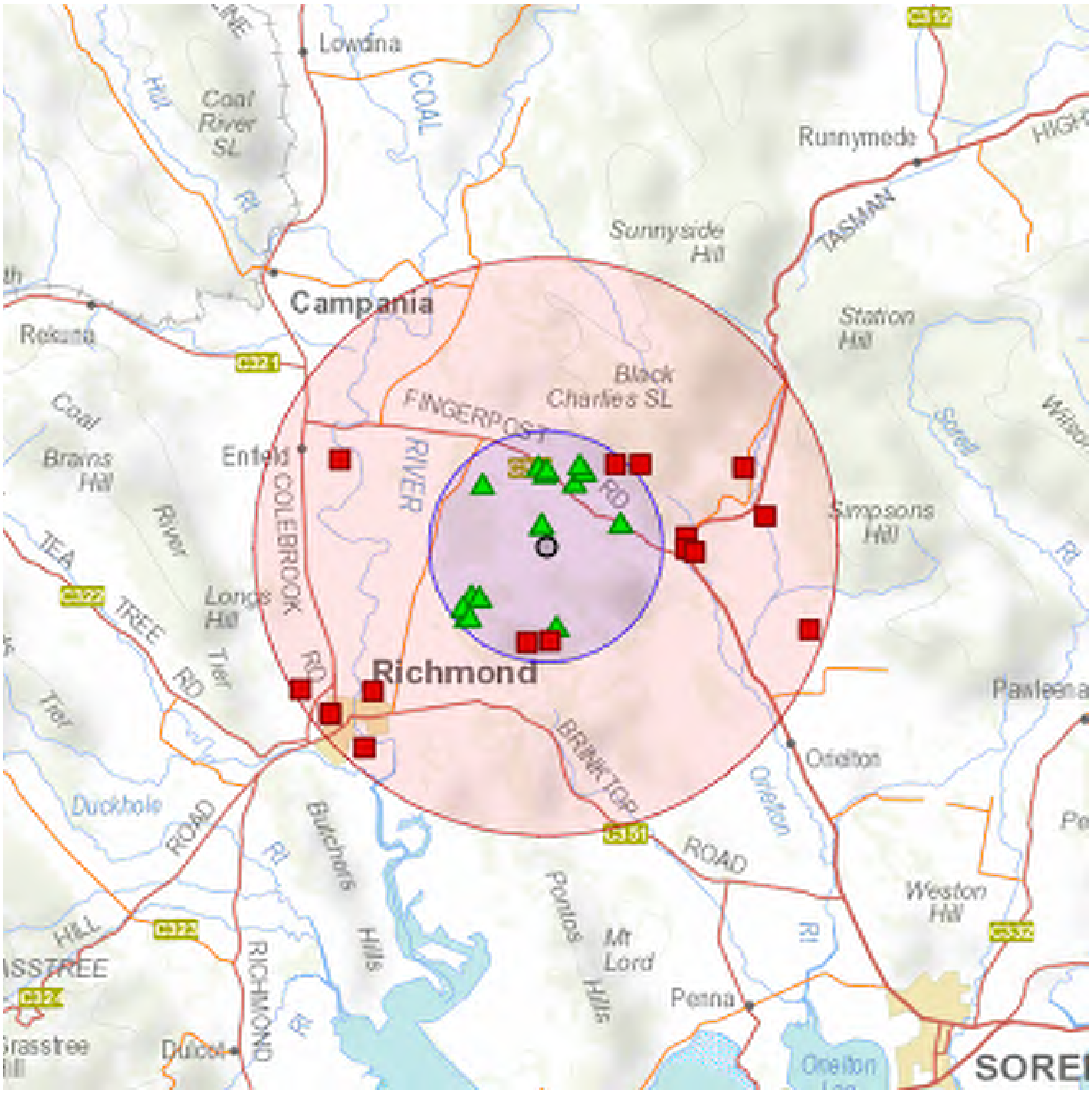
HABITAT DESCRIPTION

Refer to Habitat Descriptions of Threatened Flora in Tasmania (FPA 2016) for more information.

Species name	Common name	Life form	Status TSPA, EPBCA	Habitat description	Survey guidelines	Survey skill level	TPA Grouping	PC Susceptibility Rating
Austrostipa blackii	crested speargrass	grass	r, -	The habitat of Austrostipa blackii is poorly understood because of confusion with other species. In its "pure" form (i.e. long coma), A. blackii is a species of very near-coastal sites such as the margins of saline lagoons, creek outfalls and vegetated dunes. Further inland, where it seems to grade into other species, it occurs in open grassy woodlands.	The taxonomy of native Austrostipa species is difficult. This tall grass flowers from November to January. Mature inflorescences are required for identification - older inflorescences with seeds may allow identification outside the flowering period.	3	Group 1	
Brachyscome rigidula	cutleaf daisy	annual herb	v, -	Brachyscome rigidula is found in the Midlands, East Coast and in parts of the eastern Central Highlands of Tasmania, where it occurs in rough pasture, grassland and grassy woodland on dry rocky hills and flats.	This herb flowers from August to May. The presence of flowers will aid detection and enable identification of the species, however the species is also vegetatively distinctive. Flowers sometimes persist past the spring flowering period but may be difficult to detect amongst dense dried grass.	3	Group 3	
Eryngium ovinum	blue devil	herb	v, -	Eryngium ovinum occurs in a range of lowland vegetation types most often on fertile heavy clay soils derived from dolerite. Vegetation types include open grasslands usually dominated by Themeda triandra (kangaroo grass), grassy forests and woodlands on slopes, ridges and broad flats, and also roadside verges (representing remnant populations),	Eryngium ovinum is a herb with distinctive spiny foliage (arranged in basal rosettes) and metallic-blue flower-heads (present from November to January). Surveys can be undertaken any time of the year but the species can die back in very dry periods and the blue flowers aid detection amongst dense grass.	2	Group 1	
Scleranthus fasciculatus	spreading knawel	herb	v, -	Scleranthus fasciculatus is only recorded from a few locations in the Midlands and south-east. The vegetation at most of the sites is Poa grassland/grassy woodland.	This ground cover can be detected at any time of the year, although it is most obvious in spring-summer and	3	Group 1	

Species name	Common name	Life form	Status TSPA, EPBCA	Habitat description	Survey guidelines	Survey skill level	TPA Grouping	PC Susceptibility Rating
				Scleranthus fasciculatus appears to need gaps between the tussock spaces for its survival and both fire and stock grazing maintain the openness it requires. Often found in areas protected from grazing such as fallen trees and branches.	when surrounding grass is browsed low.			
Vittadinia cuneata var. cuneata	fuzzy new-holland-daisy	herb	r, -	Vittadinia cuneata var. cuneata occurs in native grassland and grassy woodland.	This herb can be detected at any time of the year although the flush of spring growth and purple flowers in spring aid detection considerably. The species can be identified on vegetative characters alone.	3	Group 1	
Vittadinia gracilis	woolly new-holland-daisy	herb	r, -	Vittadinia gracilis occurs in native grassland and grassy woodland.	This herb can be detected at any time of the year although the flush of spring growth and purple flowers in spring aid detection considerably. The species can be identified on vegetative characters alone.	3	Group 1	
Vittadinia muelleri	narrowleaf new-holland-daisy	herb	r, -	Vittadinia muelleri occurs in native grassland and grassy woodland.	This herb can be detected at any time of the year although the flush of spring growth and purple flowers in spring aid detection considerably. The species can be identified on vegetative characters alone.	3	Group 1	

Showing 1 to 7 of 7 entries


Lowdina
Coal River SL
COAL
Runnymede
TASMAN
Sunnyside Hill
Campania
Reknia
Station Hill
Black Charles SL
FINGERPOST RD
Coal
Brains Hill
Enfield
RIVER
COLEBROOK RD
Simpsons Hill
TEA TREE RD
Longs Hill
Richmond
Pawleena
BRINKTOP ROAD
Orielton
Duckhole
Butchers Hills
Pontos Hills
Mt Lord
Weston Hill
RICHMOND
Penna
Orielton Lag
SOREL

Appendix 5 Natural Values Atlas Report

Natural Values Atlas Report

Authoritative, comprehensive information on Tasmania's natural values.

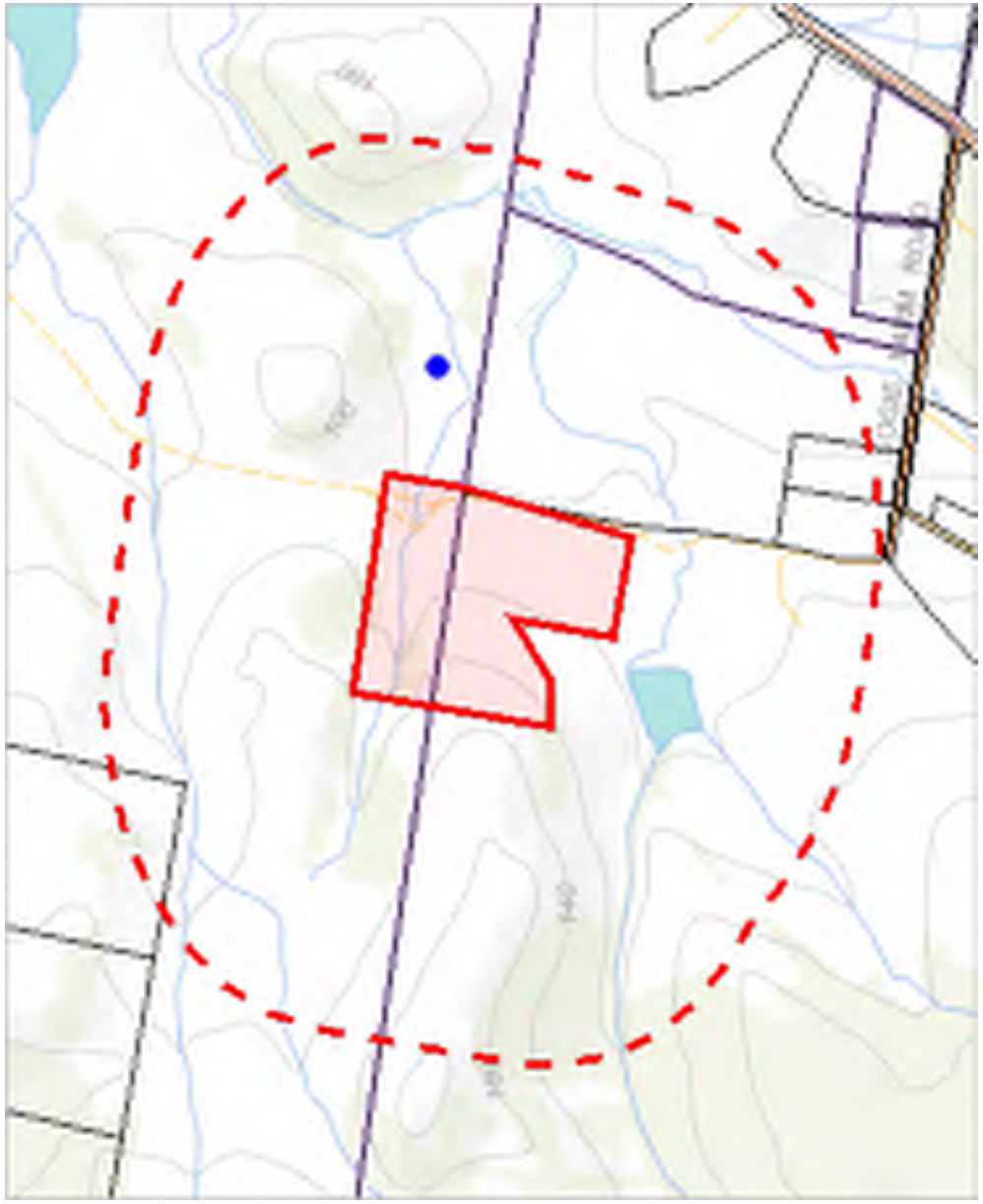
Reference:	ECOtas_LogieFarmQuarry
Requested For:	MWapstra
Report Type:	Summary Report
Timestamp:	01:43:46 PM Thursday 19 September 2024
Threatened Flora:	buffers Min: 500m Max: 5000m
Threatened Fauna:	buffers Min: 500m Max: 5000m
Raptors:	buffers Min: 500m Max: 5000m
Tasmanian Weed Management Act Weeds:	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
Tasmanian Reserve Estate:	buffer 1000m
Biosecurity Risks:	buffer 1000m

The centroid for this query GDA94: 539320.0, 5271540.0 falls within:

Property: 3546578

Threatened flora within 500 metres

540068, 5272426



538612, 5270646

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

Threatened flora within 500 metres

Legend: Verified and Unverified observations

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

Legend: Cadastral Parcels

Threatened flora within 500 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Vittadinia gracilis	woolly new-holland-daisy	r		n	1	01-Oct-1993
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	p		n	1	01-Oct-1993

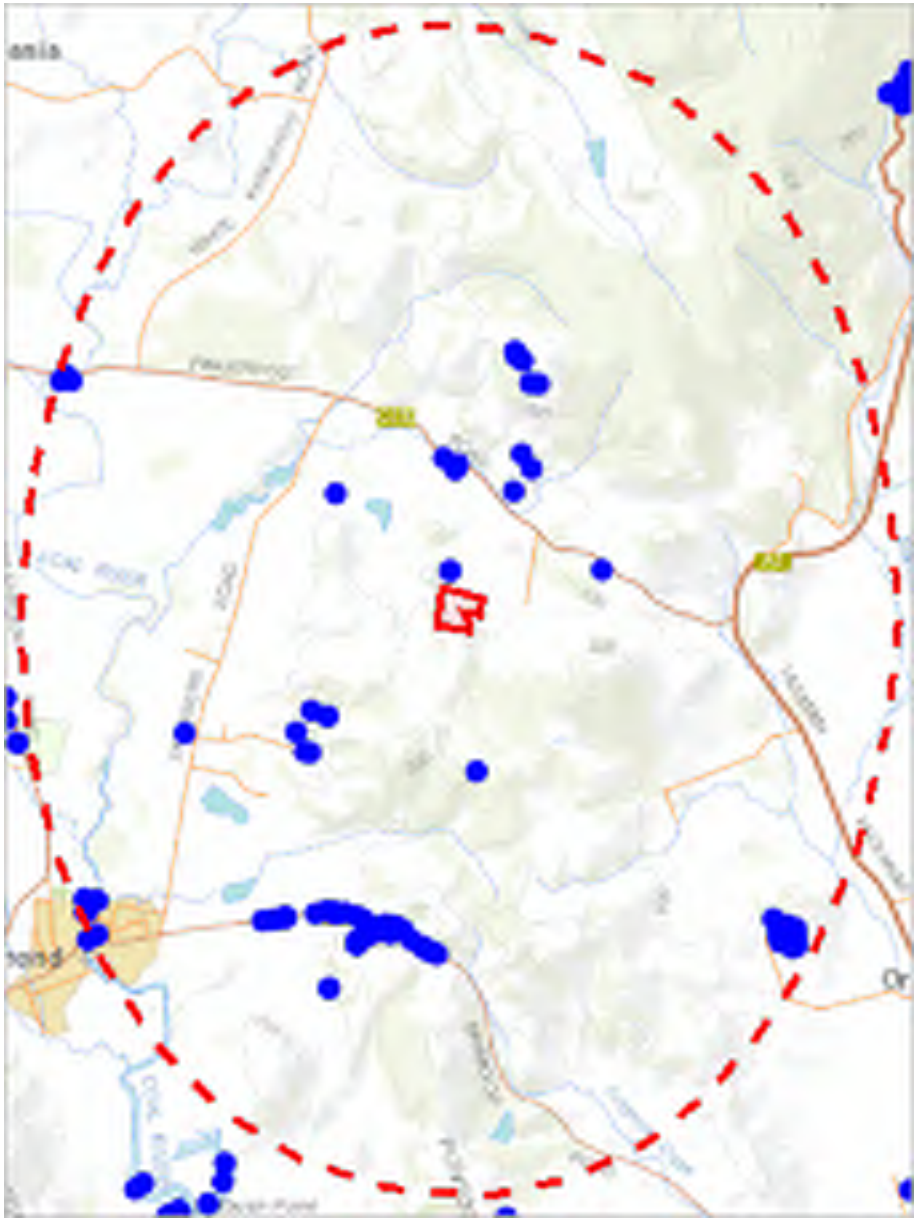
Unverified Records

No unverified records were found!

For more information about threatened species, please contact Threatened Species Enquiries.
Telephone: 1300 368 550
Email: ThreatenedSpecies.Enquiries@nre.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Threatened flora within 5000 metres

543413, 5276931



535272, 5266136

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

Threatened flora 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 within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Austrostipa bigeniculata	doublejointed speargrass	r		n	1	21-Dec-2015
Austrostipa blackii	crested speargrass	r		n	3	12-May-2009
Brachyscome rigidula	cutleaf daisy	v		n	1	17-Sep-2010
Calocephalus citreus	lemon beautyheads	r		n	5	01-Jan-1993
Dianella amoena	grassland flaxlily	r	EN	n	1	21-Dec-2015
Eryngium ovinum	blue devil	v		n	2	01-Jan-1993
Haloragis heterophylla	variable raspwort	r		n	2	21-Dec-2015
Isoetopsis graminifolia	grass cushion	v		n	4	31-Oct-2020
Lepidium hyssopifolium	soft peppercress	e	EN	n	1	26-Jan-1976
Rumex bidens	mud dock	v		n	1	06-Feb-2022
Scleranthus fasciculatus	spreading knawel	v		n	20	24-May-2023
Senecio squarrosus	leafy fireweed	r		n	1	21-Dec-2015
Vittadinia burbidgeae	smooth new-holland-daisy	r		e	1	10-Nov-1991
Vittadinia cuneata var. cuneata	fuzzy new-holland-daisy	r		n	2	04-Feb-2004
Vittadinia gracilis	woolly new-holland-daisy	r		n	11	03-Dec-2020
Vittadinia muelleri	narrowleaf new-holland-daisy	r		n	57	28-Aug-2021
Vittadinia muelleri (broad sense)	narrow leaf new holland daisy	p		n	21	20-Feb-2007

Unverified Records

No unverified records were found!

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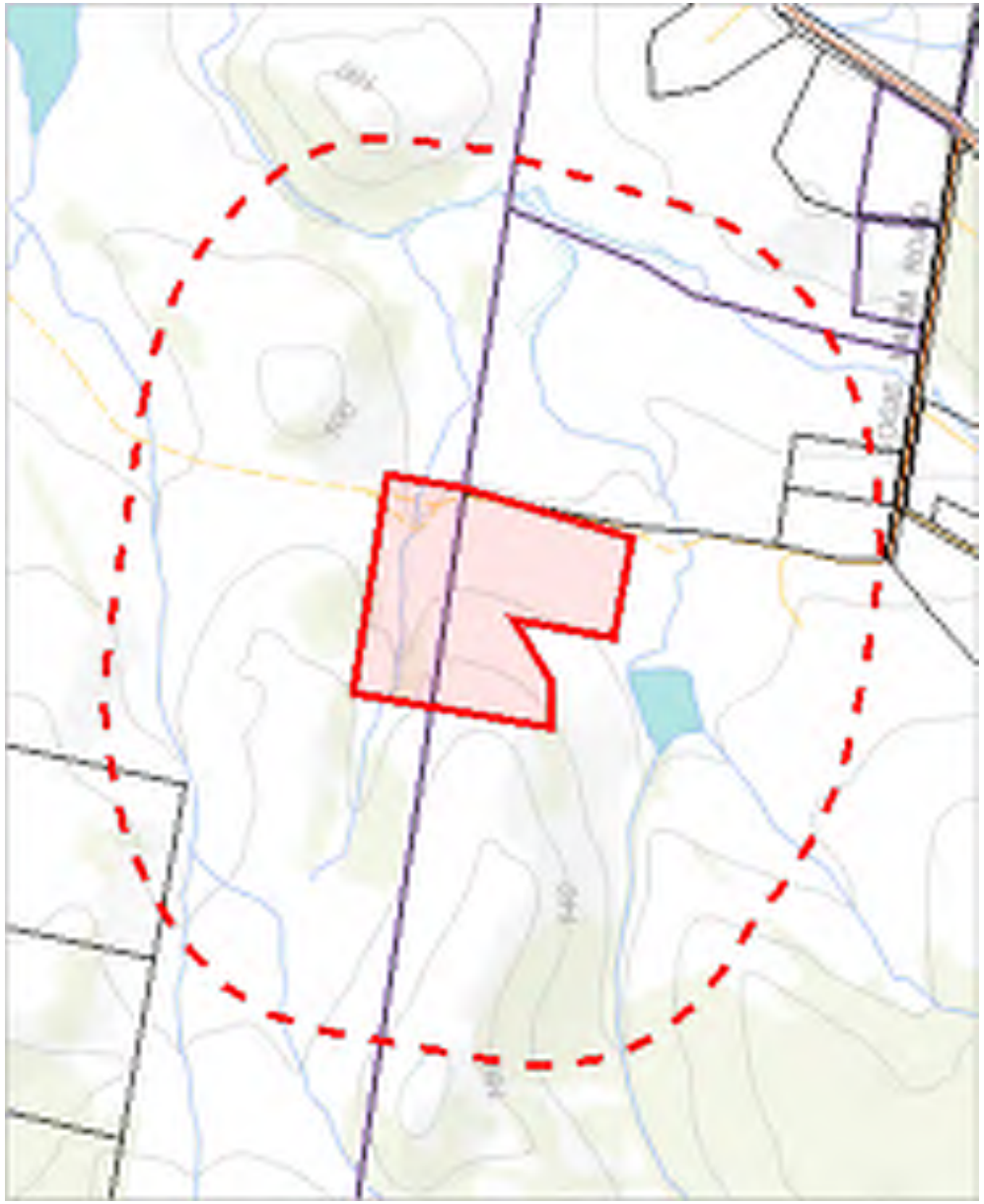
Threatened fauna within 500 metres

540068, 5272426



538612, 5270646

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

(based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Lathamus discolor	swift parrot	e	CR	mbe	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
Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	n	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	0
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Pardalotus quadragintus	forty-spotted pardalote	e	EN	e	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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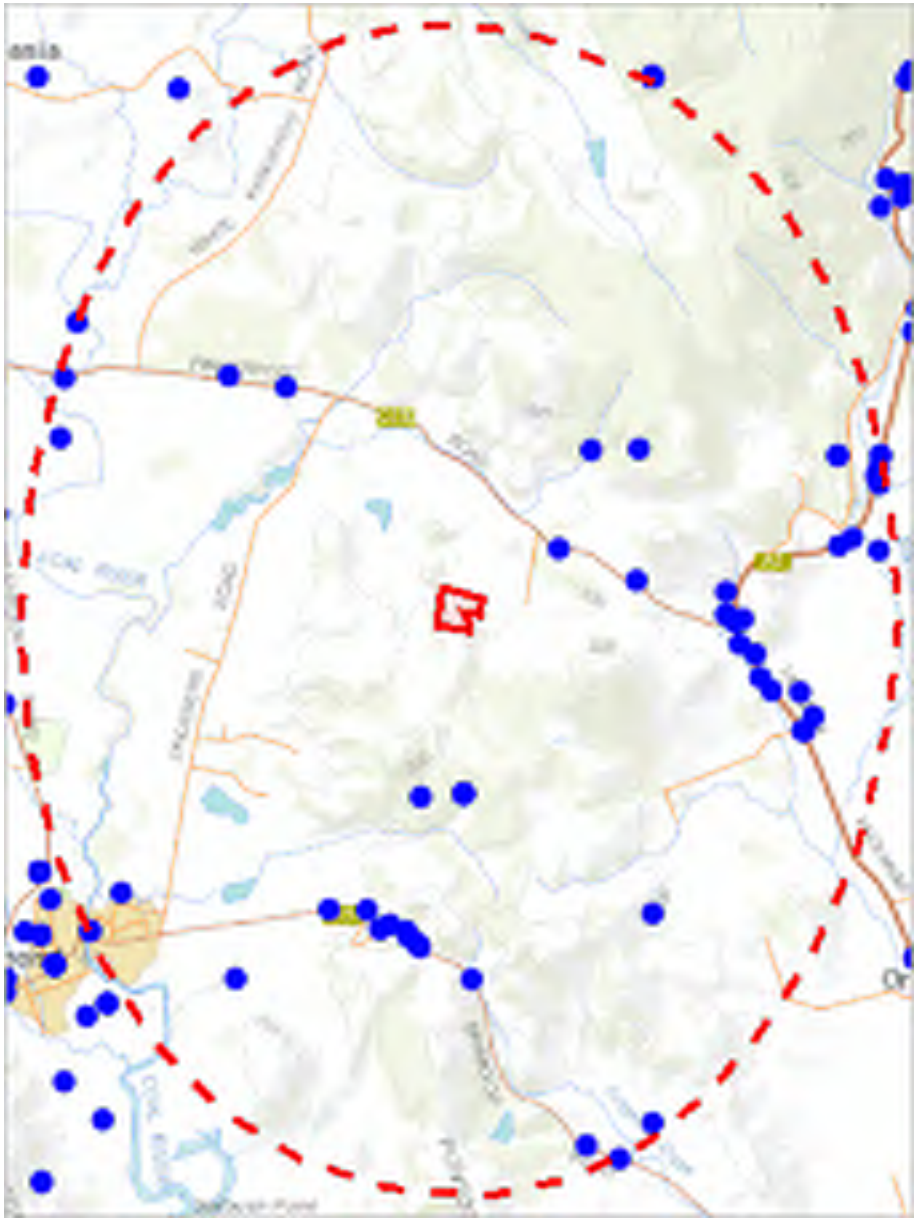
Threatened fauna within 5000 metres

543413, 5276931



535272, 5266136

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

Threatened fauna 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 within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
Accipiter novaehollandiae	grey goshawk	e		n	3	11-Nov-2022
Aquila audax	wedge-tailed eagle	pe	PEN	n	17	22-Nov-2022
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	e	10	20-Feb-2024
Botaurus poiciloptilus	australasian bittern		EN	n	1	13-Jul-1938
Dasyurus maculatus	spotted-tailed quoll	r	VU	n	6	03-Jun-2022
Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	n	4	04-Dec-2023
Dasyurus viverrinus	eastern quoll		EN	n	8	06-Feb-2022
Eagle sp.	Eagle	e	EN	n	1	20-Feb-2024
Haliaeetus leucogaster	white-bellied sea-eagle	v		n	2	08-Jun-2020
Lathamus discolor	swift parrot	e	CR	mbe	8	04-Jun-2017
Litoria raniformis	green and gold frog	v	VU	n	3	01-Dec-2014
Neophema chrysostoma	blue-winged parrot		VU	n	1	09-Nov-2022
Perameles gunnii	eastern barred bandicoot		VU	n	17	07-Nov-2021
Sarcophilus harrisii	tasmanian devil	e	EN	e	41	24-Jan-2024
Tyto novaehollandiae	masked owl	pe	PVU	n	8	07-Sep-2009

Unverified Records

No unverified records were found!

Threatened fauna within 5000 metres

(based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
Litoria raniformis	green and gold frog	v	VU	n	1	0	1
Lathamus discolor	swift parrot	e	CR	mbe	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
Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	n	1	0	0
Accipiter novaehollandiae	grey goshawk	e		n	1	0	0
Sarcophilus harrisii	tasmanian devil	e	EN	e	1	0	0
Antechinus vandycki	Tasman Peninsula Dusky Antechinus	v		eH	1	0	0
Pardalotus quadragintus	forty-spotted pardalote	e	EN	e	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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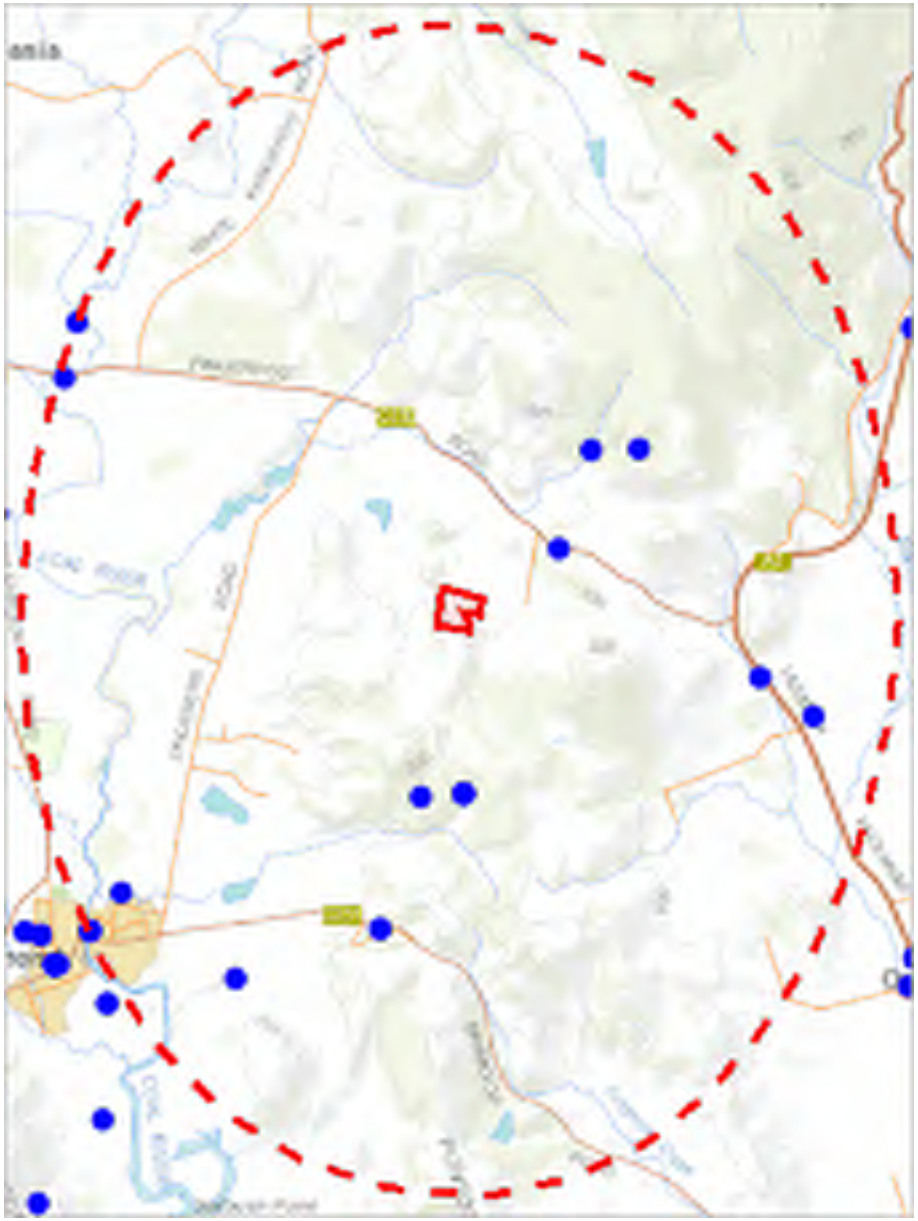
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

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

Raptor nests and sightings within 5000 metres

543413, 5276931



535272, 5266136

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

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

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
2491	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	5	20-Feb-2024
3307	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	1	20-Feb-2024
3314	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Nest	1	20-Feb-2024
3315	Eagle sp.	Eagle	Nest	1	20-Feb-2024
	Accipiter novaehollandiae	grey goshawk	Not Recorded	2	26-Aug-2018
	Accipiter novaehollandiae	grey goshawk	Sighting	1	11-Nov-2022
	Aquila audax	wedge-tailed eagle	Not Recorded	8	09-May-2018
	Aquila audax	wedge-tailed eagle	Sighting	9	22-Nov-2022
	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Carcass	1	13-Aug-2017
	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	Sighting	2	15-May-2021
	Falco longipennis	australian hobby	Sighting	2	20-Apr-2022
	Falco peregrinus	peregrine falcon	Not Recorded	2	01-May-2009
	Falco peregrinus	peregrine falcon	Sighting	3	26-May-2021
	Haliaeetus leucogaster	white-bellied sea-eagle	Not Recorded	1	12-Apr-2018
	Haliaeetus leucogaster	white-bellied sea-eagle	Sighting	1	08-Jun-2020
	Tyto novaehollandiae	masked owl	Not Recorded	1	07-Sep-2009
	Tyto novaehollandiae	masked owl	Sighting	7	04-Nov-1993

Unverified Records

No unverified records were found!

Raptor nests and sightings within 5000 metres

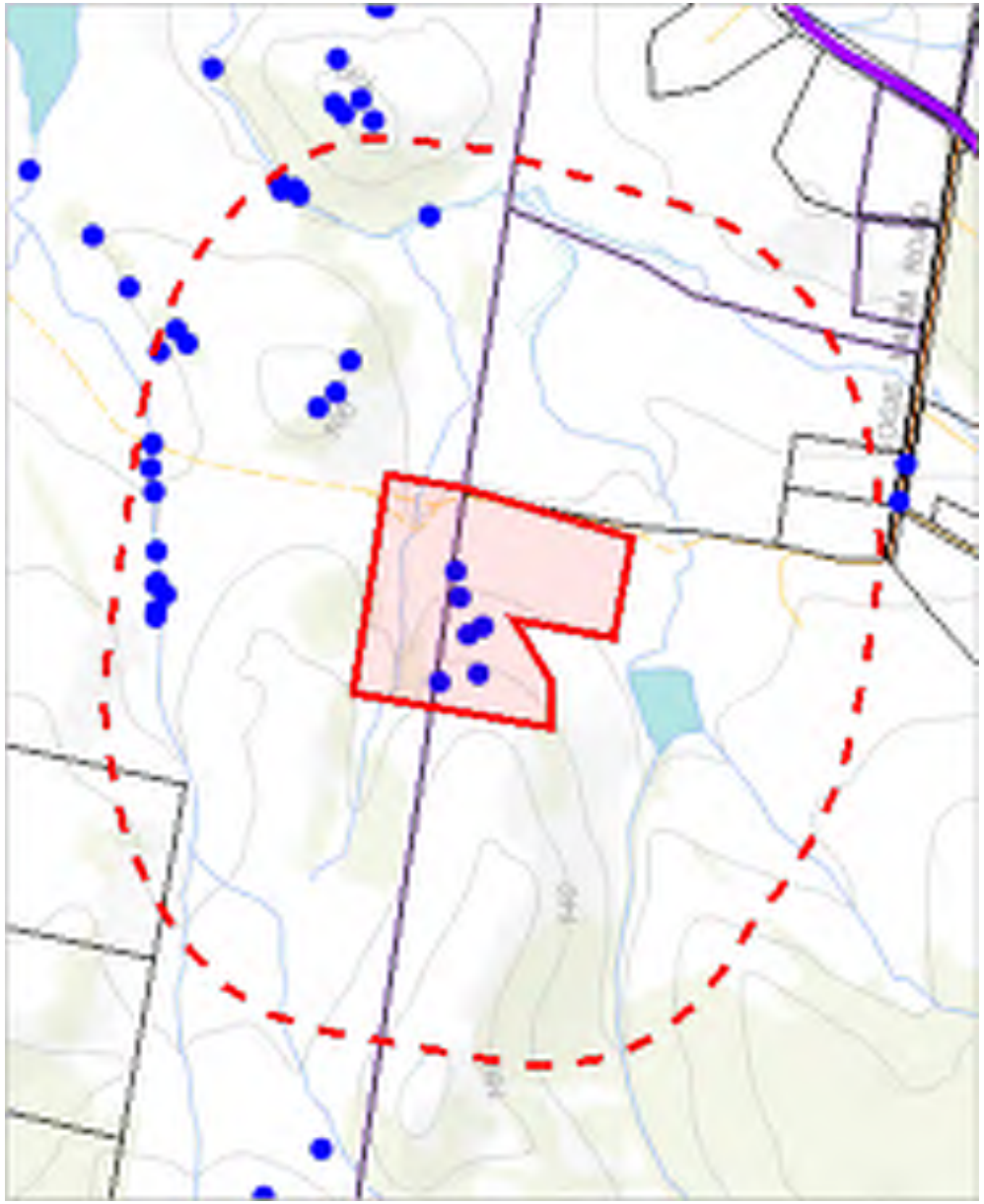
(based on Range Boundaries)

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		2	0	0

For more information about raptor nests, please contact Threatened Species Enquiries.
Telephone: 1300 368 550
Email: ThreatenedSpecies.Enquiries@nre.tas.gov.au
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Tas Management Act Weeds within 500 m

540068, 5272426



538612, 5270646

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
Carduus pycnocephalus	slender thistle	3	03-Dec-2020
Cirsium arvense var. arvense	creeping thistle	6	03-Dec-2020
Foeniculum vulgare	fennel	2	02-Feb-2018
Lepidium draba	hoary cress	1	03-Dec-2020
Lycium ferocissimum	african boxthorn	9	03-Dec-2020
Marrubium vulgare	white horehound	7	03-Dec-2020
Ulex europaeus	gorse	1	03-Dec-2020

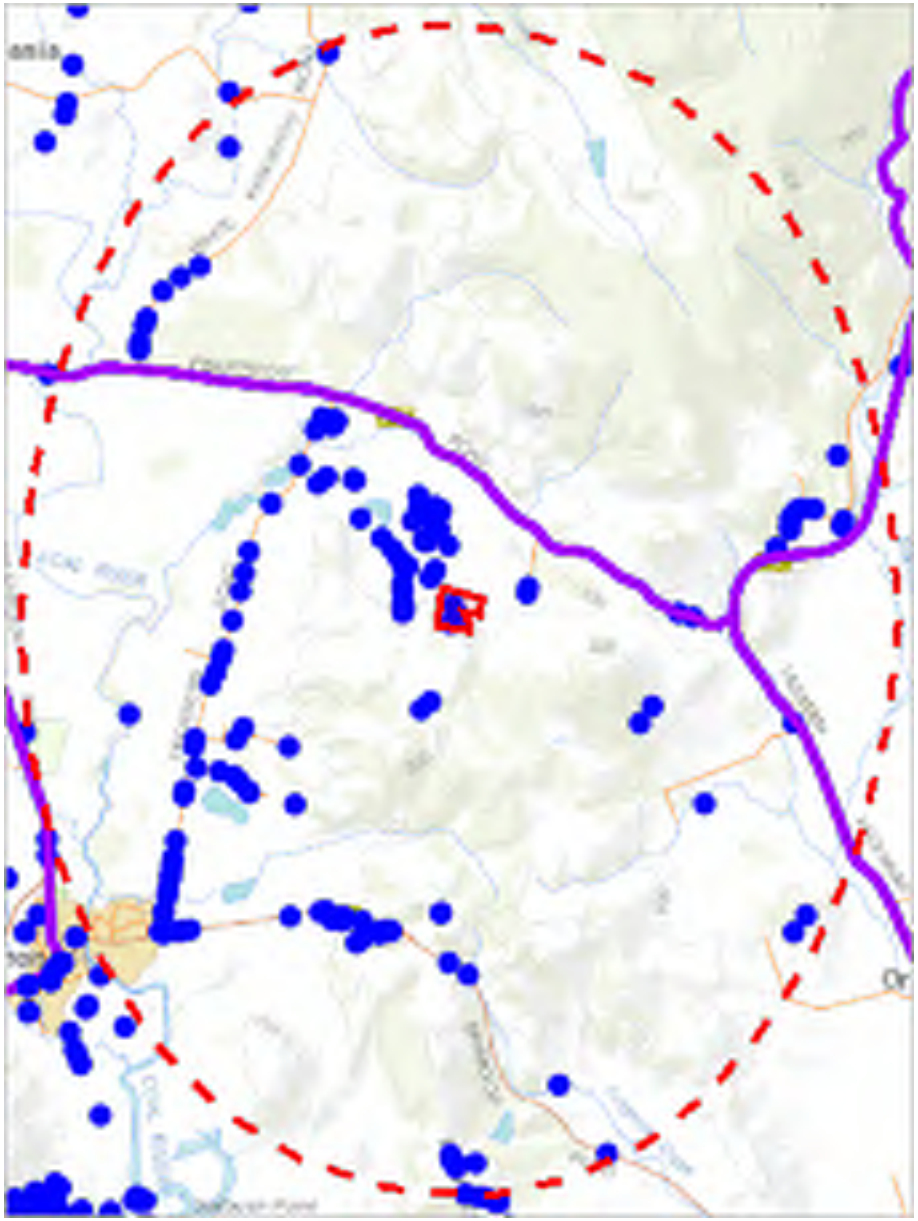
Unverified Records

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

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

Tas Management Act Weeds within 5000 m

543413, 5276931



535272, 5266136

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
Allium vineale	crow garlic	1	01-Aug-2003
Amsinckia calycina	hairy fiddleneck	1	01-Sep-1943
Asparagus asparagoides	bridal creeper	55	12-Nov-2009
Asphodelus fistulosus	onion weed	1	05-Oct-1987
Carduus pycnocephalus	slender thistle	6	03-Dec-2020
Carduus tenuiflorus	winged thistle	1	31-May-2004
Chrysanthemoides monilifera subsp. monilifera	boneseed	7	04-Nov-2022
Cirsium arvense var. arvense	creeping thistle	8	03-Dec-2020
Cortaderia selloana	silver pampasgrass	1	01-Aug-2003
Cortaderia sp.	pampas grass	1	01-Aug-2003
Echium plantagineum	patersons curse	6	01-Nov-2022
Elodea canadensis	canadian pondweed	2	06-Mar-2015
Eragrostis curvula	african lovegrass	3	11-Apr-2018
Erica arborea	tree heath	1	18-May-2017
Foeniculum vulgare	fennel	19	03-Dec-2020
Genista monspessulana	montpellier broom or canary broom	3	01-Sep-2010
Lepidium draba	hoary cress	15	03-Dec-2020
Lycium ferocissimum	african boxthorn	80	01-Jan-2022
Marrubium vulgare	white horehound	9	03-Dec-2020
Nassella neesiana	chilean needlegrass	5	02-Dec-2022
Nassella trichotoma	serrated tussock	1	01-Jan-2003
Rubus fruticosus	blackberry	14	13-Dec-2012
Salix x fragilis nothovar. fragilis	crack willow	1	31-May-2004
Ulex europaeus	gorse	30	23-Nov-2022
Xanthium spinosum	bathurst burr	2	01-Nov-1970

Unverified Records

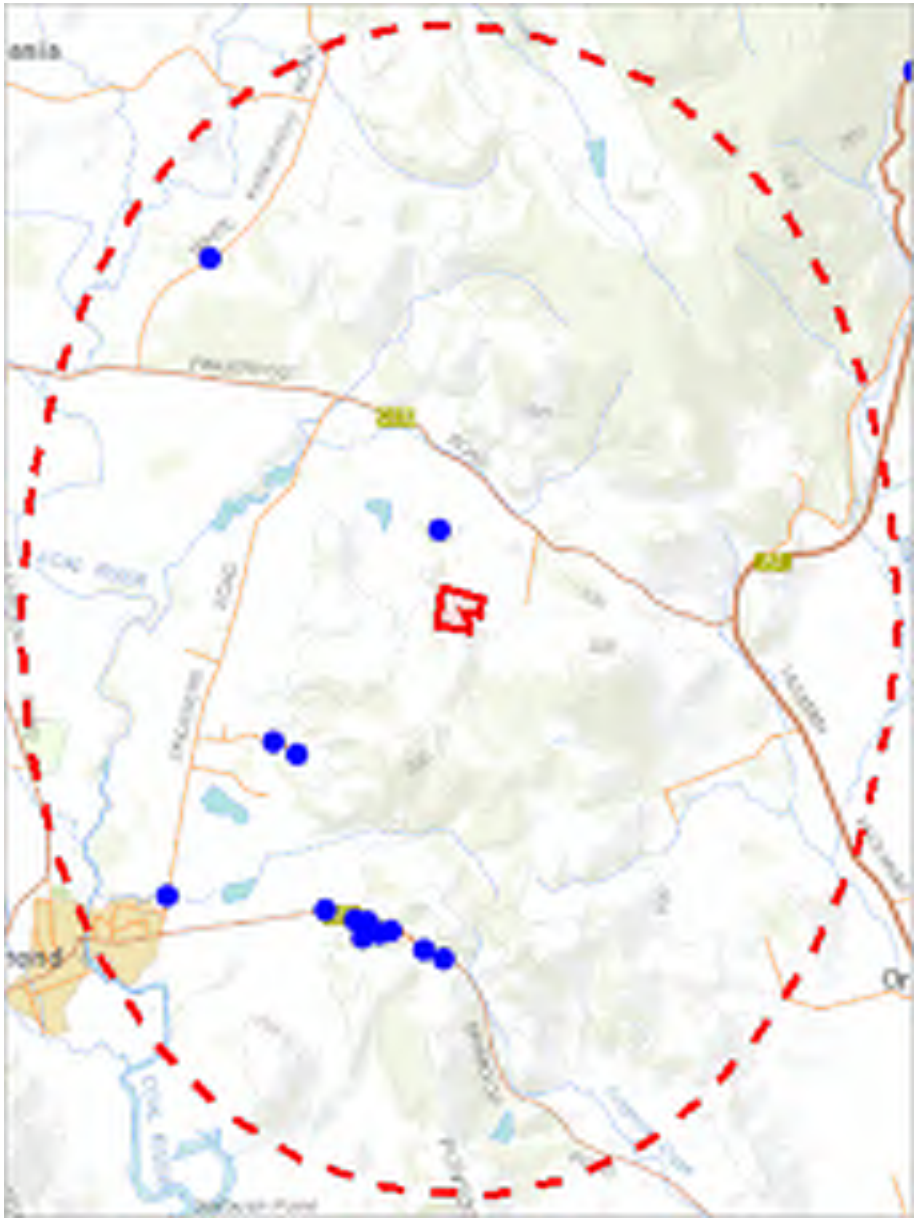
For more information about introduced weed species, please visit the following URL for contact details in your area:

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

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

Priority Weeds within 5000 m

543413, 5276931



535272, 5266136

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

Priority Weeds within 5000 m

Legend: Verified and Unverified observations

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

Legend: Cadastral Parcels

Priority Weeds within 5000 m

Verified Records

Species	Common Name	Observation Count	Last Recorded
Acacia baileyana	cootamundra wattle	3	18-May-2017
Reseda luteola	weld	10	03-Dec-2020

Unverified Records

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

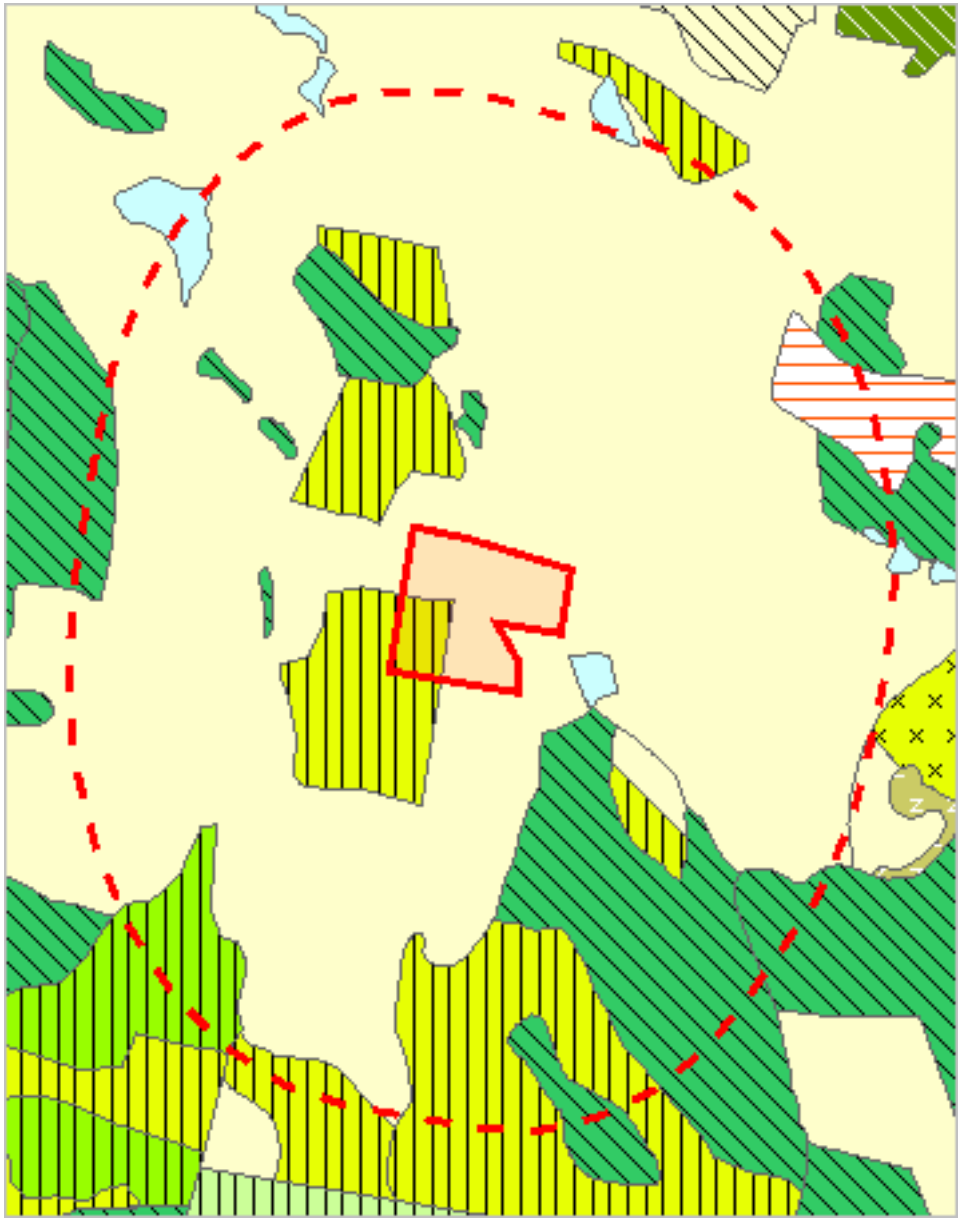
https://www.nre.tas.gov.au/invasive-species/weeds

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

*** No Acid Sulfate Soils found within 1000 metres ***

TASVEG 4.0 Communities within 1000 metres

540440, 5272926



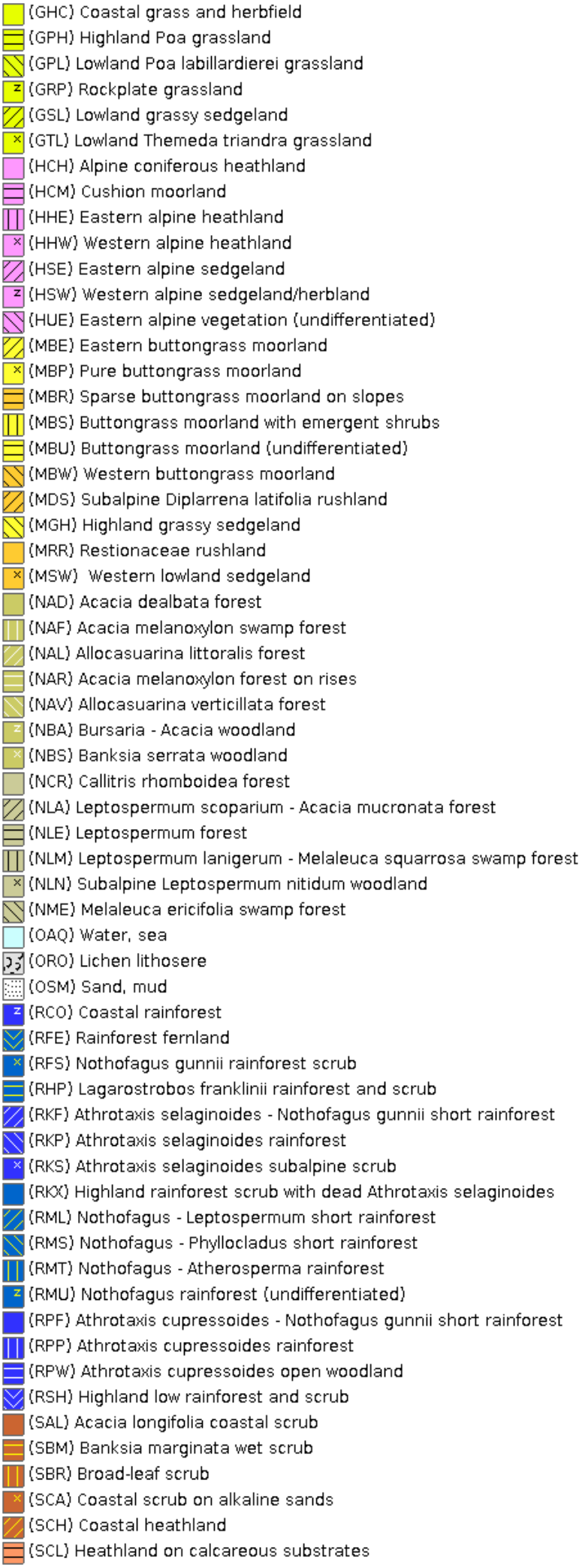
538241, 5270145

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

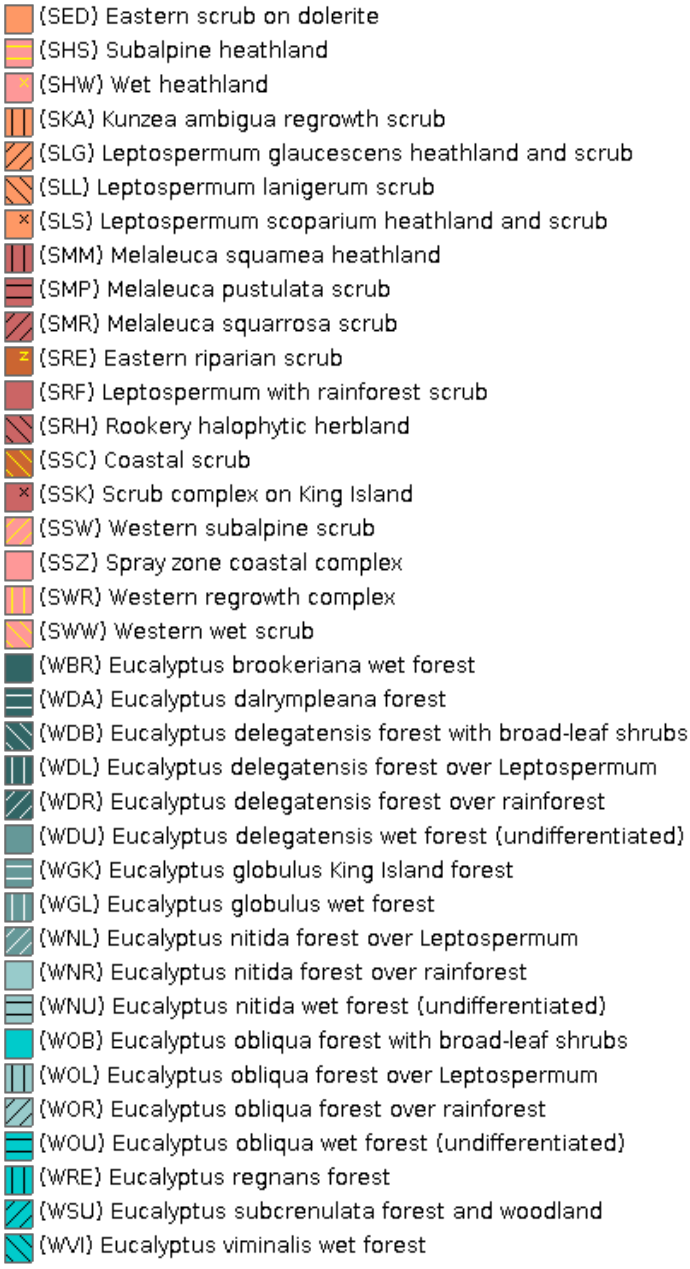
TASVEG 4.0 Communities within 1000 metres

Legend: TASVEG 4.0

TASVEG 4.0 Communities within 1000 metres



TASVEG 4.0 Communities within 1000 metres



Legend: Cadastral Parcels

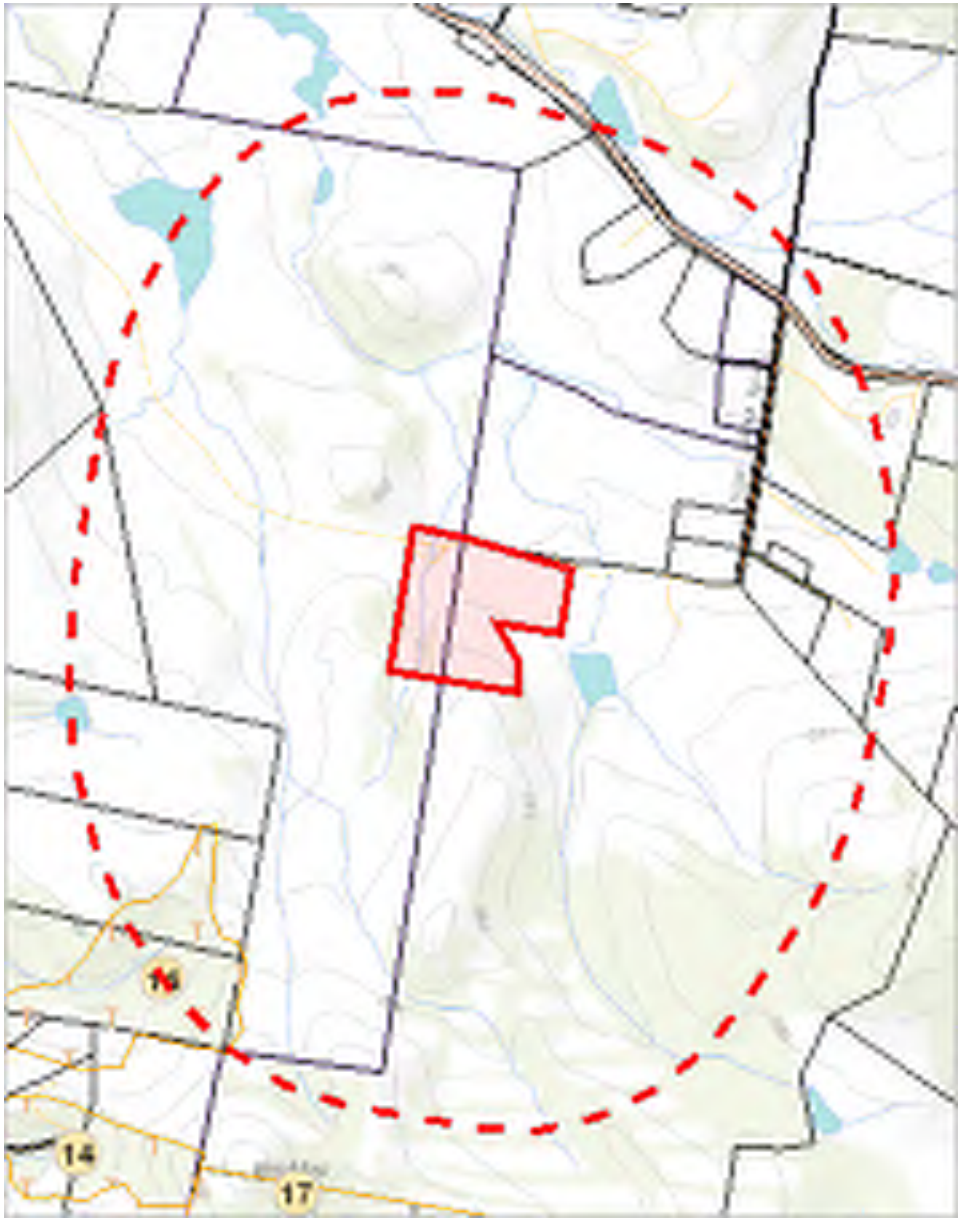
TASVEG 4.0 Communities within 1000 metres

Code	Community	Canopy Tree
DAS	(DAS) Eucalyptus amygdalina forest and woodland on sandstone	
DVG	(DVG) Eucalyptus viminalis grassy forest and woodland	
FAG	(FAG) Agricultural land	EM
FAG	(FAG) Agricultural land	
FUM	(FUM) Extra-urban miscellaneous	EV
GCL	(GCL) Lowland grassland complex	EV
GCL	(GCL) Lowland grassland complex	
GTL	(GTL) Lowland Themeda triandra grassland	EM
OAQ	(OAQ) Water, sea	EV
OAQ	(OAQ) Water, sea	

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

Threatened Communities (TNVC 2020) within 1000 metres

540440, 5272926



538241, 5270145

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

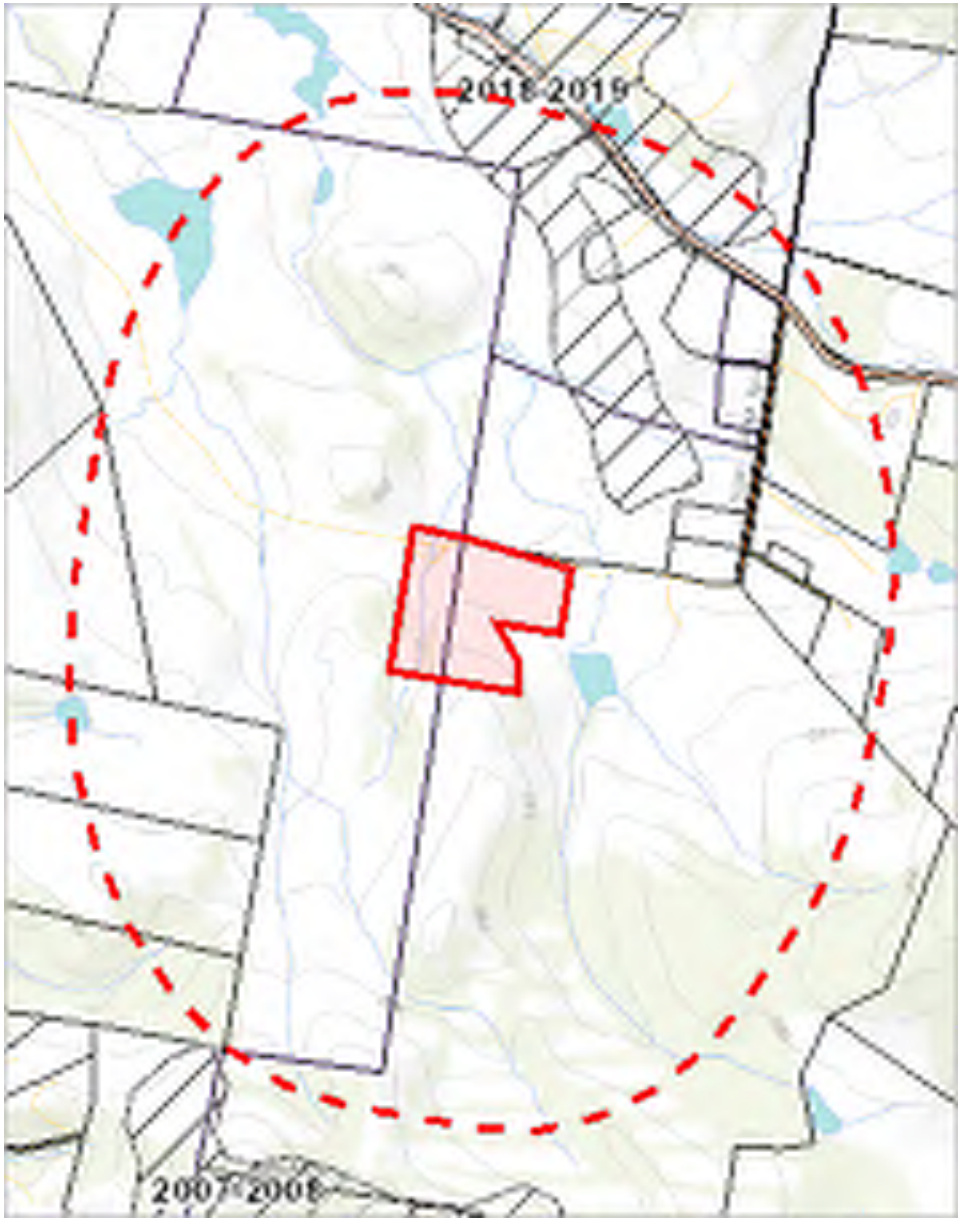
Threatened Communities (TNVC 2020) within 1000 metres

Scheduled Community Id	Scheduled Community Name
14	Eucalyptus amygdalina forest and woodland on sandstone

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

Fire History (All) within 1000 metres

540440, 5272926



538241, 5270145

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

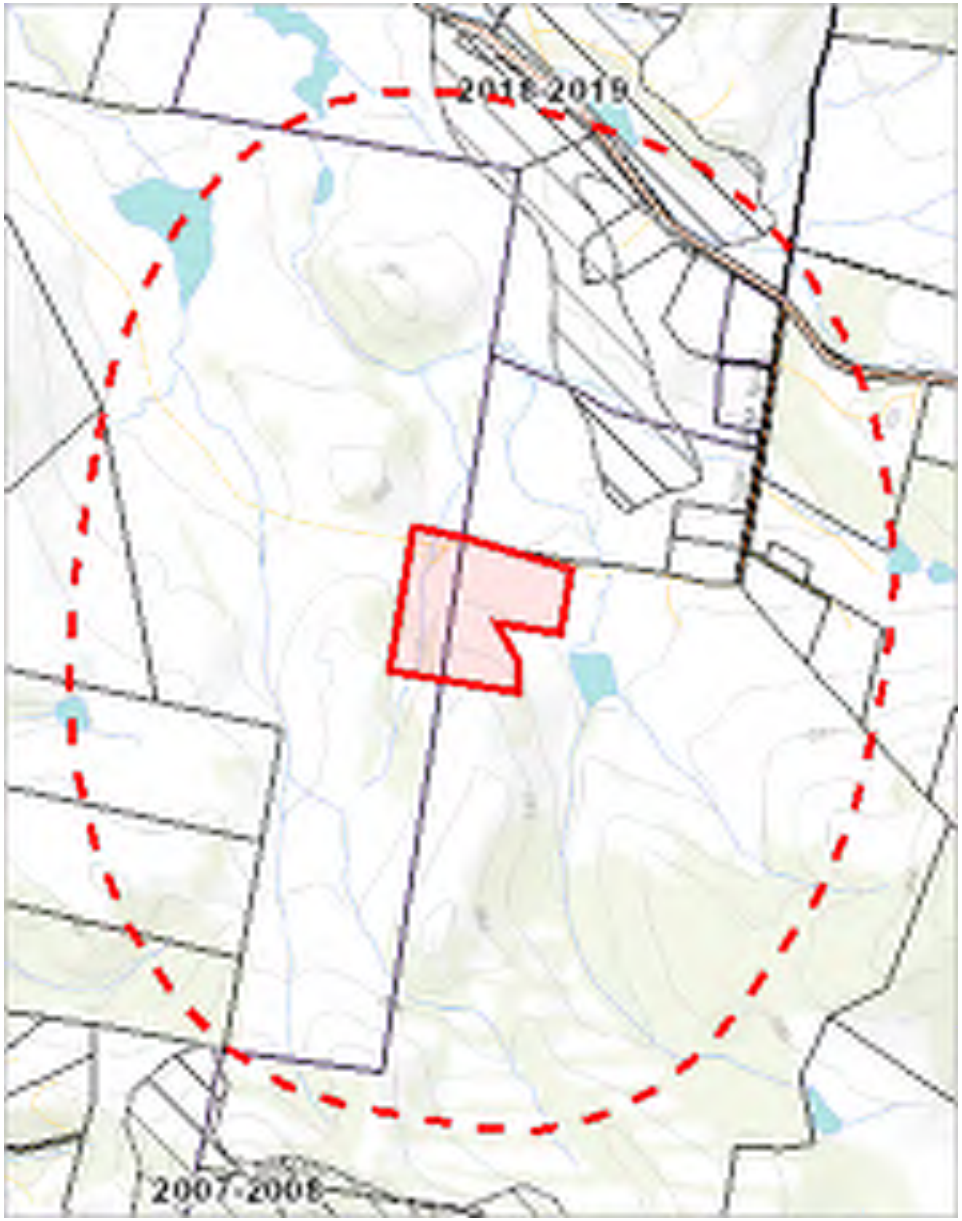
Fire History (All) within 1000 metres

Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
19006500	Finger Post Road	03-Mar-2019	Bushfire	Accidental	46.94111849

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

540440, 5272926



538241, 5270145

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

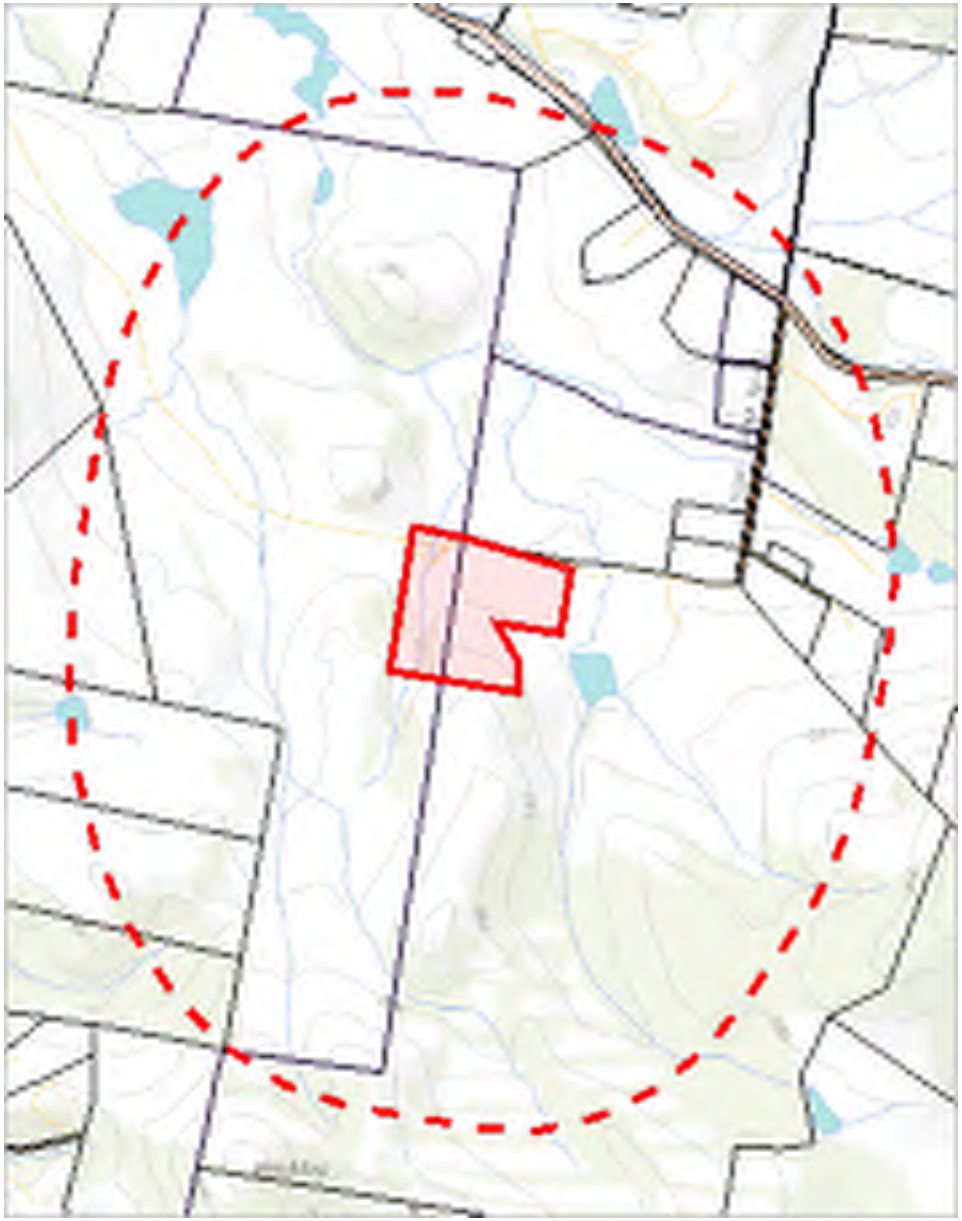
Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
19006500	Finger Post Road	03-Mar-2019	Bushfire	Accidental	46.94111849

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

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

Known biosecurity risks within 1000 meters

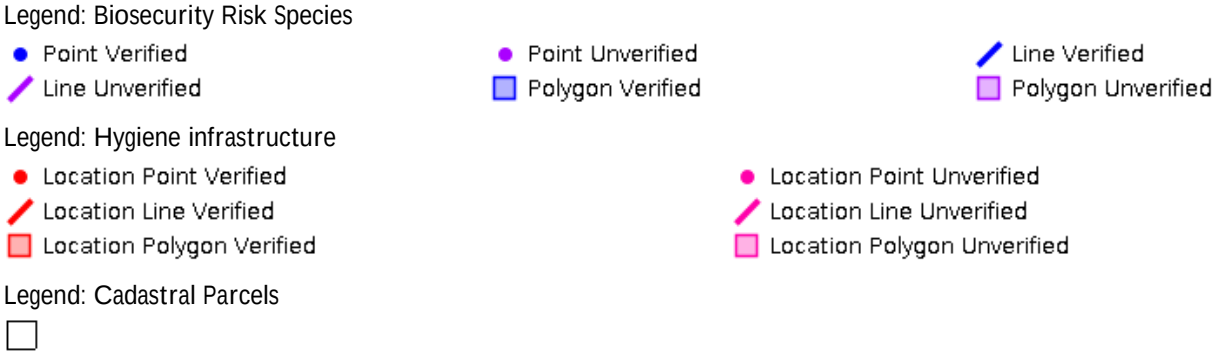
540440, 5272926



538241, 5270145

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

Known biosecurity risks within 1000 meters



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.nre.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.nre.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.nre.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 6 NVC Noise Report

NVC
NOISE VIBRATION CONSULTING

Johnstone, McGee & Gandy PTY LTD
49-51 Elizabeth Street
Launceston Tasmania 7250

13 December 2017

5576.docx

Attention: Carmel Parker

ORIELTON QUARRY – NOISE ASSESSMENT

Toronto Pastoral Company operates a quarry off Fingerpost Road, Orielton. The quarry is seeking to increase its operations, and thus the EPA requires a noise survey to form part of the Environmental Effects Report (EER) for the proposal. This letter presents the results of this survey, conducted by NVC in September 2017. Minor revisions in December 2017 are shown in this document; 5576_01.

1.0 SITE DESCRIPTION

1.1 QUARRY SITE OPERATIONS

The quarry is located between Logie Farm Road and Prossers Road, Orielton, in a Rural Resource zone, and operates from 07:00AM to 06:00PM Monday to Friday, and 07:00AM to 12:00PM Saturdays. The quarry's current permit allows an extraction volume up to 5,000 m^3 per annum, and a crushing volume of 1,000 m^3 p.a. It is proposed to increase these limits to 15,000 m^3 and 5,000 m^3 p.a. respectively. This proposed increase is to be implemented primarily by more regular operation rather than an increase in the equipment used. However, it is proposed to bring in an additional mobile crusher intermittently to process larger product. NVC has been informed this is likely to occur for 1 – 2 weeks each year. Figure 1 shows an aerial image of the quarry, with the locations of the equipment as of the 8th September 2017.

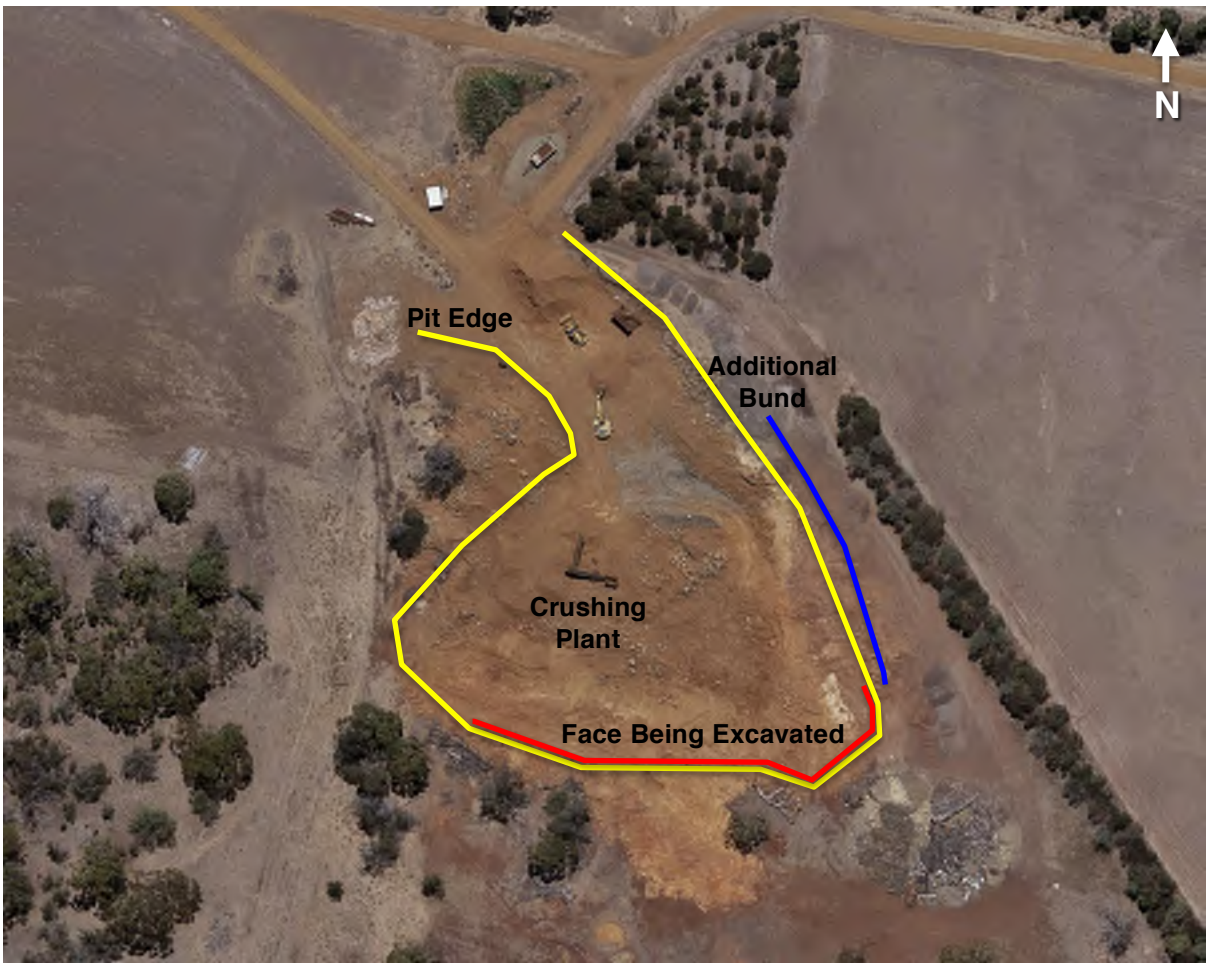


Figure 1: Aerial Image of Site Showing Current Locations of Equipment

Current operations are primarily on the southern face of the quarry. Rock is removed from the face using a CAT 320D tracked excavator equipped with a pick, and then loaded through a static screen onto a mobile, two-stage crusher, using a Komatsu PC200 tracked excavator. There is also a second static screen on site which is used intermittently, and a second small Jaques mobile crusher which is rarely used. A Komatsu WA300 wheeled loader is used to load the product onto trucks when required.

The mobile crushing plant is located on the floor of the pit, approximately 40m from the quarry face. NVC has been informed that this is the normal location of the crushing plant, and that it will be moved to the south as the quarry is excavated. The excavator equipped with the pick is generally located on the face being excavated, which is currently the southern quarry face. The topsoil from the quarry pit has been heaped into a bund on the eastern side of the quarry, varying from approximately 1 to 3 m in height. The approximate extents of the pit, additional bund and the face currently being excavated are marked in Figure 1.

Figure 2 shows the edge of the pit to the east, which provides screening to the nearby residences. It can be seen that the height of the quarry face decreases to the north of the pit. The earthen bund on the eastern side of the pit is visible on the right hand side of the image. Residence D (marked) is also visible to the north east.

Figure 2: View From the Southern Side of the Quarry, Facing NNW

1.2 SURROUNDING AREA

There are three residences to the north and east that are within approximately 1km of the quarry. The nearest residence to the quarry is in quarry ownership, and is thus omitted from the assessment. The site and surrounding area is shown in Figure 3. The blue arc shows a 750m radius from the site, which is the attenuation distance specified for such a quarry in Table E9.1 in the Clarence Interim Planning Scheme 2015.

The quarry is situated into a north-facing hillside, with a shallow ridge to its eastern side. Going east from the quarry ridge, the land slopes down gently to the nearest residence (A), which is located at 57 Logie Farm Road, and is approximately 700m from the quarry. Slightly further to the east are residences B and C, located at 51 and 53 Logie Farm Road, and approximately 780m and 900m from the quarry respectively. All of these residences are well screened from view of the quarry operations by the bund on its eastern side. Another residence (D) is located approximately 850m to the north-east of the quarry, at a similar elevation, with a broad, shallow valley between them. The quarry is partially screened from this residence by the quarry bund, but to a lesser extent than residences A, B and C. There are no nearby residences to the west or south. A view from the southern side of the site, facing north-north-west, is shown in Figure 2.

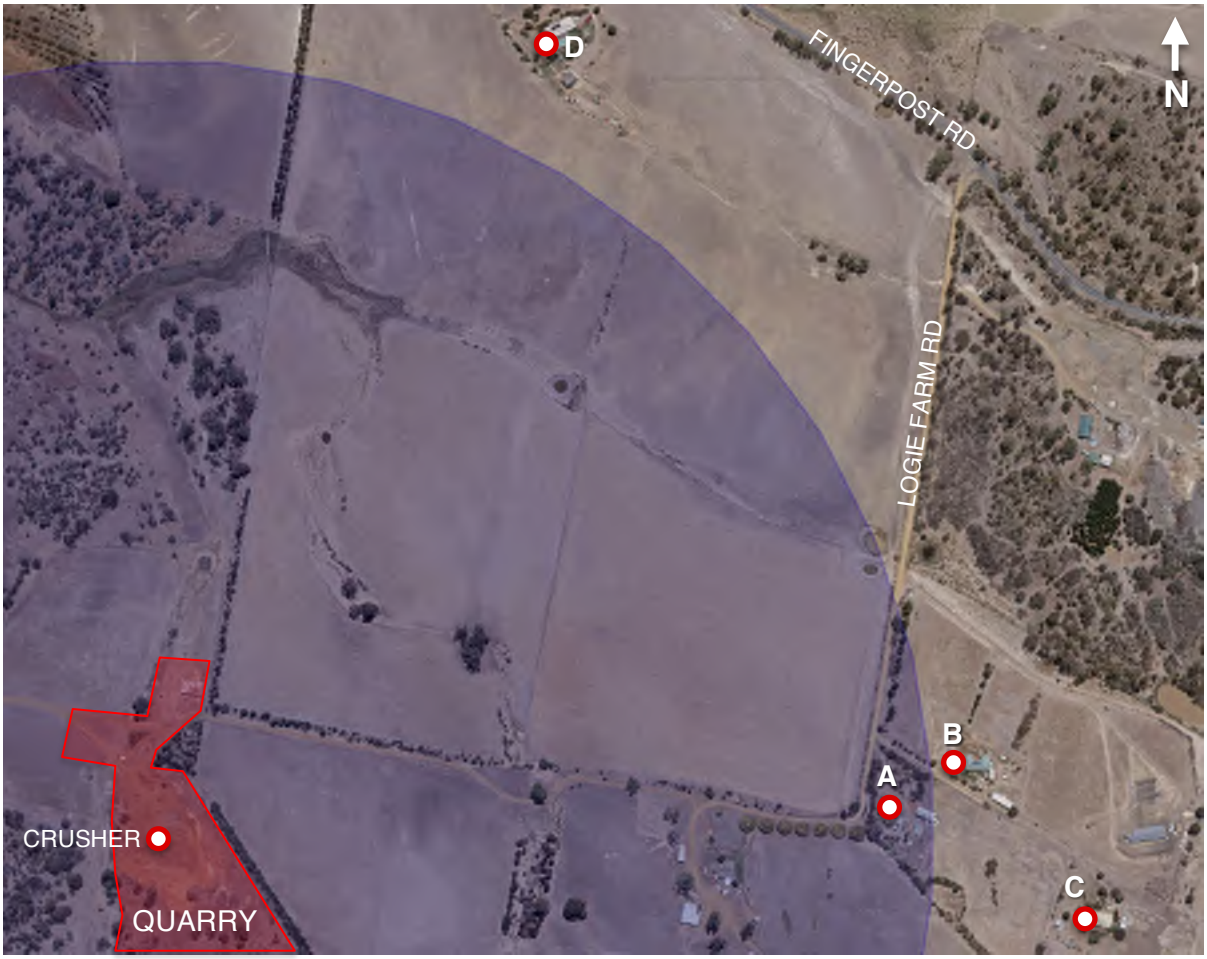


Figure 3: Site and Surrounds

2.0 NOISE MEASUREMENTS

Noise measurements were made between 08:00AM and 10:30AM on Friday the 8th September 2017, in clear and calm conditions. During the measurements the quarry was operating under normal conditions, with the two excavators and the mobile crusher in use. Measurements were made at various distances from the operating equipment, and around the perimeter of the quarry pit. The measurements resulted in the sound power levels given in Table 1.

Table 1: Equipment Sound Power Levels

	Sound Power Level (PWL), dBA
Excavator (w/ pick)	113
Mobile Crusher	113
Loader	104

The crusher (and screen) is generally the primary noise source, as it is fairly consistent during operation. The excavator equipped with the pick is an approximately equal source when the pick is in use, however in operation this noise is of a lesser duration than the crushing noise. The wheeled loader is an insignificant noise source compared to the crusher.

Background noise measurements were also made nearby on Fingerpost Road to obtain an approximate background noise level for the area without the presence of quarrying noise. The background noise level was measured at **38 dBA** as an Leq over a single 10-minute period. It was noted that bird and other animal noise was consistent and dominant. This measurement excluded traffic noise, which is a potential noise source for the residence to the north, due to it's relatively close proximity to Fingerpost Road.

3.0 CRITERIA

To determine acceptable noise levels at the nearby residences, the EPA Tasmania Quarry Code of Practise 2017 is referred to. It defines the following pertaining to noise emissions:

*"Noise from quarrying and associated activities, including equipment maintenance, when measured at any neighbouring sensitive use must not exceed the **greater** of;*

- *the A-weighted 10 minute L90, excluding noise from the quarry, plus 5 dBA, or,*
- *the following levels;*
  - *45 dBA from 0700 to 1900 hours(day time),*
  - *40 dBA from 1900 to 2200 hours (evening),*
  - *35 dBA from 2200 to 0700 hours (night time).* "

The relevant criterion during quarry operating hours at the residences is then 45 dBA.

4.0 NOISE PREDICTIONS

The measured sound power levels were used to predict the sound pressure levels at the three nearest residences; locations A, B and C. Predictions assumed that both excavators and the crusher were operating simultaneously, which is the noisiest scenario likely to occur during normal operation. The calculations assumed neutral weather conditions (no wind, no temperature inversion) and include the screening effects of the quarry pit boundary between the quarry equipment and the residences. The resulting sound pressure levels at each of the three nearby residences are shown in Table 2.

Table 2: Predicted Sound Pressure Levels at the Nearest Residences

Location	Sound Pressure Level (SPL), dBA
A: Nearest residence, east of quarry	31
B: Residence further east	31
C: Residence further east	29
D: Residence to north of quarry	37

It was noted that the crusher noise emissions were directional, with noise emissions from the engine and throat sides being approximately 4dB higher than the other sides. For material movement efficiency the normal operation has the crusher throat pointing north west and the engine side facing south west. This orientation is expected to be maintained as the crusher is moved to the south. The predictions assume only one crusher is operating. If an additional crusher is used simultaneously, the noise level may be expected to increase by a maximum of 3 dB, assuming the additional crusher is subject to the same screening as the existing crusher.

5.0 ASSESSMENT

The quarry operates within the day time period of 0700 to 1900 hours as defined in the TAS Quarry Code of Practise, and therefore only day time operation is assessed. The predicted noise emissions from the quarry are below the criteria at all nearby residences, with the strongest levels at location D due to the reduced screening in this direction. Due to the low background noise levels in the area, the quarry is likely to be intermittently audible at all residences during quiet periods.

In the event of an additional crusher being brought in intermittently, the noise level at the residences may be expected to increase by 3 dB, provided the current screening is maintained. The resulting noise level is then still below the criteria.

The quarry operations are then deemed to comply with the Quarry Code of Practise.

In order to ensure that quarrying noise in the community is minimised, the following is recommended:

- Locate the mobile crushing plant as deep into the quarry and as close to the screening to the residences as possible – i.e. as far south east as possible. Screening between crushing plant and the residences is required to ensure compliance with the Quarry Code Of Practise.

- The earthen bund currently on the eastern side of the quarry is an effective noise screen, and as such the height of this bund should be maintained. If crushing plant needs to be located towards the northern end of the pit, this bund should be extended to the north to maintain screening to the residences.
- Additional top soil removal should be used to maintain or extend the height of the bund.
- If a secondary crusher is used, care should be taken to ensure it is also adequately screened from the residences.
- Operations should be restricted to the day time, i.e. between 0700 and 1900 hours. Current operating hours are inside this period.

Should you have any queries, please do not hesitate to call this office directly.
Yours faithfully

Jack Pitt
NOISE VIBRATION CONSULTING

Appendix 7 Tarkarri Engineering Environmental Noise Assessment

Tarkarri Engineering

Air Quality • Acoustics • Environment • Vibration

Technical Memo

12 March 2025

Gowing Bros. Ltd
The Gowings Building
303/ 35-61 Harbour Drive
Coffs Harbour NSW 2450

7028_AC_R
AJM

Attn: Mr Byron Gowing

Dear Sir,

RE: Logie Farm Quarry environmental noise assessment

Please find below our technical memo report on an environmental noise assessment of the Logie Farm Quarry, 440 Prossers Rd, Richmond and 59 Logie Farm Rd, Orielton.

1. INTRODUCTION

Tarkarri Engineering was commissioned by Gowing Bros. Ltd to provide an environmental noise assessment of operations at the Logie Farm Quarry, 440 Prossers Rd, Richmond and 59 Logie Farm Rd, Orielton. This forms part of an Environmental Effects Report (EER) for a proposed production increase at the quarry.

Tarkarri Engineering's approach was to model quarry operations with assessment against expected noise emission limit criteria, including consideration of intrusive tonal and low frequency noise characteristics, applicable under the Tasmanian *Quarry Code of Practice* 2017 (QCP).

The quarry would operate Monday to Friday 0700 to 1700 hrs and Saturdays 0800 to 1600 hrs with the following quarrying equipment operational on site:

- Excavator; Hitachi Zaxis 200-3LC
- Crusher; Powerscreen Metrotrack
- Power Screen; Portifill 5000CT
- Front End Loader; Komatsu WA250-5
- Trucks; Various 6-7 trucks per day, or Truck and Dog Trailers 2-3 per day (access via Prossers Rd)

Figure 1-1 presents an aerial view with the location of the Logie Farm Quarry marked.

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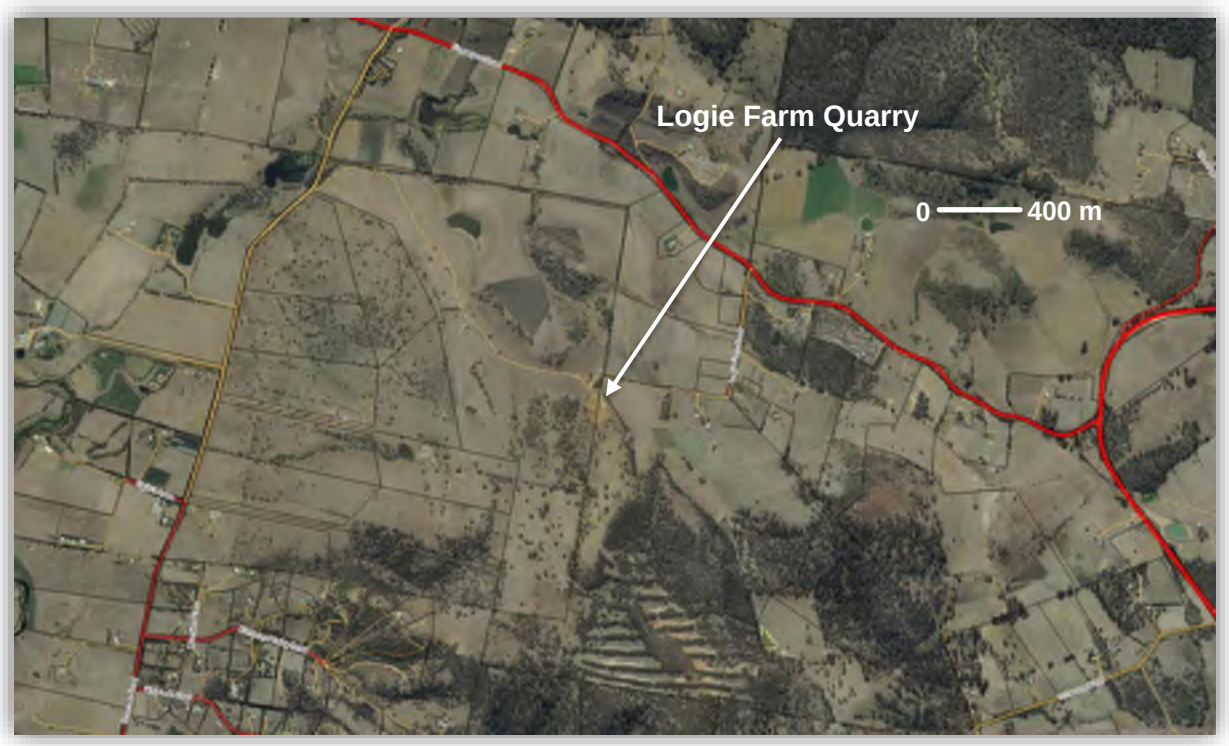


Figure 1-1: Aerial view of the Logie Farm Quarry and surrounds.

2. QCP CONDITIONS

The following is applicable under the QCP in relation to noise emissions:

7.2.2.2 Level of noise

Noise from quarrying and associated activities, including equipment maintenance, when measured at any neighbouring sensitive use must not exceed the greater of:

- the A-weighted 10 minute L90, excluding noise from the quarry, plus 5 dB(A), or
- the following levels:
  - 45 dB(A) from 0700 to 1900 hours (daytime)
  - 40 dB(A) from 1900 to 2200 hours (evening), and
  - 35 dB(A) from 2200 to 0700 hours the following day (night time)

when measured as a 10 minute L_{eq}.

Regulatory authorities may require compliance with alternative noise limits derived from a site-specific noise assessment.

The daytime limit of 45 dBA $L_{Aeq,10min}$ is applicable to this assessment.

3. ENVIRONMENTAL NOISE MODEL

3.1 Model receivers

Table 3-1 below summarises the coordinates of noise sensitive receivers considered in the model. Figure 3-1 presents a model plan view of the quarry and surrounds with the receiver locations marked.

Environmental noise receiver positions		
Receiver	Location	Coordinates (Datum: GDA94, Zone 55)
R1	57 Logie Farm Rd, Orielton	539961 5271597
R2	53 Logie Farm Rd, Orielton	540165 5271490
R3	51 Logie Farm Rd, Orielton	540046 5271641
R4	500 Fingerpost Rd, Campania	539642 5272350
R5	428 Fingerpost Rd, Campania	539014 5272938
R6	472 Prossers Rd, Richmond	538207 5273192

Table 3-1: Environmental noise receiver positions.

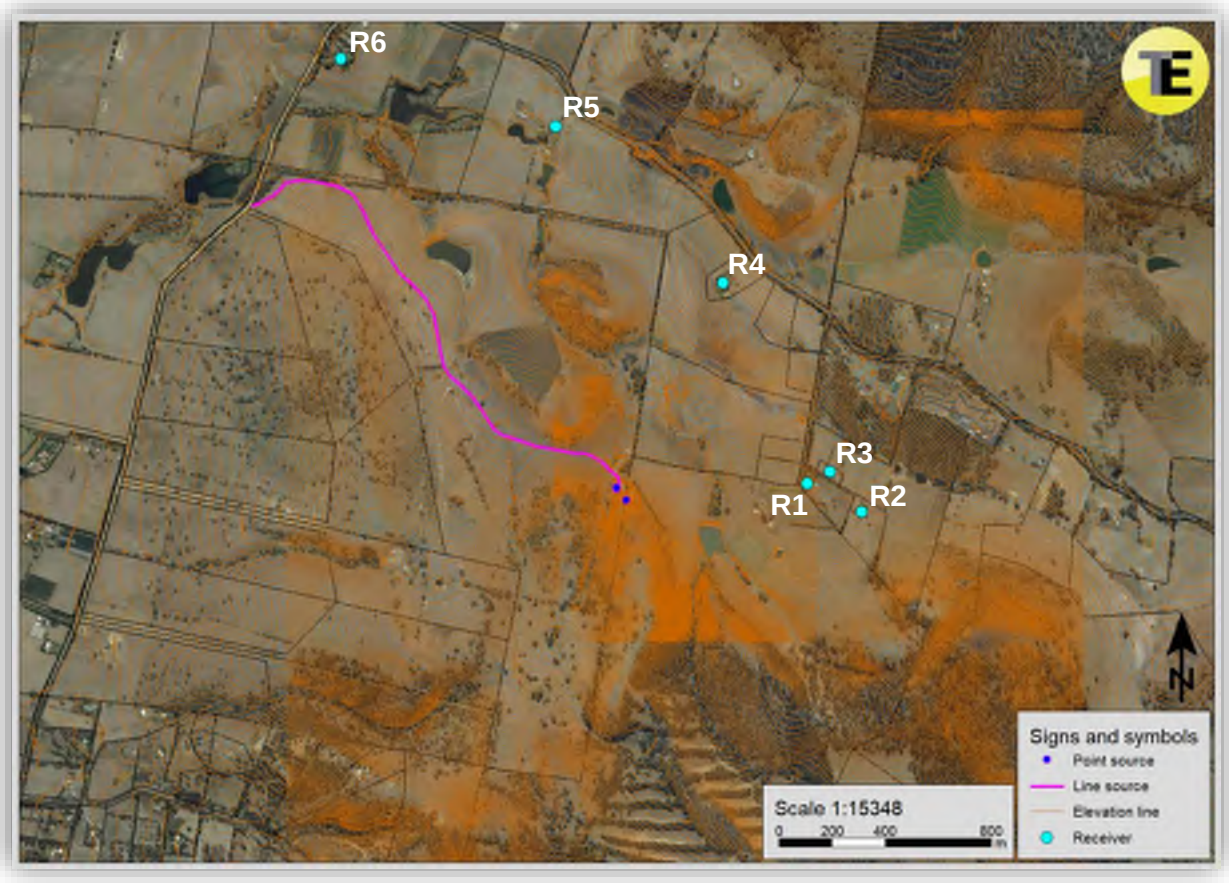


Figure 3-1: Model plan view showing surrounding receiver locations.

3.2 Model setup

Modelling was conducted using the SoundPLAN 9.1 software package to predict received noise levels at the nearest sensitive residential receivers identified surrounding the quarry. The model incorporates 3D topography, interpolated from 1, 2 and 5 m elevation contours developed from 2019 LiDAR data.

Predictions were made using the ISO 9613-2:2024 prediction algorithm and CONCAWE prediction algorithm with worst-case weather conditions for noise propagation (wcw). wcw assumes a wind speed of 2 m/s and Pasquill stability class F with all receivers downwind from each source.

Table 3-2 below lists the sound power spectra used for equipment at the quarry, from Tarkarri Engineering library data, to predict $L_{Aeq,10min}$ noise emission levels from the quarry. Modelling was conducted utilising 1/3-octave band spectra input spectra. Figure 3-2 present and model plan view

with the location of the quarrying equipment marked. Figure 3-3 presents a 3D wireframe view of the model domain.

Isla Penelope RO barge SWL 1/1-octave band spectra (dBA)										
Source	Frequency (Hz)									Overall
	31.5	63	125	250	500	1k	2k	4k	8k	
Crusher and screen	64	84	99	106	113	110	107	103	94	**116**
Excavator	64	72	85	86	93	92	92	86	78	**98**
Front End Loader (FEL)	58	73	92	100	93	96	96	92	85	**104**
Truck	67	79	88	89	95	97	100	95	86	**104**

Table 3-2: 1/1-octave band spectra.

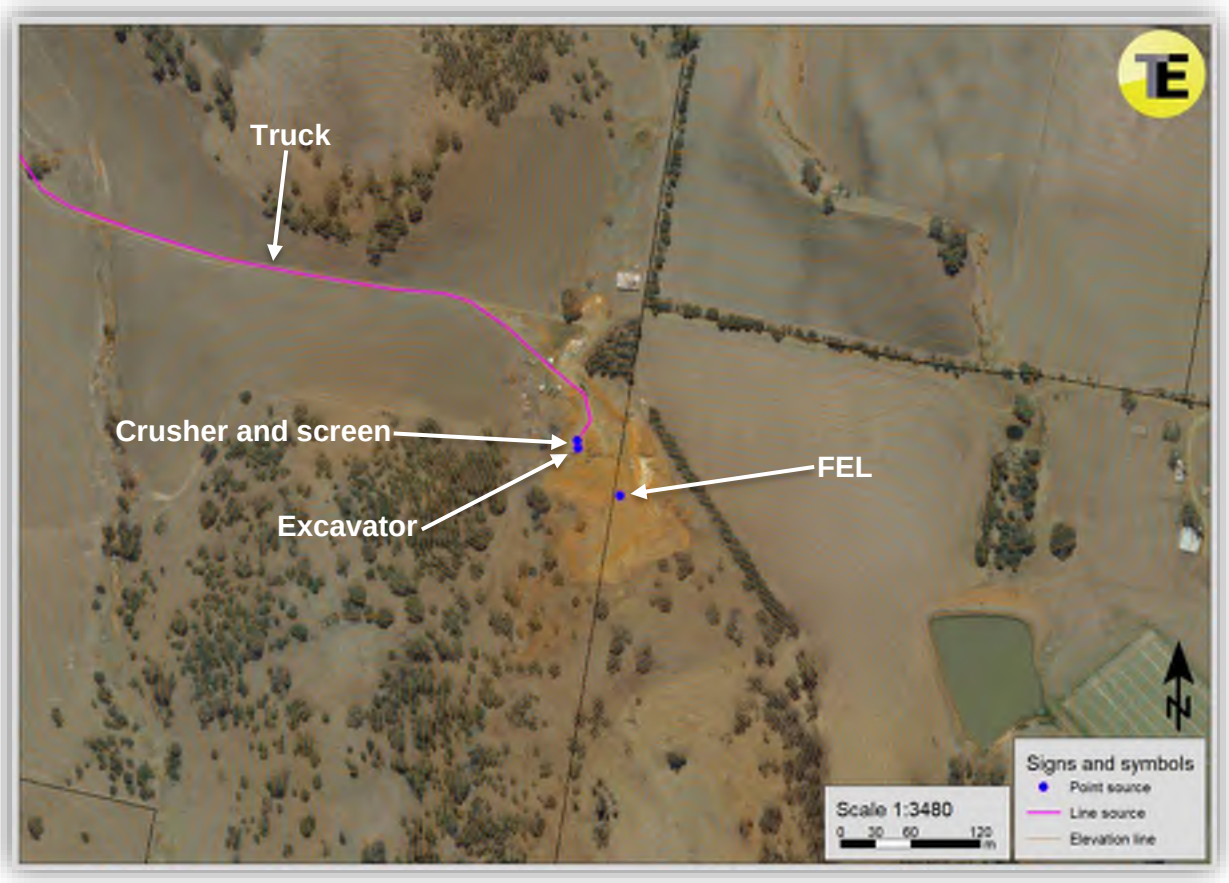


Figure 3-2: Model plan view showing source locations.

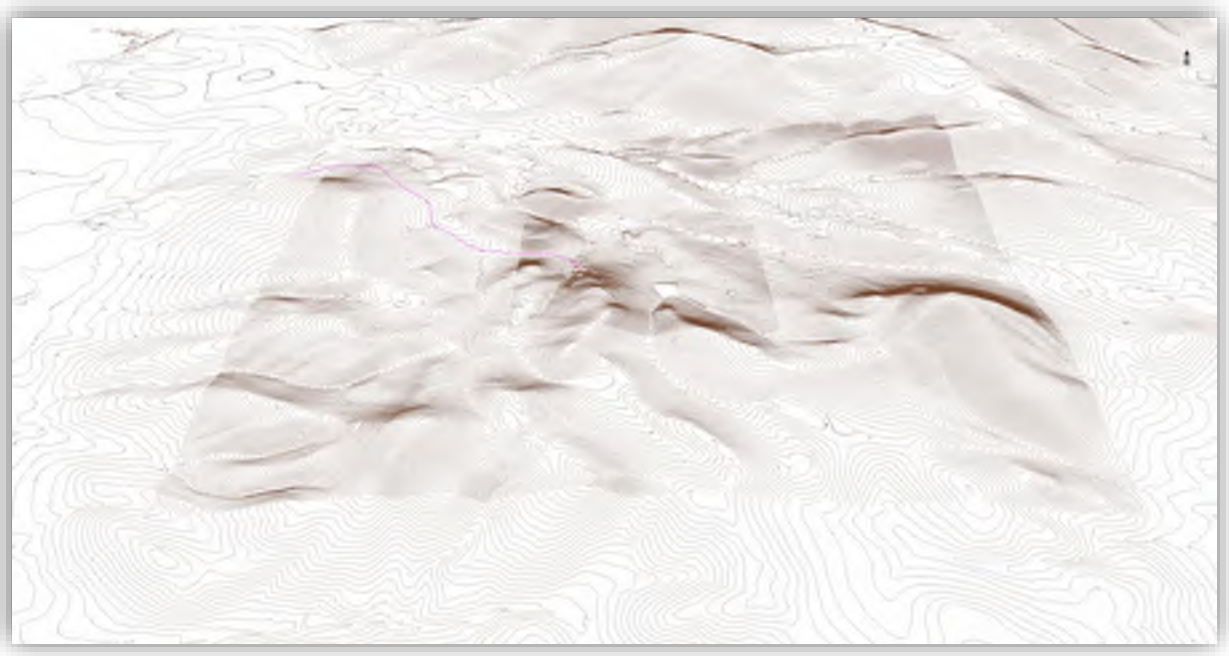


Figure 3-3: 3D model wireframe view of the model domain.

4. RESULTS AND DISCUSSION

4.1 Predicted sound pressure levels

Table 4-1 presents predicted noise immission levels under the two model algorithms used at noise sensitive receiver locations.

Predicted levels at sensitive residential receivers (dBA)		
Location	Predicted	
	ISO	wcw
R1	37	29
R2	37	28
R3	36	28
R4	40	43
R5	34	28
R6	32	32

Table 4-1: Summary of predicted noise immission levels at sensitive receivers.

From the above:

- Predicted noise levels are below the applicable QCP noise emission limit of 45 dBA at all receiver locations.
- Receivers R1 to R3, to the east if the quarry, are the closest receivers to the activity. Noise emissions from the sources within the quarry (crusher, screen, excavator and FEL) are attenuated by existing quarry topography and this is critical to maintaining the low predicted noise levels at these locations (in particular for the crusher and screen).

- To the north at receiver R4 the dominant noise sources are the crusher and screen while further west at receivers R5 and R6 truck activity on the entry/exit road to Prossers Rd is the major source of noise from the quarry
- Tonal and low frequency intrusive characteristics were considered here (in accordance with the Tasmanian *Noise Measurement Procedures Manual*) based on the predicted 1/3-octave spectrum at each sensitive receiver. Excessive levels of low frequency noise were not predicted (predicted dBC levels were less than 15 dB and generally less than 10 dB more than predicted dBA levels). Tonal adjustment at receivers to the east of the quarry (R1 – R3) was in the order of 3 – 4 dB while at receiver R4 approx. 1 dB (at receivers R5 and R6 tonal noise from truck traffic was considered unlikely to be stable and has therefore not addressed her).

4.2 Predicted noise emission contours

To assist in the visualisation of the propagation of noise emissions from the Logie Farm Quarry, Figure 4-1 and 4-2 present predicted noise emission contours from the quarry operations under the two model algorithms utilised in this study. On each figure the predicted contour equivalent to the QCP day noise emission limit of 45 dBA $L_{Aeq,10min}$ is highlighted in turquoise.

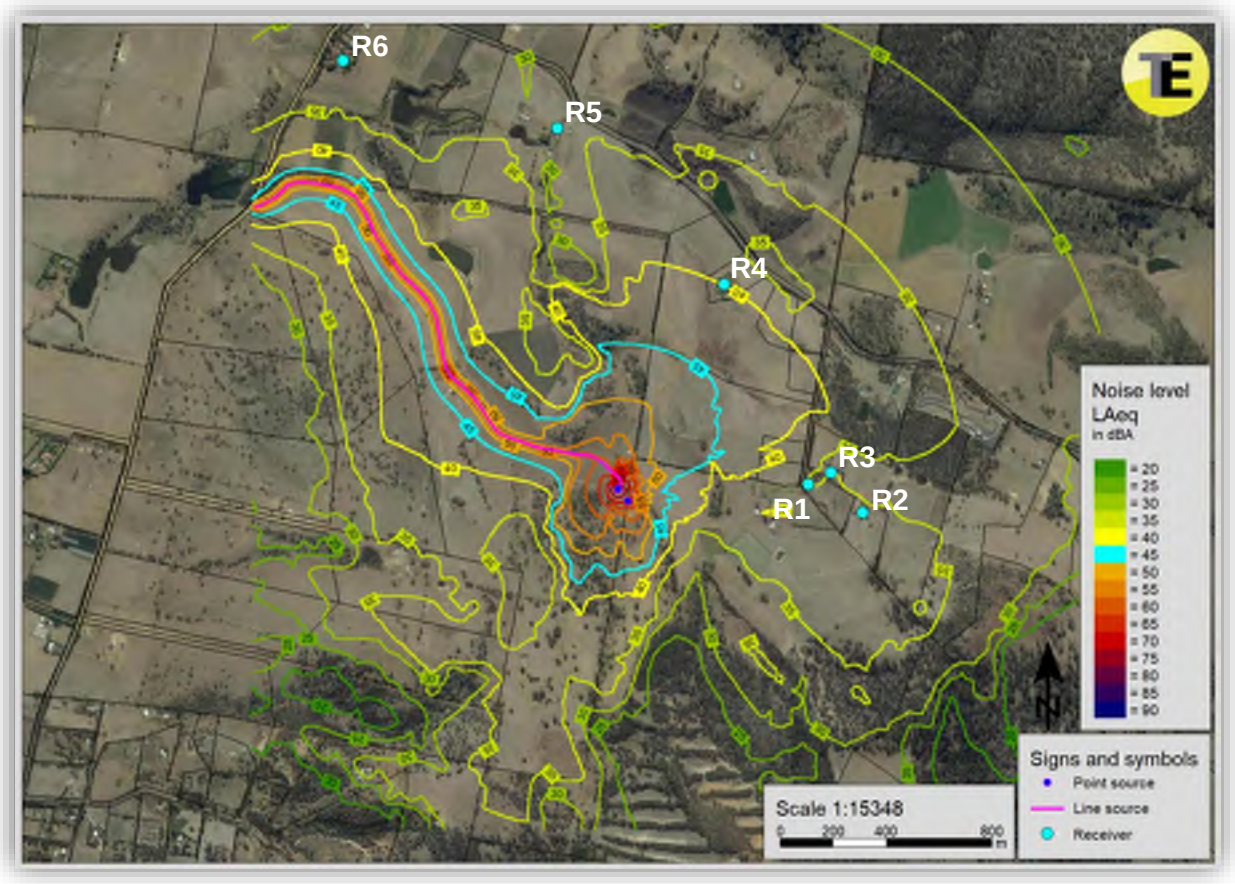


Figure 4-1: Predicted noise emission contours form Logie Farm Quarry, **ISO**.

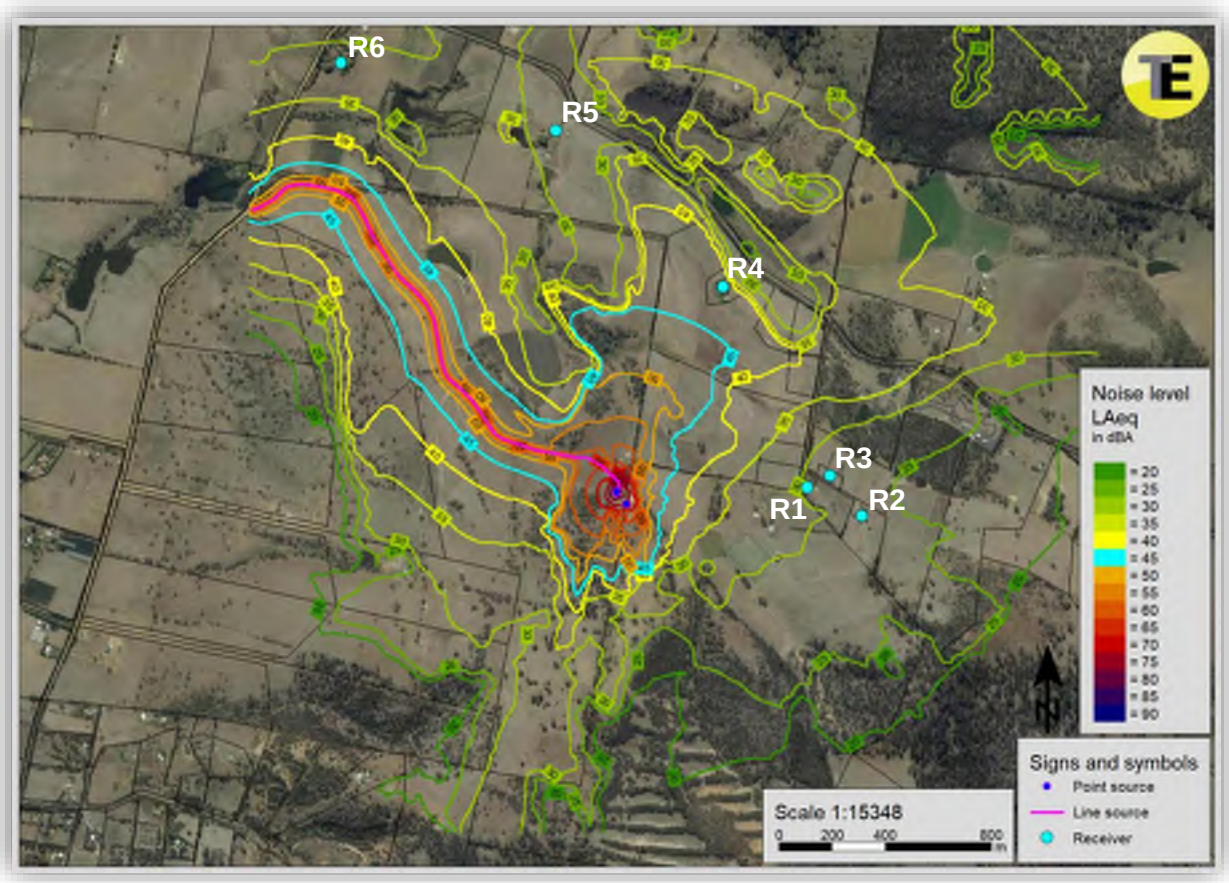


Figure 4-2: Predicted noise emission contours form Logie Farm Quarry, **wcw**.

5. CONCLUSIONS

Tarkarri Engineering conducted an environmental noise assessment proposed quarrying operations at the Logie Farm Quarry under a proposed production increase.

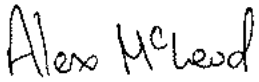
Environmental noise modelling of operations predicted that noise emission levels at noise sensitive residential locations surrounding the quarry would be below QCP day noise emission limit of 45 dBA $L_{Aeq,10min}$ at all sensitive locations. Critical to this is the maintenance of topographic shielding provided by the existing quarry topography (i.e. the eastern face of the quarry), in particular for the crusher and screen, to residences to the east of the quarry (those closest to the quarry). Some tonality is predicted, however, with adjustments considered predicted levels remain in compliance with the QCP limit (noting that tonality from mobile equipment is generally not stable over a 10-minute period with).

The results of the modelling show that operations of the Logie Farm Quarry wouldn't constitute an environmental harm or nuisance to surrounding sensitive uses.

I hope this information meets your immediate requirements.

Please contact me directly if you have any questions concerning this work.

Yours faithfully,
Tarkarri Engineering Pty Ltd



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