



Guthega Carpark Chairlift Uphill Line Replacement, Guthega Resort Area

Statement of Environmental Effects

Statement of Environmental Effects prepared by:

Beth Davies

Health, Safety and Environment Officer

Perisher Blue Pty Ltd

Version 1.0

January 2023



Department of Planning
and Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No 23/1923

Granted on the 5 April 2023

Signed S Butler

Sheet No 1 of 5

1	Introduction	4
1.1	Project Background.....	4
1.2	Objectives of the Project	4
2	PROJECT DESCRIPTION	5
2.1	Project Overview.....	5
2.2	Project Detail	5
2.2.1	Site Access & Disturbance Corridor.....	5
2.2.2	Equipment & Machinery	6
2.2.3	Works Program	6
2.2.4	Site Restoration and Rehabilitation.....	6
3	Environmental Assessment	7
3.1	General site suitability and constraints.....	7
3.2	Ecological Impacts.....	7
3.3	General impacts on aquatic ecosystems.....	7
3.4	Aboriginal cultural heritage.....	7
3.5	European cultural heritage	8
3.6	Geotechnical Considerations	8
3.7	Soil impacts	8
3.8	Visual impacts and aesthetics	8
3.9	Social and economic impacts.....	8
3.10	Effects on ski resort operation	8
3.11	Noise and vibration.....	8
3.12	Waste management	8
3.13	Energy use and conservation	8
3.14	Construction impacts.....	8
4	Statutory Assessment Requirements.....	9
4.1	State Environmental Planning Policy (Precincts- Regional) 2021	9
4.2	NSW Water Management Act 2000.	11
4.3	Environmental Planning and Assessment Act 1979	11
4.4	Biodiversity Conservation Act 2016.....	12
4.5	Environment Protection and Biodiversity Conservation Act 1999	12
5	Conclusion	14
	Appendix A - Project Maps	
	Appendix B - Project Photos.....	

Appendix C - Biodiversity Development Assessment Report	
Appendix D - Archaeological Due Diligence.....	
Appendix E - Site Environmental Management Plan.....	

1 INTRODUCTION

1.1 Project Background

This report presents a Statement of Environmental Effects (SEE) for a proposal by Perisher Blue Pty Limited (Perisher) to replace the Uphill Line of the Carpark Double Chairlift, Guthega, Perisher Ski Resort. The Uphill Line acts as the lift's safety circuit and communication line. Proposed works include replacement of the entire Uphill Line, due to deterioration of the existing Uphill Line which was direct buried in the ground (not in conduit).

The new Uphill Line will follow the same alignment as the chairlift, with some slight deviations to utilise previously disturbed areas and avoid impacts to native vegetation and archaeological areas. Trenching is required from the unload station (top) of the Carpark Chairlift to the load station (bottom).

The location of the proposal is within the Guthega Resort Area, as shown in *Appendix A-Project Maps*.

1.2 Objectives of the Project

The objective of the proposal is to replace the entire Uphill Line of the Guthega Carpark Double Chair with a new and reliable cable in a conduit, while causing minimal impact to the surrounding environment. The opportunity will also be taken to install an additional conduit in the same trench for future provisions such as replacement of phone lines.

2 PROJECT DESCRIPTION

2.1 Project Overview

Broadly, this proposal involves the following:

- Site preparation and installation of environmental controls;
- Site access from the established Guthega Road and Norwegian Road (see, *Appendix A* and *Appendix B* - Photo 3);
- Trenching from Guthega Carpark chair unload station to the load station (see, *Appendix A* and *Appendix B*);
- Progressive placement of conduit in trench;
- Progressive reinstatement of access track, sod replacement and stabilisation;
- Installation and connection of the Uphill Line;
- Site stabilisation & rehabilitation, as required.

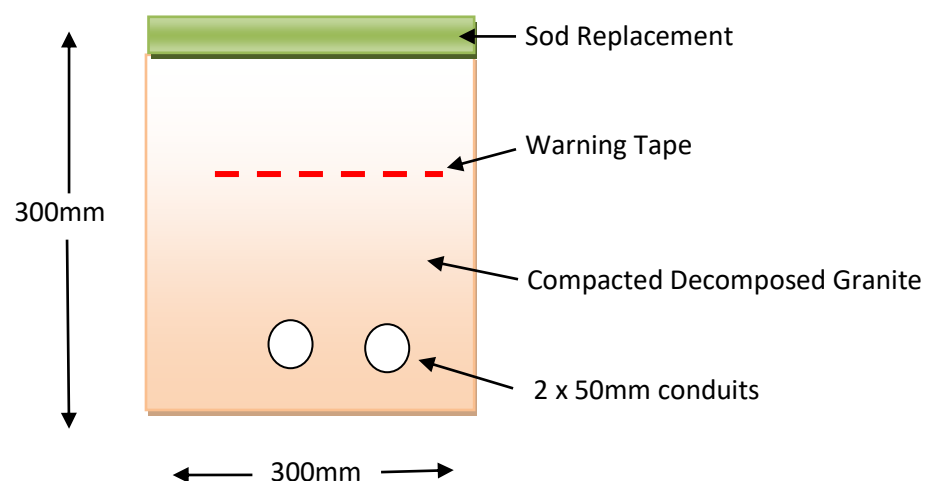
2.2 Project Detail

2.2.1 Site Access & Disturbance Corridor

Access to the works area will be via the formed Guthega Road below the site, or the formed Norwegian Road (see, *Appendix A* and *Appendix B*).

The excavator will access the site from the top and work down the project site. Trenching will predominantly follow the original uphill line alignment, from the bullwheel at the top to the lift load at the bottom. The trench will terminate at the bottom Operator's Hut.

Trench dimensions will be 300mm wide x 300mm deep with 2 x 50mm conduits installed in the trench, allowing easy repairs of any future faults without excavation. A cross-section of the proposed trench is shown below.



Proposed construction corridor widths are as follows:

- Trenching corridor, 4.5m wide

Other project vehicles will be limited to previously disturbed areas to avoid or minimise impacts on native vegetation. Staff will walk to site where needed to avoid impacts on native vegetation.

2.2.2 Equipment & Machinery

Trenching will be conducted using a small rubber-tracked 6-tonne excavator, to minimise damage to vegetation.

No other heavy machinery is required on site.

Rock removal is not expected, given the trench is predominantly following the original disturbed cable alignment.

2.2.3 Works Program

Trenching works are expected to be carried out over a 10-day period during the summer season.

Site stabilisation and rehabilitation will extend beyond this period, as required.

2.2.4 Site Restoration and Rehabilitation

To minimise impacts on vegetation, a small rubber-tracked excavator will be used for the proposed trenching works. Sod replacement will be carried out for the full length of the project, with topsoil and vegetation replaced on top of the trench once conduit is installed. The Norwegian Road will be reinstated to its previously trafficable surface after trenching.

3 ENVIRONMENTAL ASSESSMENT

3.1 General site suitability and constraints

The Carpark Double Chairlift is a highly utilised lift in Guthega, acting as one of the main Resort access points for guests from Guthega Village. The replacement of the deteriorated Uphill Line is necessary for the safe operation of the chairlift. Some impacts to biodiversity are expected, as address in *Section 3.2*. Constraints around archaeology are addressed in *Section 3.4*. Given the trench will follow a previously trenched alignment, the site is suitable for the proposed works.

3.2 Ecological Impacts

As shown on *Appendix A – Figure 2*, part of the project area is in an area identified as having high biodiversity value on the Biodiversity Values Map (*Biodiversity Conservation Act, 2016*).

An assessment of ecological impacts has been carried out by an expert consultant, see *Appendix C – Biodiversity Development Assessment Report (BDAR)*.

This BDAR determined that the proposed development has been located to take advantage of existing disturbed areas and minimise the required disturbance. One Plant Community Type and one threatened species (*Mastacomys Fuscus*) require payment of offset credits under the Scheme. Note: the BDAR utilises a Future Vegetation Integrity score of “0”, despite the proposed rehabilitation outlined herein.

3.3 General impacts on aquatic ecosystems

All project works are more than 40 metres from The Snowy River and other riparian zones. There is no requirement for a Controlled Activity Approval under the Water Management Act or further assessment against impacts on waterways.

3.4 Aboriginal cultural heritage

As shown on *Appendix A – Figure 2*, the trench avoids any areas identified as having potential archaeological significance.

An assessment of potential archaeological impacts has been included in *Appendix D – Archaeological Due Diligence*. A search of the AHIMS Register showed two Aboriginal Sites recorded in or near the area surrounding the project. One potential Archaeological Site is located roughly 500m to the West of the site and will not be impacted by the project. A second Archaeological Site (Perisher Blue Isolated Find 2) is located roughly 20m to the Southwest of the Carpark Chairlift alignment, and roughly 55m North of Norwegian Road (*Figure 2*). An Extensive Search was completed for the two Archaeological Sites and Selective Archaeological Survey (Navin Officer Heritage Consultant, 1999) report details the finds.

The project will avoid any areas of potential Aboriginal objects. In summary, an AHIP application is not necessary for the proposed works. Proceed with caution. If any Aboriginal objects are found, stop work, secure the site and notify the NSW Police and DPE.

3.5 European cultural heritage

The proposed works will have no impact on European cultural heritage.

3.6 Geotechnical Considerations

Given that excavations are proposed to a maximum of 300mm, there is no need for further Geotechnical Assessment of this project.

3.7 Soil impacts

Erosion impacts as outlined in *Appendix C - Site Environmental Management Plan*.

3.8 Visual impacts and aesthetics

The proposed works will have short-term visual impacts, relating to construction disturbance. The site will be sod-replaced, stabilised and revegetated; hence visual impacts will be temporary only.

3.9 Social and economic impacts

The proposed works will have positive social and economic impacts, as they will result in the ongoing safe operation of the highly utilised Guthega Carpark Double Chairlift.

3.10 Effects on ski resort operation

The proposed works will have positive impacts on ski resort operation, as they will result in the ongoing safe operation of the highly utilised Guthega Carpark Double Chairlift.

Works are to be carried out during the non-operational summer season.

3.11 Noise and vibration

Localised noise and air impacts will result from construction vehicles however these will be temporary only. There will be no ongoing impacts on noise and air quality from the proposed works.

3.12 Waste management

The project will have no impacts on waste management.

3.13 Energy use and conservation

There will be no impacts on energy consumption from the proposal.

3.14 Construction impacts

Construction impacts including erosion, noise, air and waste are addressed in previous sections and *Appendix C - Site Environmental Management Plan*.

4 STATUTORY ASSESSMENT REQUIREMENTS

4.1 State Environmental Planning Policy (Precincts- Regional) 2021

Part 4.5 of the State Environmental Planning Policy (Precincts- Regional) 2021 list the factors which need to be considered by the consent authority when determining a development application. The factors listed in Clause 4.28 and 4.29 are included in *Table 4.1*, together with a summary assessment of each of these factors.

Table 4.1 – Factors which must be considered by the consent authority when deciding whether to grant development consent to development in the Alpine Region

Factor	Impacts / Comments
4.28 Consideration of master plans and other document (1) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider the following—	
(a) the aim and objectives of this Chapter set out in section 4.1;	
(1) to protect and enhance the Alpine Region by ensuring development is managed with regard to the principles of ecologically sustainable development, including the conservation and restoration of ecological processes, natural systems and biodiversity.	The works will be managed appropriately to have regard for the principles of Ecologically sustainable development. The proposed works involve trenching in previously disturbed vegetation and avoiding sensitive areas were possible. Measures have been implemented to minimise impacts on ecological processes, natural systems and biodiversity.
2 (a) to encourage the carrying out of a range of development to support sustainable tourism in the Alpine Region all year round, if the development does not result in adverse environmental, social or economic impacts on the natural or cultural environment of the Alpine Region, including cumulative impacts on the environment from development and resource use	The works are in previously disturbed areas and will not contribute to cumulative impact on the environment within the Resort. The works are designed to minimise adverse on environmental and cultural impacts and will have positive social and economic impacts.
(b) to establish planning controls that— (i) contribute to and facilitate the carrying out of ecologically sustainable development in the Alpine Region, and (ii) recognise the Alpine Region’s significant contribution to recreation and the tourism economy in the State,	The works will contribute to the recreation and tourism economy in the State while having regard for ecologically sustainable development.
(c) to minimise the risk to the community of exposure to environmental hazards, particularly geotechnical hazards, bush fires and flooding, by— (i) generally requiring development consent on land in	The works will not present risks to the community and this assessment addresses all necessary planning controls

the Alpine Region, and (ii) establishing planning controls for buildings to ensure the safety of persons using the buildings if there is a fire.	
(b) a draft development control plan that is intended to apply to the land and has been published on the NSW planning portal,	Not applicable.
(c) a conservation agreement under the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth that applies to the land,	Not applicable.
(d) the Geotechnical Policy — Kosciuszko Alpine Resorts published by the Department in November 2003,	No geotechnical assessment is required.
(e) for development in the Perisher Range Alpine Resort— (i) the Perisher Range Resorts Master Plan, published by the National Parks and Wildlife Service in November 2001, and (ii) the Perisher Blue Ski Resort Ski Slope Master Plan adopted by the National Parks and Wildlife Service in May 2002.	The proposal is generally consistent with the goals of the Perisher Master Plans. The proposed works are proposed to maintain operation of an existing chairlift.
(2) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider—	
(a) a master plan approved by the Minister under section 4.26 that applies to the land, or (b) if a master plan has not been approved—a draft master plan prepared under section 4.26 that is intended to apply to the land and has been published on the NSW planning portal.	The proposal is generally consistent with the goals of the Perisher Master Plans. The proposed works are proposed to maintain operation of an existing chairlift.
4.29 Consideration of environmental, geotechnical and other matters	
(1) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider the following—	
(a) measures proposed to address geotechnical issues relating to the development,	No geotechnical assessment is required.
(b) the extent to which the development will achieve an appropriate balance between— (i) the conservation of the natural environment, and (ii) taking measures to mitigate environmental hazards, including geotechnical hazards, bush fires and flooding,	This document addresses impacts to the natural environment. The project will not impact upon the risk of environmental hazards, including geotechnical hazards, bush fires and flooding
(c) the visual impact of the proposed development, particularly when viewed from the land identified as the Main Range Management Unit in the <i>Kosciuszko National Park Plan of Management</i> ,	There will be no long-term visual impact from the development.
(d) the cumulative impacts of development and resource use on the environment of the Alpine Subregion in which the development is carried out,	The works are in previously disturbed areas and will not contribute to cumulative impact on the environment within the Resort.

(e) the capacity of existing infrastructure and services for transport to and within the Alpine Region to deal with additional usage generated by the development, including in peak periods,	The proposal will not impact upon existing Resort capacity
(f) the capacity of existing waste or resource management facilities to deal with additional waste generated by the development, including in peak periods.	The proposal will not impact upon waste or resource management facilities
(2) For development involving earthworks or stormwater draining works, the consent authority must also consider measures to mitigate adverse impacts associated with the works.	This document, and the SEMP address earthworks and mitigation of impacts
(3) For development the consent authority considers will significantly alter the character of an Alpine Subregion, the consent authority must also consider— (a) the existing character of the site and immediate surroundings, and (b) how the development will relate to the Alpine Subregion.	The proposal will not impact on the character of the Alpine Subregion

4.2 NSW Water Management Act 2000.

The proposed works are greater than 40 metres from riparian areas, therefore will not require a controlled activity approval from the Department of Planning and Environment NSW *Water Management Act 2000*.

4.3 Environmental Planning and Assessment Act 1979

Section 4.15 (1) of the *Environmental Planning and Assessment Act* lists the matters which must be taken into consideration by the consent authority when determining a development application. *Table 4.2* lists these matters and provides a summary assessment of each of these matters including, where appropriate, a cross reference to the relevant sections in this report.

Table 4.2 - Environmental Planning and Assessment Act checklist

Matter	Impacts / comments
(a) the provisions of any environmental planning instrument (including drafts), development control plans, planning agreements and the regulations	See Section 4
(b) the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality	See Section 3
(c) the suitability of the site for the development	See Section 3
(d) any submissions made in accordance with this Act or the regulations	N/A
(e) the public interest	The assessment addresses the aims and objectives of the SEPP (Precincts-Regional) 2021 and therefore is deemed to be in the public interest. The proposal will maintain safe operation of an existing chairlift for the public.

4.4 Biodiversity Conservation Act 2016

As shown on *Appendix A – Figure 2*, part of the project area is in an area identified as having high biodiversity value on the Biodiversity Values Map (*Biodiversity Conservation Act, 2016*).

An assessment of ecological impacts has been carried out by an expert consultant, see *Appendix C – Biodiversity Development Assessment Report (BDAR)*.

4.5 Environment Protection and Biodiversity Conservation Act 1999

The factors which need to be considered under the Commonwealth *Environment Protection and Biodiversity Conservation Act (EPBC Act)* are listed in *Table 4.3* together with an assessment of each of these factors. None of these factors are considered to result in impacts which would be considered significant under the guidelines applying to the *EPBC Act*.

Table 4.3 – Environment Protection and Biodiversity Conservation Act checklist

Factor	Impacts / comments
Matters of National Environmental Significance	
Any environmental impact on a World Heritage Property?	No impact
Any environmental impact on a National Heritage Place?	No impact on the Australian Alps National Heritage Place.
Any environmental impact on wetlands of international importance?	No impact
Any environmental impact on Commonwealth listed species or ecological communities?	No impact
Any environmental impact on Commonwealth listed migratory species?	No impact
Does any part of the proposal involve a nuclear action?	No nuclear action
Any environmental impact on a Commonwealth Marine Area?	No impact
Impact on great Barrier Reef Marine Park?	No impact
Impact on Commonwealth land?	No impact
Impact on the environment, from action taken by the Commonwealth?	No impact
Commonwealth heritage places outside of Australian jurisdiction?	No impact

5 CONCLUSION

The proposed replacement of the Guthega Carpark Double Chairlift Uphill line will ensure the reliable and safe operation of the highly utilised lift in the Guthega Resort Area.

Construction vehicles, techniques and disturbance corridors have been chosen to minimise impacts on the environment. Biodiversity legislation will offset unavoidable impacts to biodiversity in this area, and the site will be stabilised and rehabilitated, as described.

The project works do not fall within riparian areas, and an archaeological assessment shows the project can proceed with caution.

Appendix A - Project Maps

[illegible]

Appendix B: Project Photos

Photos below reflect locations shown on Statement of Environmental Effects, Appendix A – Project Maps, Figure 2 – Location Map.



Photo 1: The area around Guthega Carpark Chair unload station is heavily disturbed and dominated by exotic grasses.



Photo 2: The disturbance corridor is free of large trees and the proposed works will only affect tree saplings, understorey, and groundcover vegetation.



Photo 3: Part of the trench will be through the previously disturbed Norwegian Road, which will be reinstated to a trafficable access track.

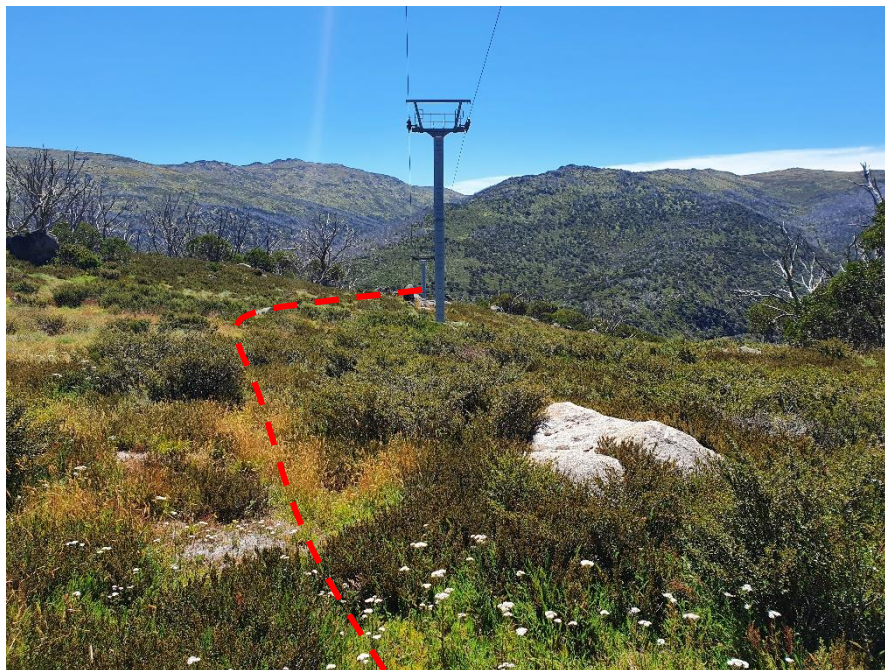


Photo 4: The alignment of the uphill line has been chosen to minimise disturbance and avoid native vegetation where possible, as well as avoid the Archaeological Isolated Find.

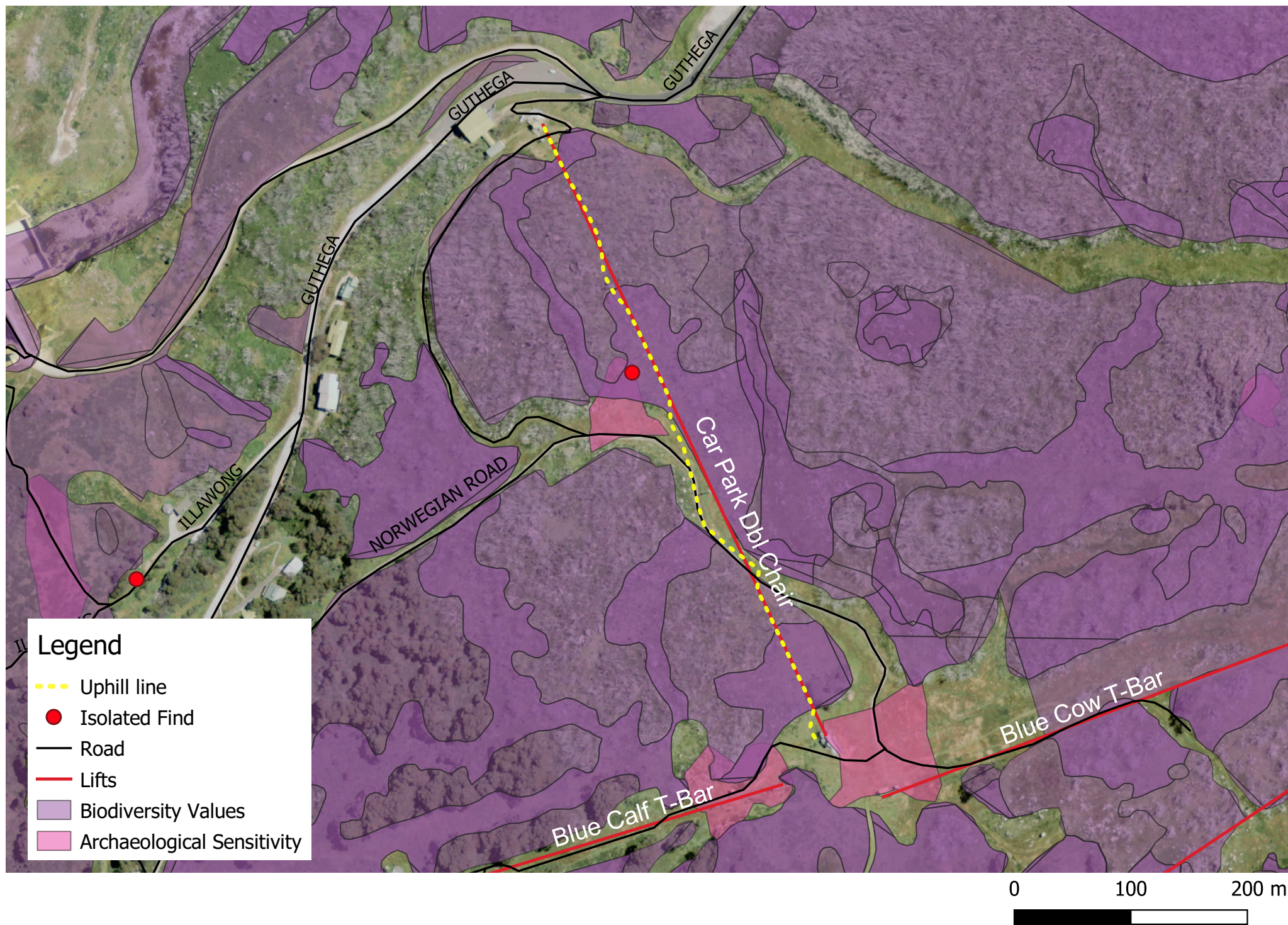


Photo 5: Trenching will avoid large rock outcrops to minimise disturbance.



Photo 6: The lower parts of the development site support low shrubland due to previously cleared Snow Gums.

Figure 2: Location Map, Guthega Carpark Chair Uphill Line Replacement



Appendix C - Biodiversity Development Assessment Report



Replacement of Uphill Line, Guthega Carpark Double Chair, Perisher Ski Resort Biodiversity Development Assessment Report

Perisher Blue Pty Ltd



Department of Planning
and Environment

Issued under the Environmental Planning and Assessment Act 1979


Approved Application No 23/1923

Granted on the 5 April 2023

Signed S Butler

Sheet No 4 of 5

DOCUMENT TRACKING

Project Name	Replacement of Uphill Line, Guthega Carpark Double Chair, Perisher Ski Resort
Project Number	4140
Project Manager	Ryan Smithers
Accredited Assessor Certification	
Prepared by	Ryan Smithers
Reviewed by	Frank Lemckert
Approved by	Ryan Smithers
Status	Final
Version Number	2
Last saved on	19 January 2023

This report should be cited as 'Eco Logical Australia 2023. *Replacement of Uphill Line, Guthega Carpark Double Chair, Perisher Ski Resort.* Prepared for Perisher Blue Pty Ltd.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Perisher Blue Pty Ltd

Disclaimer

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and Perisher Blue Pty Ltd. The scope of services was defined in consultation with Perisher Blue Pty Ltd, by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.

Executive Summary

Eco Logical Australia Pty Ltd was engaged by Perisher Blue Pty Ltd to prepare a BDAR for the proposed replacement of the existing “uphill line” which services the Guthega Carpark Chairlift in the Guthega area of Perisher Ski Resort.

Some of the native vegetation within the development site is mapped on the Biodiversity Values map. This report has been prepared to meet the requirements of the Biodiversity Assessment Method 2020 established under Section 6.7 of the NSW *Biodiversity Conservation Act 2016* (BC Act).

The development footprint is approximately 0.23 ha in size. The proposed development has been located to take advantage of existing disturbed areas and minimize the required disturbance. As a result, it is anticipated that the proposal will involve the further modification of only 0.14 ha of native vegetation.

The development footprint supports one Plant Community Type (PCT) PCT 645 Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion which is considered to be in moderate condition within the development footprint. PCT 645 does not comprise any threatened ecological community (TEC) listed on the BC Act or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Targeted surveys within the development site and immediate surrounds identified one threatened fauna species, *Mastacomys fuscus* (Broad-toothed Rat), as occurring within the development site. Despite targeted surveys, no evidence of *Liopholis guthega* (Guthega Skink) was detected within the development site or immediate surrounds. No threatened plants were detected within the development site.

This BDAR outlines the measures taken to avoid, minimise and mitigate impacts to the vegetation and habitats present within the development footprint during the design, construction and operation of the development. The residual unavoidable impacts of the proposed development were calculated in accordance with the BAM by utilising the Biodiversity Assessment Method Credit Calculator. A total of two ecosystem credits and three species credits are required to offset the unavoidable impacts to the vegetation and habitats present within the development footprint.

Serious and Irreversible Impact (SAII) values have been considered as part of this assessment. The proposal will not result in any SAII.

Following consideration of the administrative guidelines for determining significance under the EPBC Act, it is concluded that the proposal is unlikely to have a significant impact on Matters of National Environmental Significance (MNES) or Commonwealth land, and a referral to the Commonwealth Environment Minister is therefore not recommended.

Contents

1. Introduction	1
1.1. General description of the development site	1
1.2. Brief description of the proposal	1
1.3. Development site footprint	1
1.4. Sources of information used.....	5
1.5. Legislative context	5
2. Landscape features.....	9
3. Native Vegetation.....	10
3.1. Survey Effort	10
3.2. Native vegetation extent within the development site	10
3.3. Plant Community Types present.....	10
3.3.1. Plant Community Type selection justification	10
3.4. Threatened Ecological Communities	11
3.5. Vegetation integrity assessment.....	11
3.5.1. Vegetation zones	11
3.5.2. Patch size	11
3.5.3. Assessing vegetation integrity	11
3.6. Use of local data	13
4. Threatened species.....	16
4.1. Ecosystem credit species	16
4.2. Species credit species	16
4.2.1. Identification of species credit species	16
4.2.2. Candidate species requiring further assessment.....	16
4.2.3. Assessment of habitat constraints and vagrant species	17
4.3. Targeted surveys.....	18
4.3.1. Species credit species included in the assessment	18
4.4. Identification of prescribed additional biodiversity impact entities	18
5. Avoiding and Minimising Impacts on Biodiversity Values	20
5.1. Locating a project to avoid and minimise impacts on biodiversity values	20
5.1.1. Direct and indirect impacts.....	20
5.1.2. Prescribed biodiversity impacts	20
5.2. Designing a project to avoid and minimise impacts on biodiversity values	20
5.2.1. Direct and indirect impacts.....	20
5.2.2. Prescribed biodiversity impacts	20
6. Assessment of Impacts	21
6.1. Direct impacts.....	21

6.2. Change in vegetation integrity	21
6.3. Indirect impacts	21
6.4. Prescribed biodiversity impacts	21
6.5. Mitigating and managing direct and indirect impacts	25
6.6. Mitigating prescribed impacts	25
6.7. Adaptive management strategy.....	25
7. Impact summary.....	28
7.1. Serious and Irreversible Impacts (SAIL)	28
7.2. Impacts requiring offsets	28
7.3. Impacts not requiring offsets.....	28
7.4. Areas not requiring assessment.....	28
7.5. Credit summary	31
8. Consistency with legislation and policy.....	32
8.1. Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>	32
9. Recommendations.....	33
10. Conclusion.....	34
11. Bibliography	35

List of Figures

Figure 1: Location map.....	6
Figure 2: Site map.....	7
Figure 3: The proposal (as identified in the SEE).....	8
Figure 4: Plant Community Types	14
Figure 5: Vegetation Zones and Plots.....	15
Figure 6: Species polygons	19
Figure 7: Indirect impact zones.....	22
Figure 8: Impacts requiring offset.....	29
Figure 9: Impacts not requiring offset.....	30

List of Tables

Table 1: Legislative context	5
Table 2: Landscape features.....	9
Table 3: Full-floristic PCT identification plots.....	10
Table 4: Plant Community Types.....	10
Table 5: Potential PCTs.....	10
Table 6: Threatened Ecological Communities	11
Table 7: Vegetation zones and vegetation integrity survey plots collected on the development site....	11
Table 8: Zone 1 PCT 645 Moderate Condition	12
Table 9: Vegetation integrity scores	13
Table 10: Predicted ecosystem credit species	16
Table 11: Candidate species credit species.....	17
Table 12: Justification for exclusion of candidate species credit species	17
Table 13: Targeted surveys	18
Table 14: Weather conditions.....	18
Table 15: Survey effort.....	18
Table 16: Species credit species included in the assessment	18
Table 17: Direct impacts to native vegetation	21
Table 18: Direct impacts on threatened species and threatened species habitat	21
Table 19: Change in vegetation integrity	21
Table 20: Indirect impacts.....	23
Table 21: Measures proposed to mitigate and manage impacts.....	26
Table 22: Impacts to native vegetation that require offsets	28
Table 23: Impacts on threatened species and threatened species habitat that require offsets.....	28
Table 24: Ecosystem credits required	31
Table 25: Species credit summary.....	31
Table 26: Species recorded in the plots and incidentally elsewhere within the development site or immediate surrounds.	40
Table 27: Plot location data	42
Table 28: Vegetation integrity data (composition)	42
Table 29: Vegetation integrity data (Structure)	42
Table 30: Vegetation integrity data (Function)	42

Abbreviations

Abbreviation	Description
BAM	Biodiversity Assessment Method
BAMC	Biodiversity Assessment Method Credit Calculator
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
CEEC	Critically Endangered Ecological Community
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPE	NSW Department of Planning and Environment
EEC	Endangered Ecological Community
ELA	Eco Logical Australia Pty Ltd
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
FM Act	NSW <i>Fisheries Management Act 1994</i>
GIS	Geographic Information System
GPS	Global Positioning System
IBRA	Interim Biogeographic Regionalisation for Australia
LGA	Local Government Area
NSW	New South Wales
NOW	NSW Office of Water
PCT	Plant Community Type
SEPP	State Environmental Planning Policy
TEC	Threatened Ecological Community
VIS	Vegetation Information System

1. Introduction

This Biodiversity Development Assessment Report (BDAR) has been prepared by Ryan Smithers, an Accredited Person (BAAS17061) to apply the Biodiversity Assessment Method (BAM) under the NSW *Biodiversity Conservation Act 2016* (BC Act). All credit calculations have been undertaken using the BAM Calculator (BAMC) version 2020 in case number 37431. Consistent with the BAM, the streamlined (small area) assessment module has been used for this assessment.

Definitions of terminology used throughout this report are presented in Appendix A.

1.1. General description of the development site

The development site comprises existing ski slopes and remnant native vegetation in the Guthega area of Perisher Ski Resort. Parts of the development site are already heavily modified in association with existing ski slopes and associated infrastructure.

This report includes two base maps, the Location map (Figure 1) and the Site map (Figure 2).

1.2. Brief description of the proposal

The proposed development comprises the replacement of the existing “uphill line” which services the Guthega Carpark Double Chairlift (the Carpark Double Chair). The uphill line acts as the safety circuit for the chairlift. The existing uphill line is old and not consistent with contemporary safety standards. The proposed new line will follow the alignment and disturbance corridor associated with the existing uphill line and chairlift.

The proposed works will be undertaken with a small rubber-tracked 6-tonne excavator to minimise disturbance. The excavator will access the site from the existing access roads, and do a single downhill pass of the project site.

The proposed works will result in a disturbance footprint up to 4 m wide. The trench will be 300 mm wide by 300 mm deep with two 50 mm conduits and one 150 mm conduit for easy repairs of any future faults without the need for excavation.

The proposed works are expected to be completed over a two week period and to affect 0.14 ha of native vegetation, much of which is already disturbed. The works will include the progressive reinstatement of excavated material using the sod replacement technique and post construction rehabilitation.

The proposal is further identified in Figure 3 and Photo 1 – Photo 6. The proposal is further described in the Statement of Environmental Effects (SEE) which has been prepared (Perisher Blue 2022).

1.3. Development site footprint

It is anticipated that the proposed development will result in the further disturbance of 0.14 ha of native vegetation, parts of which are already heavily modified. Approximately 0.09 ha of existing roads and exotic grassland will also be disturbed in association with the proposed works.

The development site footprint is identified in Figure 2.



Photo 1: The area around the chairlift top station is heavily disturbed and dominated by exotic grasses.



Photo 2: The disturbance corridor is free of large trees and the proposed works will only affect tree saplings, understorey and groundcover vegetation.

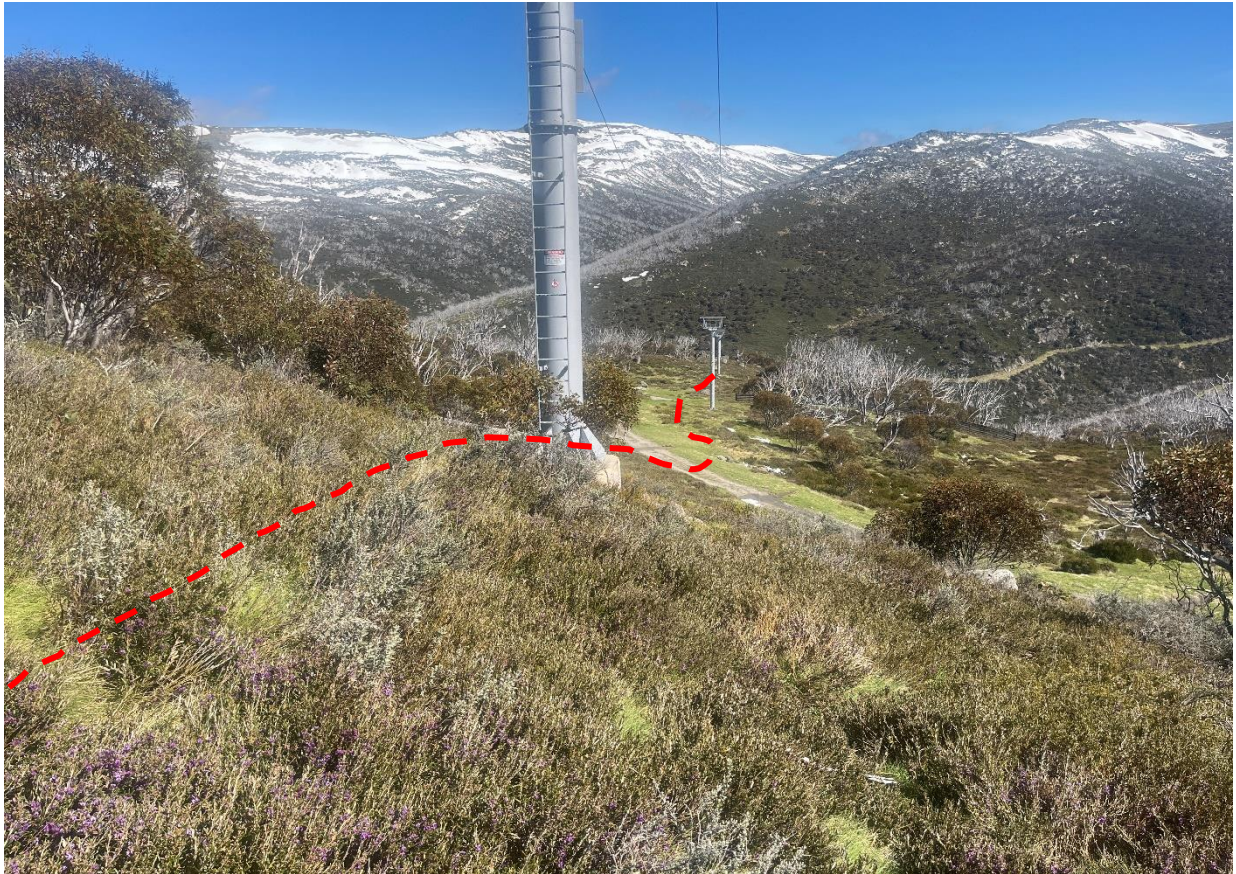


Photo 3: The alignment of the uphill line has been chosen to minimise disturbance and avoid native vegetation where possible.

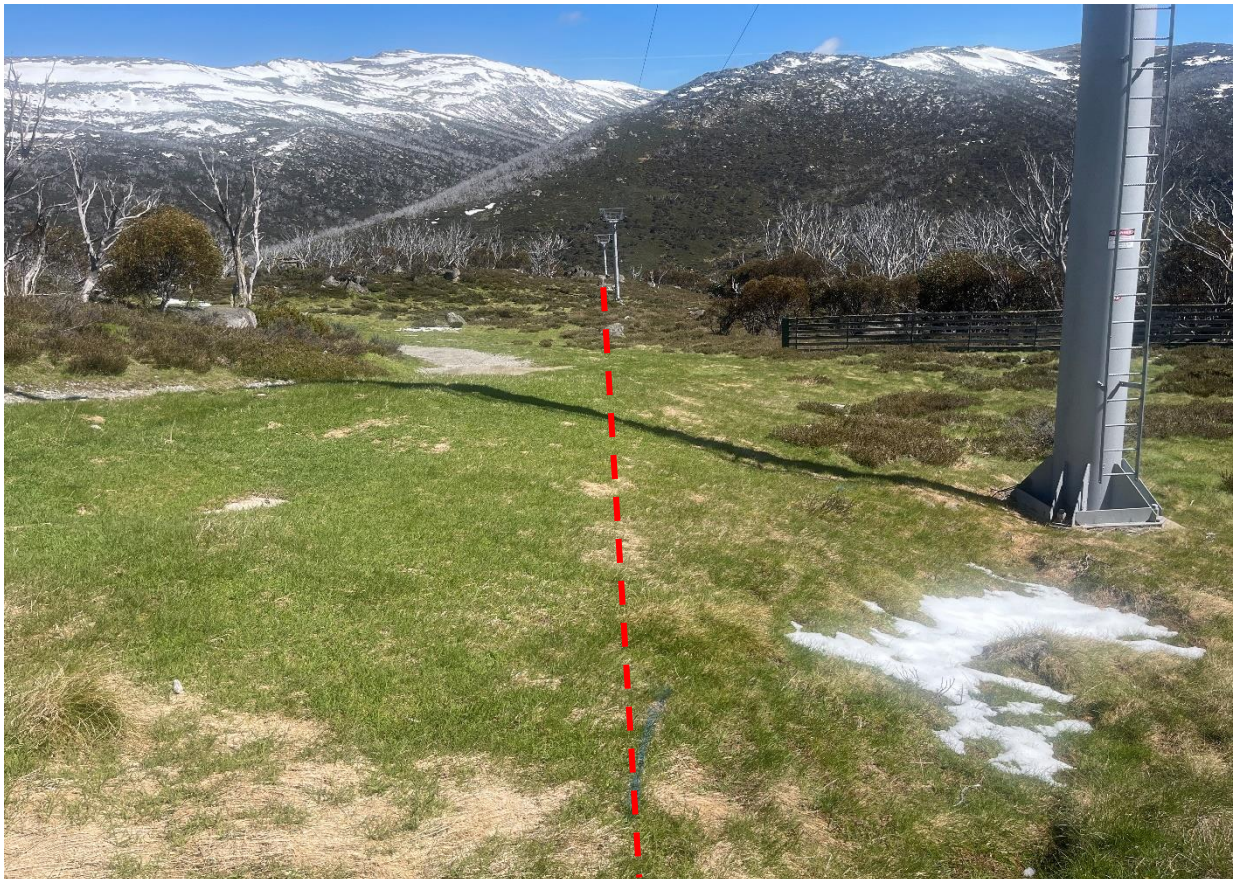


Photo 4: The alignment utilises the disturbed areas to the north of the existing access road.



Photo 5: To minimise disturbance the alignment has been selected to go around and between large rock outcrops where they occur.



Photo 6: The lower parts of the development site support a shrubland derived from the clearing of the Snow Gum canopy.

1.4. Sources of information used

The following data sources were reviewed as part of this report:

- BioNet Vegetation Classification
- BioNet Atlas Database
- Threatened Biodiversity Data Collection
- Additional GIS datasets including cadastre, contours, imagery and drainage.

1.5. Legislative context

Legislation relevant to the development site is outlined in Table 1.

Table 1: Legislative context

Name	Relevance to the project	Report Section
Commonwealth		
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Matters of National Environmental Significance (MNES) have been identified on or near the development site. This report assesses impacts to MNES and concludes that the development is unlikely to have a significant impact on MNES.	Appendix D
State		
<i>Environmental Planning and Assessment Act 1979</i>	The proposed development requires consent and is to be assessed under Part 4 of the EP&A Act. The EP&A Act places a duty on the determining authority to adequately address a range of environmental matters including the maintenance of biodiversity and the likely impact to threatened species, populations and communities.	-
<i>Biodiversity Conservation Act 2016</i>	The proposed development involves clearing of vegetation identified as high conservation value on the Biodiversity Values Land Map and thus requires submission of a Biodiversity Development Assessment Report.	-
Environmental Planning Instruments		
Precincts - Regional SEPP 2021	State Environmental Planning Policy (Precincts-Regional) 2021 (Precincts-Regional SEPP) facilitates a planning framework for Special Activation Precincts (Precinct/s) in regional NSW, streamlining planning processes and guiding the delivery of the precincts. Chapter 4 Kosciuszko National Park and Alpine Resorts (SEPP Precincts-Regional 2021) identifies the Minister for Planning as the determining authority for development within the NSW Alpine Resorts. Precincts-Regional SEPP requires the Minister for Planning to refer for comment any development application in the Alpine Resorts to the Director General of the NSW Department of Environment and Planning (DPE).	-
Snowy River Shire Local Environment Plan 2013	The subject site is zoned E1 National Parks and Nature Reserves under the Snowy River Shire Local Environment Plan 2013.	-

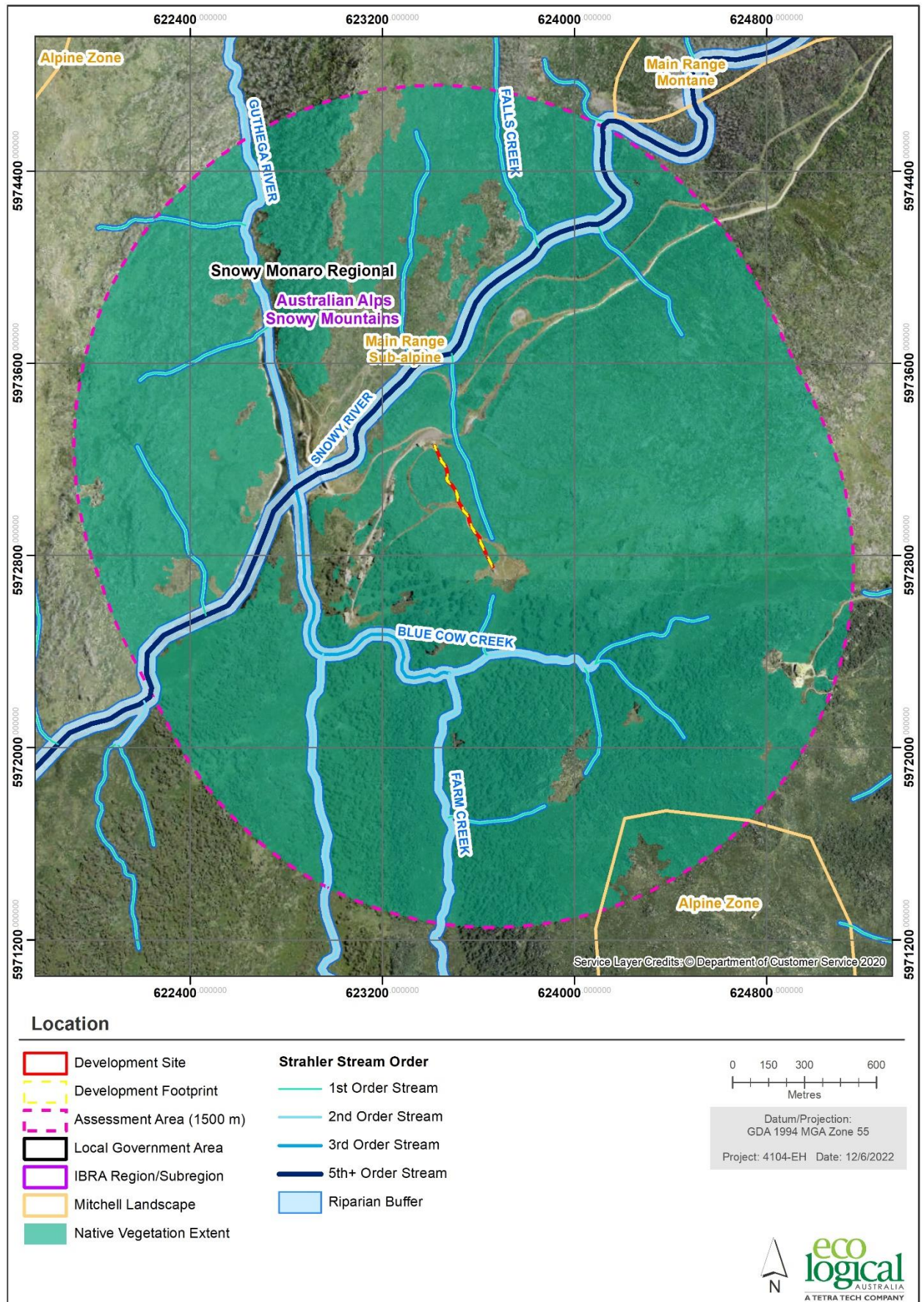


Figure 1: Location map

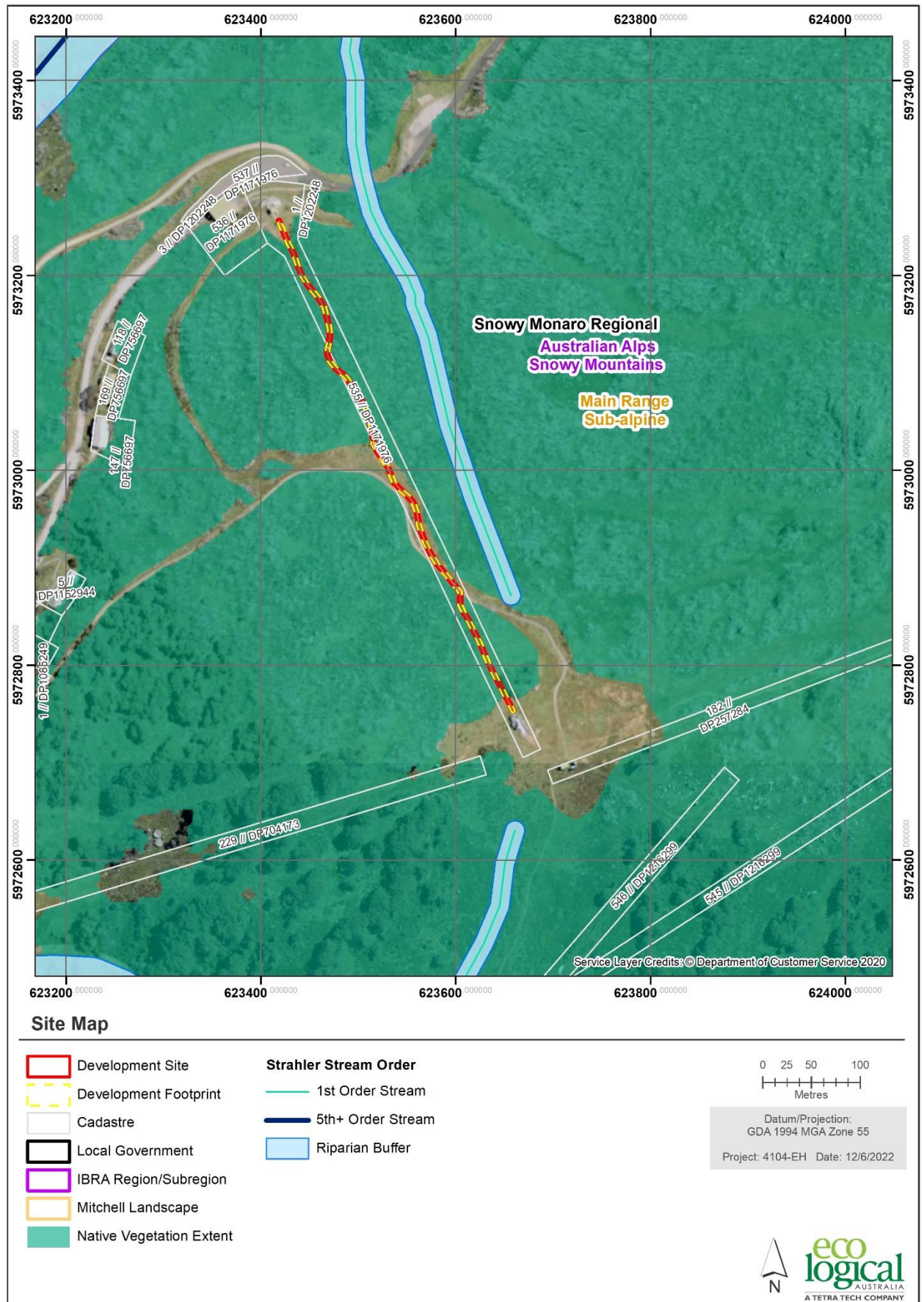


Figure 2: Site map

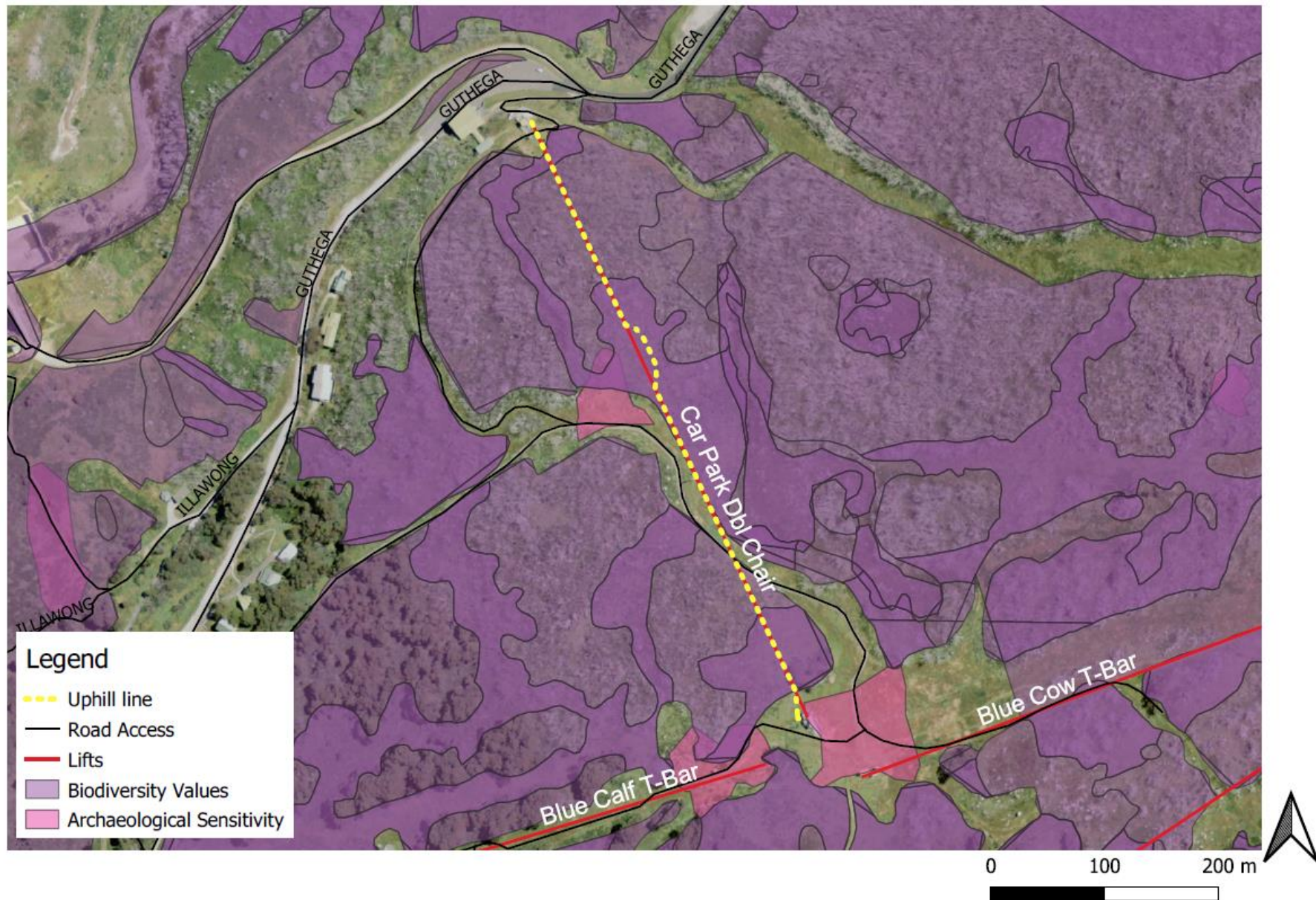


Figure 3: The proposal (as identified in the SEE)

2. Landscape features

The site-based method was applied for this assessment. As such, the assessment area is the 1,500 m buffer surrounding the outside edge of the development footprint.

The landscape features considered for this assessment are presented in Table 2, Figure 1 and Figure 2.

Table 2: Landscape features

Landscape feature	Development Site	Assessment Area	Data source
IBRA Region(s)	Australian Alps	Australian Alps	Interim Biogeographic Regionalisation for Australia, Version 7
IBRA subregion(s)	Snowy Mountains	Snowy Mountains	Interim Biogeographic Regionalisation for Australia, Version 7
Rivers and streams	Minor unmapped watercourses that are tributaries of the Snowy River.	Minor unmapped watercourses that are tributaries of Snowy River.	NSW LPI Waterway mapping
Estuaries and wetlands	No	No	NSW directory of important wetlands
Connectivity of different areas of habitat	The development site is connected to vast areas of native vegetation.	No	Aerial imagery
Geological features of significance and soil hazard features	The rock outcropping in the development site is very typical of the locality and not of any particular geological significance.	No	Site observation
Areas of Outstanding Biodiversity Value	No	No	Register of Declared Areas of Outstanding Biodiversity Value (DPIE 2020)
NSW (Mitchell) Landscapes	Main Range Subalpine	-	NSW (Mitchell) Landscapes - version 3.1 (DPIE 2016)
Percent (%) native vegetation extent	87	There are no substantial differences between the mapped vegetation extent and the aerial imagery	Calculated using aerial imagery and ArcGIS software

3. Native Vegetation

3.1. Survey Effort

Vegetation survey was undertaken within the development site by Ryan Smithers on 25 November 2022.

A total of one full-floristic vegetation plots was surveyed to identify Plant Community Types (PCTs) and Threatened Ecological Communities (TECs) on the development site (Table 3). A total of one vegetation integrity survey plot was undertaken on the development site to assess the composition, structure and function components of each vegetation zone in accordance with the BAM.

All field data collected at the full-floristic plot and at the vegetation integrity plot is included in Appendix B and Appendix C.

Table 3: Full-floristic PCT identification plots

PCT ID	PCT Name	Number of plots surveyed
645	Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	1

3.2. Native vegetation extent within the development site

There are no substantial differences between the extent of native vegetation within the development site as identified in recent aerial imagery and that identified during the vegetation survey.

3.3. Plant Community Types present

One PCT was identified within the development site, as shown in Table 3. Further detail with respect to the PCT identified within the development site is presented in Table 4, and its distribution identified in Figure 4.

Table 4: Plant Community Types

PCT ID	PCT Name	Vegetation Class	Vegetation Formation	Area within the development site (ha)	Percent cleared
645	Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Grassy Woodlands	Subalpine Woodlands	0.14	5

3.3.1. Plant Community Type selection justification

In determining the PCTs for the development site, various attributes were considered in combination to assign vegetation to the best fit PCT. Attributes included dominant species in each stratum and relative abundance, community composition, soils and landscape position. Reference was made to the PCT descriptions in the BioNet Vegetation Classification. There are only a small number of PCTs recognised in the alpine and sub-alpine so there are very few PCT options, as shown in Table 5.

Table 5: Potential PCTs

Selected PCT ID	PCT Name	Other PCT options
644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	-

3.4. Threatened Ecological Communities

PCT 645 does not comprise a TEC listed on the BC Act or EPBC Act, as identified in Table 6.

Table 6: Threatened Ecological Communities

PCT ID	BC Act			EPBC Act		
	Listing status	Name	Area (ha)	Listing status	Name	Area (ha)
645	Not listed	-	0.00	Not listed	-	0.00

3.5. Vegetation integrity assessment

3.5.1. Vegetation zones

One vegetation zone was identified within the development site, as shown in Figure 5. One vegetation integrity survey plot was collected on the development site, which is consistent with the BAM (Table 7). A description of the vegetation zone within the development site is provided in Table 8 and Table 9.

3.5.2. Patch size

Patch size was calculated using available vegetation mapping for all patches of intact native vegetation on and adjoining the development site. Patch size was assigned to one of four classes (<5 ha, 5-24 ha, 25-100 ha or ≥100 ha). A patch size ≥100 ha was determined for the development site.

3.5.3. Assessing vegetation integrity

A vegetation integrity assessment using the BAM Calculator (BAMC) was undertaken and the results are outlined in Table 9.

Table 7: Vegetation zones and vegetation integrity survey plots collected on the development site

Vegetation Zone	PCT ID	PCT Name	Condition	Area (ha)	Patch Size	Vegetation Integrity Survey Plots required	Vegetation Integrity Survey Plots collected
1	645	Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Moderate	0.14	101	1	1
Total				0.14	101	1	1

Table 8: Zone 1 PCT 645 Moderate Condition

645 - Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion			
Vegetation formation	Grassy Woodlands		
Vegetation Class	Subalpine Woodlands		
Conservation status	Widespread and well conserved. Not listed as a TEC on the BC Act or EPBC Act.		
Description	This community is common in the locality but highly variable. It is poorly described by the current PCTs and associated benchmarks which don't well describe the variety of vegetation communities covered by PCT 645 and the variation in composition and structure values within "benchmark" occurrences.		
Characteristic canopy trees	<i>Eucalyptus niphophila</i> .		
Characteristic mid-storey	<i>Grevillea australis</i> , <i>Ozothamnus cupressoides</i> , <i>Prostanthera cuneata</i> , <i>Nematolepis ovatifolia</i> , <i>Ozothamnus secundiflorus</i> , <i>Ozothamnus alpinus</i> , <i>Olearia phlogopappa</i> , <i>Orites lancifolius</i> , <i>Oxylobium ellipticum</i> .		
Characteristic groundcovers	<i>Acaena novae-zelandiae</i> , <i>Asperula gunnii</i> , <i>Carex breviculmis</i> , <i>Lycopodium fastigiatum</i> , <i>Pimelea alpina</i> , <i>Poa fawcettiae</i> , <i>Polystichum proliferum</i> , <i>Senecio gunnii</i> .		
Mean native richness	19		
Exotic species / HTW cover	<i>Acetosella vulgaris</i>		
Condition	Moderate condition		
Variation and disturbance	The community is in moderate condition within the development site as the canopy has been removed to achieve required clearances to the chairlift.		
No. sites sampled	1		
Threatened flora species	-		
Fauna habitats	Broad-toothed Rat, Alpine She-oak Skink and Flame Robin.		
Composition	Structure	Function	Vegetation Integrity Score
54.1	42.3	28.5	40.3



Table 9: Vegetation integrity scores

Veg Zone	PCT ID	Condition	Area (ha)	Composition Condition Score	Structure Condition Score	Function Condition Score	Presence of Hollow bearing trees	Current vegetation integrity score
1	645	Moderate	0.14	54.1	42.3	28.5	No	40.3

3.6. Use of local data

Use of local data instead of benchmark integrity scores is not proposed.

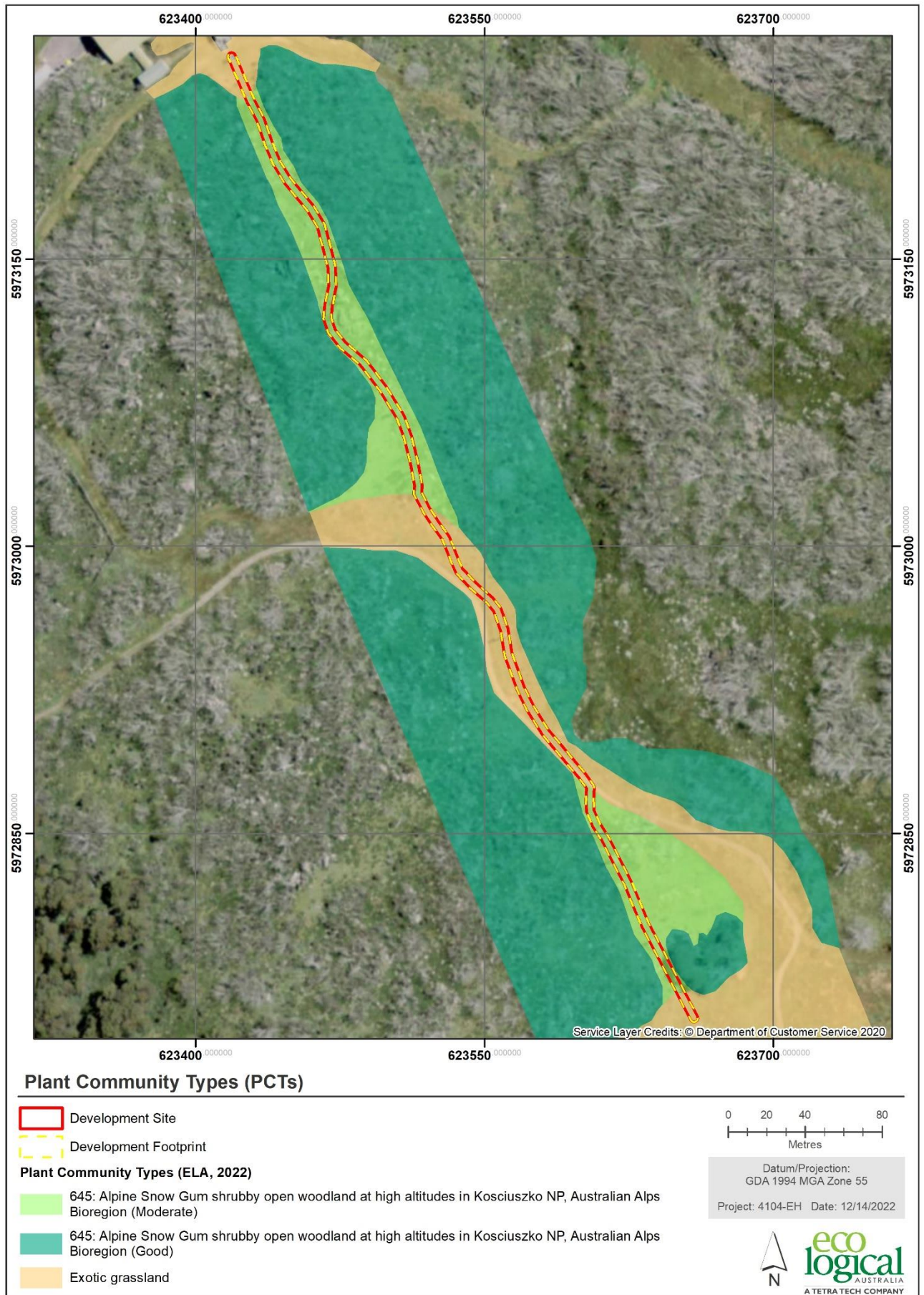


Figure 4: Plant Community Types

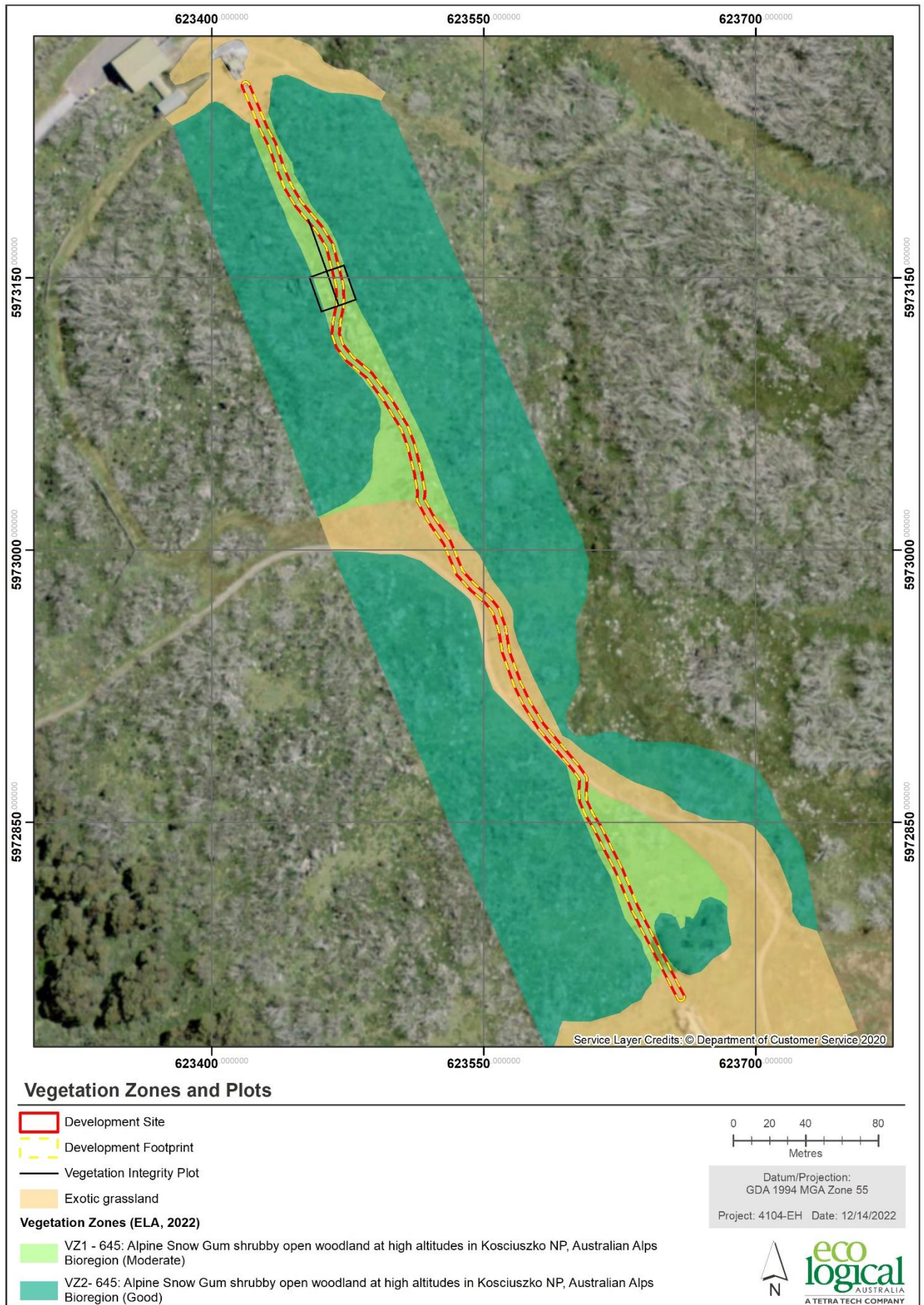


Figure 5: Vegetation Zones and Plots

4. Threatened species

4.1. Ecosystem credit species

Ecosystem credit species predicted to occur within the development site are generated by the BAMC following the input of VI data and the PCTs identified within Chapter 3. Ecosystem credit species predicted to occur at the development site, their associated habitat constraints, geographic limitations and sensitivity to gain class are included in Table 10.

Table 10: Predicted ecosystem credit species

Species	Common Name	Habitat Constraints	Geographic limitations	Sensitivity to gain class	NSW listing status	EPBC Listing status
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	-	-	Moderate	Vulnerable	Not Listed
<i>Callocephalon fimbriatum</i> (Foraging)	Gang-gang Cockatoo	-	-	Moderate	Vulnerable	Endangered
<i>Daphoenositta chrysoptera</i>	Varied Sittella	-	-	Moderate	Vulnerable	Not Listed
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	-	-	High	Vulnerable	Not Listed
<i>Hieraaetus morphnoides</i> (Foraging)	Little Eagle	-	-	Moderate	Vulnerable	Not Listed
<i>Hirundapus caudacutus</i>	White-throated Needle-tail	-	-	High	Not Listed	Vulnerable
<i>Petroica boodang</i>	Scarlet Robin	-	-	Moderate	Vulnerable	Not Listed
<i>Petroica phoenicea</i>	Flame Robin	-	-	Moderate	Vulnerable	Not Listed

4.2. Species credit species

4.2.1. Identification of species credit species

Species credit species that require further assessment within the development site (i.e. candidate species), their associated habitat constraints, geographic limitations and sensitivity to gain class are included in Table 11. Two additional species credit species were added as candidate species, *Liopholis guthega* (Guthega Skink) and *Mastacomys fuscus* (Broad-toothed Rat). The Guthega Skink is known from similar habitats within the Perisher Resort and the Broad-toothed Rat was detected within the development site.

4.2.2. Candidate species requiring further assessment

Three species credit species required further assessment following site survey to assess the condition of the development site and the presence of microhabitats; Guthega Skink, Broad-toothed Rat, and Southern Corroboree Frog.

Table 11: Candidate species credit species

Common Name	Species	Habitat Constraints	Geographic limitations	Sensitivity to gain class	NSW listing status	EPBC Listing status
Guthega Skink	<i>Liopholis guthega</i>	Granite substrate and decomposing granite soils Rocky areas including sub-surface boulders	-	High	Endangered	Endangered
Broad-toothed Rat	<i>Mastacomys fuscus</i>	-	-	High	Vulnerable	Vulnerable
Southern Corroboree Frog	<i>Pseudophryne corroboree</i>	Swamps Within 200m of high montane of subalpine bogs or ephemeral pool environments	above 1000 m asl	High	Critically Endangered	Critically Endangered

4.2.3. Assessment of habitat constraints and vagrant species

Justification for the exclusion of two candidate species credit species is provided in Table 12.

Table 12: Justification for exclusion of candidate species credit species

Common Name	Species	NSW listing status	EPBC Listing status	Sensitivity to gain class	Justification for exclusion of species
Guthega Skink	<i>Liopholis guthega</i>	Endangered	Endangered	High	The species was not detected within the development site despite targeted surveys. The habitat within the development site and immediate surrounds is marginal at best, being west facing, which provides a poor thermal environment. The nearest records are more than 2 km away from the development site and the species has not been detected at Guthega, despite numerous targeted surveys.
Southern Corroboree Frog	<i>Pseudophryne corroboree</i>	Critically Endangered	Critically Endangered	Very High	The Southern Corroboree Frog is limited to sphagnum bogs of the northern Snowy Mountains, in a strip from the Maragle Range in the northwest, through Mt Jagungal to Smiggin Holes in the south. Its range is entirely within Kosciuszko National Park. This species is all but extinct in the wild. It is no longer present at its former southern limit at Smiggin Holes. It is considered highly unlikely that it would occur within the development site as it was not detected there opportunistically, and ongoing surveys conducted by DPIE have not detected the species in this area.

4.3. Targeted surveys

The streamlined assessment method only requires targeted surveys for candidate SAI species. The development site does not provide suitable habitat for the Southern Corroboree Frog. However, there is potential habitat for Broad-toothed Rat. Targeted surveys were also undertaken for the Guthega Skink as it is well known from the Centre Valley area and to ensure the proposed development avoids and minimises impacts as far as is possible.

Targeted surveys were undertaken within the development site and immediate surrounds on the dates outlined in Table 13 for the candidate species credit species and for other relevant threatened species known from locality. Weather conditions during the targeted surveys are outlined in Table 14 and survey effort is outlined in Table 15.

Table 13: Targeted surveys

Date	Surveyors	Target species
25 November 2022	Ryan Smithers	Guthega Skink, Broad-toothed Rat, and Anemone Buttercup

Table 14: Weather conditions

Date	Rainfall (mm)	Minimum temperature 0 ^c	Maximum temperature 0 ^c
25 November 2022	-	9	12

Table 15: Survey effort

Method	Habitat (ha)	Stratification units	Total effort	Target species
Target Searches	Approx. 0.5 ha	Suitable habitats within and immediately surrounding the development site	2 person hours	Guthega Skink and Broad-toothed Rat
Targeted threatened flora searches	Approx. 0.5 ha	Suitable habitats within and immediately surrounding the development site	2 person hours	Anemone Buttercup

The targeted surveys resulted in the detection of the characteristic scats of the Broad-toothed Rat, which were scattered in low densities throughout the development site and surrounds, as they are in suitable habitats throughout much of the locality. No other candidate or threatened species were detected within the development site or immediate surrounds.

Following completion of field surveys, the species credit species included in the assessment is outlined in Table 16.

Table 16: Species credit species included in the assessment

Species	Common Name	Species presence	Geographic limitations	Habitat (ha) / count	Biodiversity Risk Weighting
Broad-toothed Rat	<i>Mastacomys fuscus</i>	Yes	-	0.14 ha	2

4.3.1. Species credit species included in the assessment

One species credit species, the Broad-toothed Rat, has been included in the assessment as the proposed development will impact on known or potential habitat for the species. A species polygon for the Broad-toothed Rat is included as Figure 6.

4.4. Identification of prescribed additional biodiversity impact entities

The proposed development does not include any prescribed additional biodiversity impact entities.

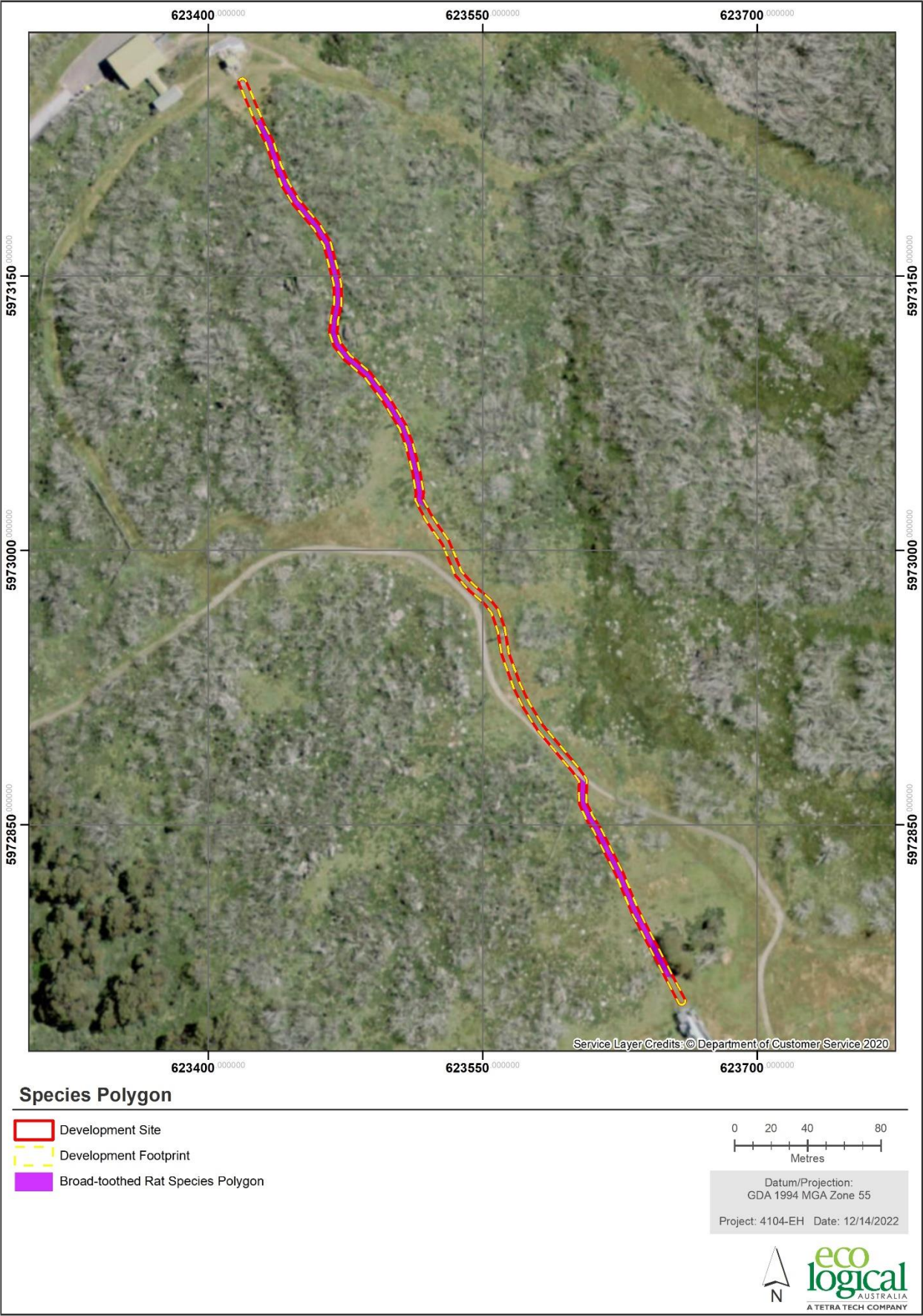


Figure 6: Species polygons

5. Avoiding and Minimising Impacts on Biodiversity Values

5.1. Locating a project to avoid and minimise impacts on biodiversity values

5.1.1. Direct and indirect impacts

The proposal has been designed to avoid and minimise direct and indirect impacts. In particular, this has involved:

- Locating the proposed works in disturbed areas.
- Minimising the disturbance footprint associated with construction by utilising a small excavator.
- Planning construction access and egress to avoid and minimise impacts on vegetation and fauna habitats.
- Marking the extent of the development site prior to the commencement of works, such that the disturbance footprint will not extend beyond the proposed footprint.
- Using low impact construction methods such as sod replacement.
- Undertaking post construction rehabilitation.

5.1.2. Prescribed biodiversity impacts

The proposal does not involve any prescribed biodiversity impacts.

5.2. Designing a project to avoid and minimise impacts on biodiversity values

5.2.1. Direct and indirect impacts

The proposal has been designed to avoid and minimise direct and indirect impacts on biodiversity values as described in Section 5.1.1.

5.2.2. Prescribed biodiversity impacts

Prescribed biodiversity impacts have been avoided and minimised by incorporating the design features identified in Section 5.1.1.

6. Assessment of Impacts

6.1. Direct impacts

The direct impact of the development on:

- Native vegetation is outlined in Table 17.
- Threatened species and threatened species habitat is outlined in Table 18.
- Prescribed biodiversity impacts outlined in Section 6.4.

Table 17: Direct impacts to native vegetation

PCT ID	PCT Name	BC Act listing	EPBC Act listing	Direct impact (ha)
645	Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Not listed	Not Listed	0.14

Table 18: Direct impacts on threatened species and threatened species habitat

Species	Common Name	Direct impact number of individuals / habitat (ha)	BC Act listing status	EPBC Act Listing status
<i>Mastacomys fuscus</i>	Broad-toothed Rat	0.14 ha	Vulnerable	Vulnerable

6.2. Change in vegetation integrity

The change in vegetation integrity as a result of the development is outlined in Table 19.

Table 19: Change in vegetation integrity

Veg Zone	PCT ID	Condition	Area (ha)	Current vegetation integrity score	Future vegetation integrity score	Change in vegetation integrity
1	645	Moderate	0.14	40.3	0	-40.3

6.3. Indirect impacts

The indirect impacts of the development are outlined in Table 20. Given the nature of the proposed development, and the proposed mitigation measures, indirect impacts are only anticipated to extend a maximum of 2 m into vegetation surrounding the proposed development site. Indirect impact zones are shown on Figure 7.

6.4. Prescribed biodiversity impacts

The proposal does not involve any prescribed biodiversity impact.

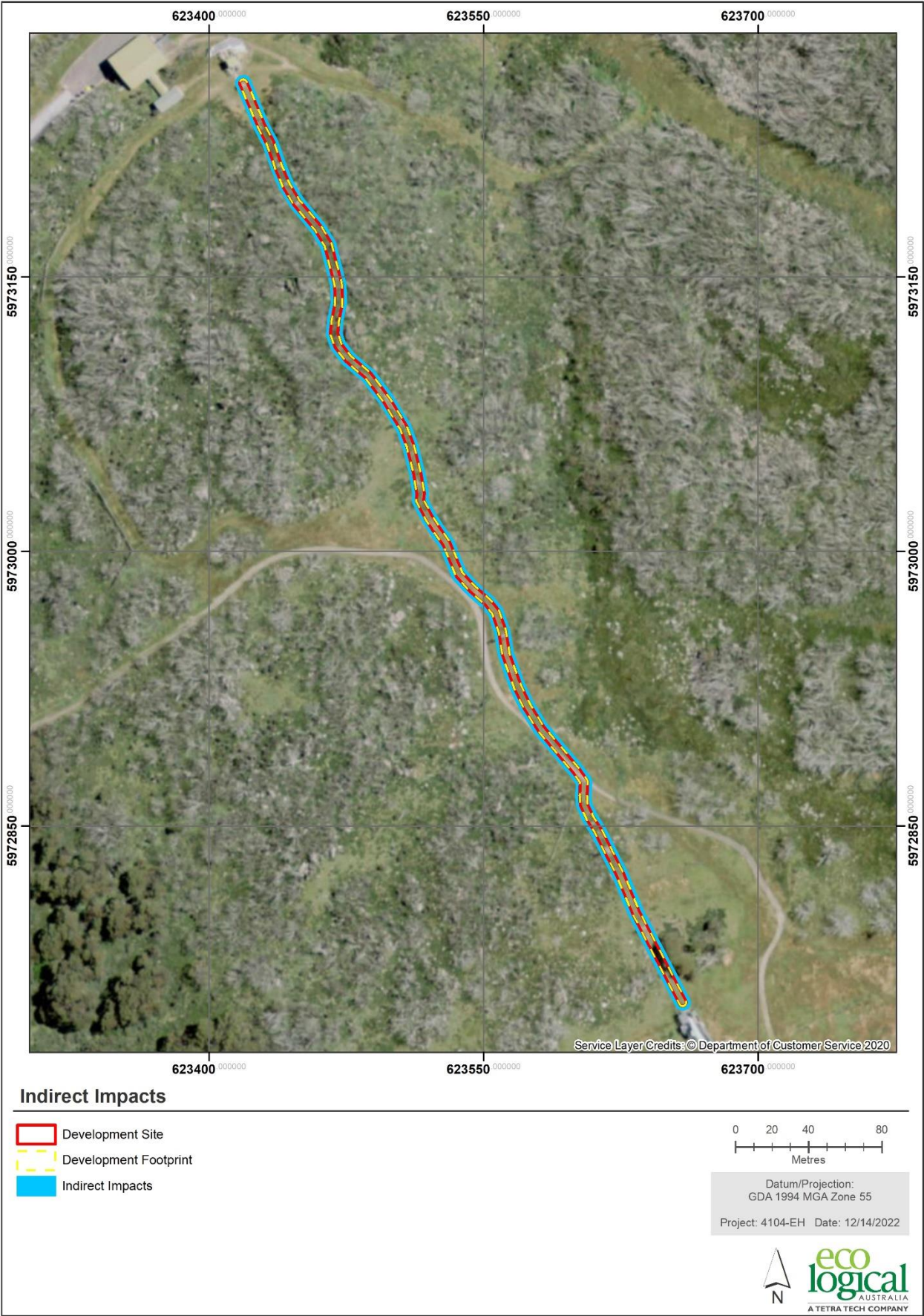


Figure 7: Indirect impact zones

Table 20: Indirect impacts

Indirect impact	Project phase	Nature	Extent	Frequency	Duration	Timing
Sedimentation and contaminated and/or nutrient rich run-off	Construction and post construction	Minor potential for sedimentation during and immediately post-construction. However, the proposed sediment control measures have been effective during the many other similar developments that have been undertaken within the alpine resorts in recent years.	Minor	During and after any heavy rainfall	12 month maximum	Intermittently during and post construction phase
Noise, dust or light spill	Construction	Minor during construction.	Minor	Intermittently during construction phase	During construction	Intermittently during construction phase
Inadvertent impacts on adjacent habitat or vegetation	Construction	Minor. The construction methods used at Perisher have been effective at preventing impacts on adjacent vegetation during the many other similar developments that have been undertaken in recent years.	Minor	Not expected but possible	During construction	Not expected
Transport of weeds and pathogens from the site to adjacent vegetation	Construction	Not expected. The development site includes and abuts areas that are already heavily modified and which support weeds which are common within the Perisher Resort area and elsewhere within the NSW Alps. The proposal will include post construction rehabilitation and weed control.	Not expected	Not expected but possible	Not expected	Not expected
Vehicle strike	Construction	Minor. It is considered unlikely that the proposal will include vehicle strike impacts. Vehicles will be travelling at very slow speeds within the development site and the noise and vibration associated with vehicle movements is expected to deter any fauna within or adjoining the development site from the path of any vehicles.	Not expected	Not expected but possible	During construction	Not expected
Trampling of threatened species	Construction	Not expected as none are known to be present.	Minor	Not expected	During construction	Not expected
Rubbish dumping	Construction	Not expected. Construction materials will be removed from the site regularly and no rubbish will be dumped or otherwise left to pollute the surrounding environment.	Not expected	Not expected	Not expected	Not expected
Wood collection	Construction	Not expected.	Not expected	Not expected	Not expected	Not expected

Indirect impact	Project phase	Nature	Extent	Frequency	Duration	Timing
Bush rock removal and disturbance	Construction	Minor. A relatively small amount of rock will be removed as part of the development. No additional indirect impacts are expected.	Minor	Intermittently during construction phase	During construction	Intermittently during construction phase
Increase in predatory species populations	Construction and post construction	Not expected. The proposed development occurs on the edge of an already disturbed area and will not increase the populations of predatory species such as foxes and cats.	Not expected	Not expected	Not expected	Not expected
Increase in pest animal populations	Construction and post construction	Not expected.	Not expected	Not expected	Not expected	Not expected
Increased risk of fire	Construction	Minor potential for increased risk of fire during construction.	Minor	Intermittently during construction phase	During construction	Intermittently during construction phase
Disturbance to specialist breeding and foraging habitat, e.g. beach nesting for shorebirds	Construction and post construction	Not expected as none are known to be present.	Not expected	Not expected	Not expected	Not expected

6.5. Mitigating and managing direct and indirect impacts

Measures proposed to mitigate and manage impacts at the development site before, during and after construction are outlined in Table 21.

6.6. Mitigating prescribed impacts

The development does not have any prescribed biodiversity impacts.

6.7. Adaptive management strategy

This section is required for those impacts that are infrequent, cumulative or difficult to predict. Impacts associated with the proposed development have been considered extensively and addressed in Section 5 and Section 6. Further consideration of infrequent, cumulative or difficult to predict impacts is not considered to be necessary.

Table 21: Measures proposed to mitigate and manage impacts

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
Displacement of resident fauna	Low	Low	None proposed.	NA	NA	NA
Timing works to avoid critical life cycle events such as breeding or nursing	Low	Low	None proposed.	NA	NA	NA
Instigating clearing protocols including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecologist or licensed wildlife handler during clearing events	Medium	Low	<p>The proposed excavation is to be undertaken using the sod replacement technique.</p> <p>Any trenches that are left open overnight are to have planks of wood or the like placed in them to enable fauna to exit the trench.</p> <p>Open trenches are to be inspected in the morning for fauna and any fauna that are trapped are to be released into adjacent areas.</p>	<p>Vegetation impacts mitigated by use of the sod replacement technique.</p> <p>Impacts on fauna mitigated.</p>	Prior to construction	Perisher
Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed	Medium	Low	<p>Identify with paint and/or flagging tape the alignment of the excavation, prior to construction.</p> <p>Tape off native vegetation adjacent to the development site as “no go” areas.</p>	Risk of disturbance beyond proposed disturbance corridor is reduced.	Prior to construction	Perisher
Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment	Medium	Low	Sediment control measures as necessary such as fencing and hay bales.	Risk of sedimentation or water quality impacts substantially reduced.	During and post-construction	Perisher
Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise	Low	Low	Restrict work to daylight hours.	Noise impacts mitigated.	During construction	Perisher
Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill	Low	Low	Restrict work to daylight hours.	Light impacts mitigated.	During construction	Perisher

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
Adaptive dust monitoring programs to control air quality	Low	Low	None proposed.	NA	NA	NA
Programming construction activities to avoid impacts; for example, timing construction activities for when migratory species are absent from the site, or when particular species known to or likely to use the habitat on the site are not breeding or nesting	Low	Low	None proposed.	NA	NA	NA
Temporary fencing to protect significant environmental features such as riparian zones	Low	Low	None proposed.	NA	NA	NA
Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas	Medium	Low	Any machinery or vehicles involved with the proposed works will be washed down to remove all soil and vegetative matter before entering the site to limit spread of weeds and disease such as <i>Phytophthora cinnamomi</i> .	Risk of weed or pathogen spread substantially reduced.	Prior to and during construction	Perisher
Staff training and site briefing to communicate environmental features to be protected and measures to be implemented	Medium	Low	Brief all workers as to limit of disturbance footprint and other environmental safeguards.	Risk of disturbance beyond proposed disturbance corridor is reduced.	Prior to and during construction as necessary	Perisher
Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development footprint	Medium	Low	Post construction rehabilitation consistent with standard Perisher rehabilitation strategies.	Post construction vegetation within the development footprint with high medium-term recovery potential.	Immediately post construction	Perisher
Monitoring	Low	Low	None proposed.	NA	NA	NA

7. Impact summary

Following implementation of the BAM and the BAMC, the following impacts have been determined.

7.1. Serious and Irreversible Impacts (SAIL)

The development does not have any Serious and Irreversible Impacts (SAIL).

7.2. Impacts requiring offsets

The impacts of the development requiring offset for native vegetation are outlined in Table 22 and shown on Figure 8. The impacts of the development requiring offset for species credit species and their habitats are outlined in Table 23 and on Figure 8.

Table 22: Impacts to native vegetation that require offsets

Vegetation Zone	PCT ID	PCT Name	Vegetation Class	Vegetation Formation	Direct impact (ha)
1	645	Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Grassy Woodlands	Subalpine Woodlands	0.14

Table 23: Impacts on threatened species and threatened species habitat that require offsets

Species	Common Name	Direct impact number of individuals / habitat (ha)	BC Act listing status	EPBC Act Listing status
<i>Mastacomys fuscus</i>	Broad-toothed Rat	0.14 ha	Vulnerable	Vulnerable

7.3. Impacts not requiring offsets

All the impacts of the development on native vegetation and on the Broad-toothed Rat require offsets. The impacts of the proposed development on non-native vegetation do not require offsets. Those impacts that do not require offsets are shown in Figure 9.

7.4. Areas not requiring assessment

No parts of the proposed development do not require assessment.

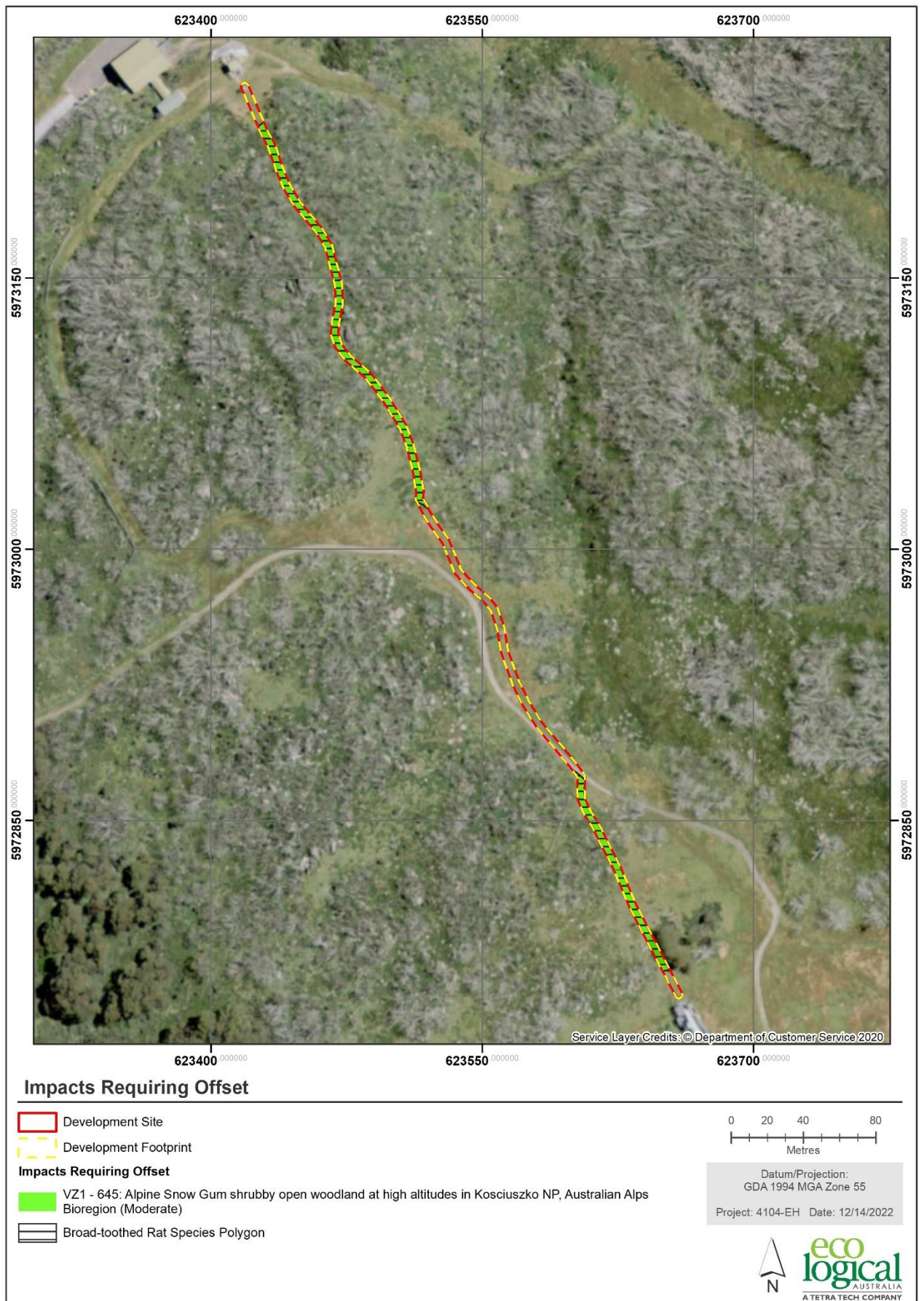


Figure 8: Impacts requiring offset

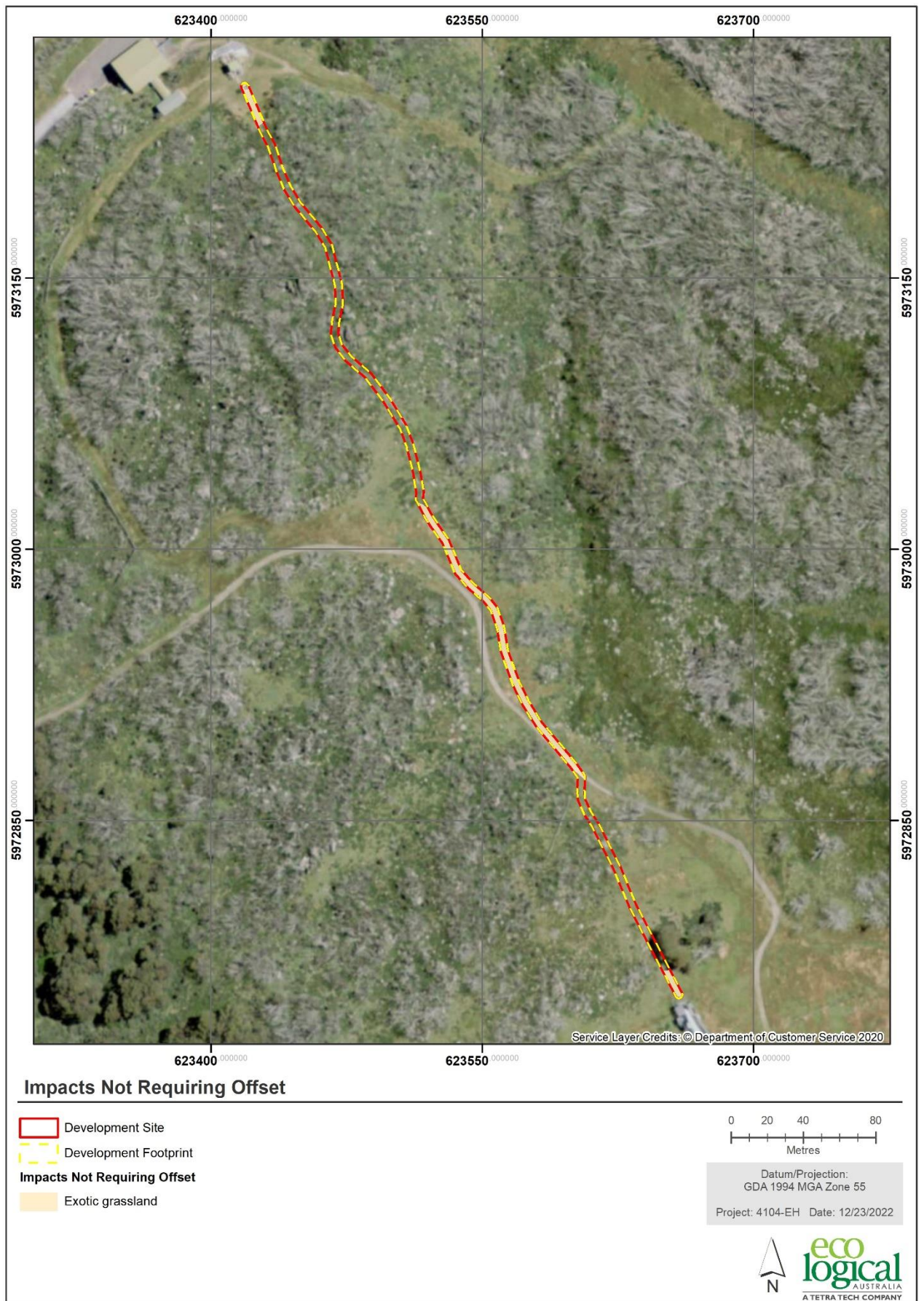


Figure 9: Impacts not requiring offset

7.5. Credit summary

The number of ecosystem credits required for the development are outlined in Table 24.

The number of species credits required for the development are outlined in Table 25.

A biodiversity credit report is included in Appendix F.

Table 24: Ecosystem credits required

Vegetation Zone	PCT ID	PCT Name	Condition	Credit Class	Direct impact (ha)	Credits required
1	645	Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Moderate	Grassy Woodlands	0.14	2

Table 25: Species credit summary

Species	Common Name	Direct impact number of individuals / habitat (ha)	Credits required
<i>Mastacomys fuscus</i>	Broad-toothed Rat	0.14 ha	3

8. Consistency with legislation and policy

8.1. Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

An impact assessment under the EPBC Act was undertaken on one MNES Broad-toothed Rat, which was found to occur within the development footprint.

The outcome of this assessment was that it is highly unlikely that the development would significantly impact on those MNES assessed (Appendix D).

A referral to the Commonwealth under the EPBC Act is not recommended.

9. Recommendations

To further ameliorate the potential impacts of the proposed development and to improve environmental outcomes, the following recommendations for impact mitigation and amelioration are suggested as modifications to the proposal and/or as conditions of consent.

- The mitigation measures identified in Table 21 should be incorporated into the proposal.

10. Conclusion

Eco Logical Australia Pty Ltd was engaged by Perisher Blue Pty Ltd to prepare a BDAR for the proposed replacement of the existing “uphill line” which services the Guthega Carpark Chairlift in the Guthega area of Perisher Ski Resort.

This report has been prepared to meet the requirements of the BAM 2020 established under Section 6.7 of the BC Act.

This BDAR outlines the measures taken to avoid, minimise and mitigate impacts to the vegetation and habitats present within the development footprint during the design, construction and operation of the development. The residual unavoidable impacts of the proposed development were calculated in accordance with the BAM by utilising the BAMC. The BAMC calculated that a total of two ecosystem credits and three species credits are required to offset the unavoidable impacts to the vegetation and fauna habitats present within the development footprint.

SAIL values have been considered as part of this assessment. The proposal will not result in any SAIL.

Following consideration of the administrative guidelines for determining significance under the EPBC Act, it is concluded that the proposal is unlikely to have a significant impact on MNES or Commonwealth land, and a referral to the Commonwealth Environment Minister is therefore not recommended.

11. Bibliography

- Cogger, H.G. 1996. *Reptiles and Amphibians of Australia*. Reed Books, Sydney
- Costermans, L. 1994. *Native Trees and Shrubs of South-Eastern Australia*. Lansdowne Publishing, Sydney.
- Costins, C., Gray, M., Totterdell, C., and Wimbush, D. 2000. *Kosciuszko Alpine Flora*. CSIO Publishing, Victoria.
- Cropper, S.C. 1993. *Management of Endangered Plants*. CSIRO Publishing, Melbourne.
- Department of Environment. 2013. *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance*. Australian Government, Canberra.
- Department of Environment, Land, Water and Planning. 2016. *National Recovery Plan for the Mountain Pygmy-possum *Burramys parvus**. Australian Government, Canberra.
- Ecology Australia. 2002. *Kosciuszko Resorts Vegetation Assessment*. A report for Planning NSW.
- Gellie, N.J.H. 2006. Native vegetation of the southern forests: South-east Highlands, Australian Alps, South-west Slopes and South-east Corner bioregions. *Cunninghamia* 9, 219-254.
- Green, K. 2002. Selective predation on the broad-toothed rat, *Mastacomys fuscus* (Rodentia: Muridae), by the introduced red fox, *Vulpes vulpes* (Carnivora: Canidae), in the Snowy Mountains, Australia. *Austral Ecology* 27, 353–359.
- NGH Environmental 2007. *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park*. A report for Parks and Wildlife Division. Department of Environment and Climate Change NSW.
- McDougall, K.L. & Walsh, N.G. 2007. Treeless vegetation of the Australian Alps. *Cunninghamia* 10, 1-57.
- NSW Department of Environment and Conservation (DEC). 2006. *Kosciuszko National Park Plan of Management*.
- NSW National Parks and Wildlife Service 2001a. *Approved Recovery Plan for the Threatened Alpine Flora Anemone Buttercup (*Ranunculus anemoneus*), Feldmark Grass (*Erythranthera pumila*), Raleigh Sedge (*Carex raleighii*) & Shining Cudweed (*Euchiton nitidulus*)*. NSW NPWS, Hurstville NSW.
- NSW National Parks and Wildlife Service. 2001b. *Approved Recovery Plan for the Southern Corroboree Frog *Pseudophryne corroboree**. NSW National Parks and Wildlife Service Hurstville.
- NSW National Parks and Wildlife Service. 2002. *Approved Recovery Plan for the Mountain Pygmy Possum *Burramys parvus**. NSW National Parks and Wildlife Service Hurstville.
- NSW Office of Environment and Heritage (OEH). 2018. *Perisher Wallaby Grass (*Rytidosperma vickeryae*) Kosciuszko National Park 2017*. NSW Office of Environment and Heritage Sydney.
- NSW Scientific Committee. 2005. *Final Determination to list Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australia Alps area as an endangered ecological community*.

Perisher Blue. 2021. *Statement of Environmental Effects - Replacement of Uphill Line, Blaxland and Wentworth T-bars, Perisher Valley*.

Sato, C.F., Schroder, M., Green, K., Michael, D.R., Osborne, W.S. and Lindenmayer, D.B. 2014. Managing ski resorts to improve biodiversity conservation: Australian reptiles as a case study. *Ecological Management and Restoration* 15(2).

Sato, C.F., Wood, J.T., Schroder, M., Green, K., Michael, D.R. and Lindenmayer, D. B. 2013. The impacts of ski resorts on reptiles: a natural experiment. *Animal Conservation*. Doi: 10.1111/acv.12095.

Sato C.F., Wood J.T., Schroder M., Green, K., Michael, D.R., Osborne, W.S. and Lindenmayer, D.B. 2014. An experiment to test key hypotheses of the drivers of reptile distribution in subalpine ski resorts. *Journal of Applied Ecology* 51, 13-22.

Strahan, R. 1995. *The Australian Museum Complete Book of Australian Mammals*, Cornstalk Publishing, Sydney.

Threatened Species Scientific Committee. 2009. *Listing Advice for the Alpine Sphagnum Bogs and Associated Fens Endangered Ecological Community*.

Appendix A - Definitions

The following terminology has been used throughout this report for the purposes of describing the impacts of the proposal in the context of a biodiversity assessment in accordance with the NSW Biodiversity Assessment Method 2020. This terminology may or may not align with other technical documents associated with the proposed development.

Terminology	Definition
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified, or that sets out the number and class of biodiversity credits that are created at a biodiversity stewardship site.
BioNet Atlas	The BioNet Atlas (formerly known as the NSW Wildlife Atlas) is the OEH database of flora and fauna records. The Atlas contains records of plants, mammals, birds, reptiles, amphibians, some fungi, some invertebrates (such as insects and snails) and some fish.
Broad condition state	Areas of the same PCT that are in relatively homogenous condition. Broad condition is used for stratifying areas of the same PCT into a vegetation zone for the purpose of determining the vegetation integrity score.
Connectivity	The measure of the degree to which an area(s) of native vegetation is linked with other areas of vegetation.
Credit Calculator	The computer program that provides decision support to assessors and proponents by applying the BAM, and which calculates the number and class of biodiversity credits required to offset the impacts of a development or created at a biodiversity stewardship site.
Development	Has the same meaning as development at section 4 of the EP&A Act, or an activity in Part 5 of the EP&A Act. It also includes development as defined in section 115T of the EP&A Act.
Development footprint	The area of land that is directly impacted on by a proposed development, including access roads, and areas used to store construction materials.
Development site	An area of land that is subject to a proposed development that is under the EP&A Act.
Ecosystem credits	A measurement of the value of EECs, Critically Endangered Ecological Communities (CEEC) and threatened species habitat for species that can be reliably predicted to occur with a PCT. Ecosystem credits measure the loss in biodiversity values at a development site and the gain in biodiversity values at a biodiversity stewardship site.
Extent of occurrence (EOO)	Measures the spatial spread of a taxon to determine the degree to which risks from threatening factors could impact an entire population, and is not intended to be an estimate of the amount of occupied or potential habitat.
High threat exotic plant cover	Plant cover composed of vascular plants not native to Australia that if not controlled will invade and outcompete native plant species.
Hollow bearing tree	A living or dead tree that has at least one hollow. A tree is considered to contain a hollow if: (a) the entrance can be seen; (b) the minimum entrance width is at least 5 cm; (c) the hollow appears to have depth (i.e. you cannot see solid wood beyond the entrance); (d) the hollow is at least 1 m above the ground. Trees must be examined from all angles.
Important wetland	A wetland that is listed in the Directory of Important Wetlands of Australia (DIWA) and SEPP 14 Coastal Wetlands.
Linear shaped development	Development that is generally narrow in width and extends across the landscape for a distance greater than 3.5 kilometres in length.
Local population	The population that occurs in the study area. In cases where multiple populations occur in the study area or a population occupies part of the study area, impacts on each subpopulation must be assessed separately.
Local wetland	Any wetland that is not identified as an important wetland (refer to definition of Important wetland).

Terminology	Definition
NSW (Mitchell) landscape	Landscapes with relatively homogeneous geomorphology, soils and broad vegetation types, mapped at a scale of 1:250,000.
Multiple fragmentation impact development	Developments such as wind farms and coal seam gas extraction that require multiple extraction points (wells) or turbines and a network of associated development including roads, tracks, gathering systems/flow lines, transmission lines.
Operational Manual	The Operational Manual published from time to time by DPIE, which is a guide to assist assessors when using the BAM.
Patch size	An area of intact native vegetation that: a) occurs on the development site or biodiversity stewardship site, and b) includes native vegetation that has a gap of less than 100 m from the next area of native vegetation (or ≤ 30 m for non-woody ecosystems). Patch size may extend onto adjoining land that is not part of the development site or stewardship site.
Proponent	A person who intends to apply for consent to carry out development or for approval for an activity.
Reference sites	The relatively unmodified sites that are assessed to obtain local benchmark information when benchmarks in the Vegetation Benchmarks Database are too broad or otherwise incorrect for the PCT and/or local situation. Benchmarks can also be obtained from published sources.
Regeneration	The proportion of over-storey species characteristic of the PCT that are naturally regenerating and have a diameter at breast height < 5 cm within a vegetation zone.
Residual impact	An impact on biodiversity values after all reasonable measures have been taken to avoid, minimise or mitigate the impacts of development. Under the BAM, an offset requirement is determined for the remaining impacts on biodiversity values.
Retirement of credits	The purchase and retirement of biodiversity credits from an already-established biobank site or a biodiversity stewardship site secured by a biodiversity stewardship agreement.
Riparian buffer	Riparian buffers applied to water bodies in accordance with the BAM.
Sensitive biodiversity values land map	Development within an area identified on the map requires assessment using the BAM.
Site attributes	The matters assessed to determine vegetation integrity. They include: native plant species richness, native over-storey cover, native mid-storey cover, native ground cover (grasses), native ground cover (shrubs), native ground cover (other), exotic plant cover (as a percentage of total ground and mid-storey cover), number of trees with hollows, proportion of over-storey species occurring as regeneration, and total length of fallen logs.
Site-based development	A development other than a linear shaped development, or a multiple fragmentation impact development
Species credits	The class of biodiversity credits created or required for the impact on threatened species that cannot be reliably predicted to use an area of land based on habitat surrogates. Species that require species credits are listed in the Threatened Biodiversity Data Collection.
Subject land	Is land to which the BAM is applied in Stage 1 to assess the biodiversity values of the land. It includes land that may be a development site, clearing site, proposed for biodiversity certification or land that is proposed for a biodiversity stewardship agreement.
Threatened Biodiversity Data Collection	Part of the BioNet database, published by DPIE and accessible from the BioNet website.
Threatened species	Critically Endangered, Endangered or Vulnerable threatened species as defined by Schedule 1 of the BC Act, or any additional threatened species listed under Part 13 of the EPBC Act as Critically Endangered, Endangered or Vulnerable.

Terminology	Definition
Vegetation Benchmarks Database	A database of benchmarks for vegetation classes and some PCTs. The Vegetation Benchmarks Database is published by OEH and is part of the BioNet Vegetation Classification.
Vegetation zone	A relatively homogenous area of native vegetation on a development site, land to be biodiversity certified or a biodiversity stewardship site that is the same PCT and broad condition state.
Wetland	An area of land that is wet by surface water or ground water, or both, for long enough periods that the plants and animals in it are adapted to, and depend on, moist conditions for at least part of their life cycle. Wetlands may exhibit wet and dry phases and may be wet permanently, cyclically or intermittently with fresh, brackish or saline water.
Woody native vegetation	Native vegetation that contains an over-storey and/or mid-storey that predominantly consists of trees and/or shrubs.

Appendix B - Vegetation Floristic Plot Data

Table 26: Species recorded in the plots and incidentally elsewhere within the development site or immediate surrounds.

Family	Species	Common Name	Listing Status	ROTAP	Exotic	High Threat Weed	Growth Form Group	Plot 1		
								Stratum & Layer	Cover	Abundance
Rosaceae	<i>Acaena</i> sp. Thredbo River Gorge (L.A.S.Johnson & E.F.Constable s.n., 19 Jan 1951)	Sheep's Burr	,				Forb (FG)	g	0.1	5
Polygonaceae	<i>Acetosella vulgaris</i>	Sheep Sorrel	,		*	1		g	1	1000
Asteraceae	<i>Achillea millefolium</i>	Yarrow	,		*	1		g	1	1000
Poaceae	<i>Agrostis capillaris</i>	Browntop Bent	,		*	1		g	1	1000
Poaceae	<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	,		*					
Rubiaceae	<i>Asperula gunnii</i>	Mountain Woodruff	,				Forb (FG)	g	3	500
Poaceae	<i>Bromus</i> sp.	A Brome	,				Grass & grasslike (GG)	g	0.3	100
Cyperaceae	<i>Carex bichenoviana</i>		,				Grass & grasslike (GG)	g	0.2	50
Asteraceae	<i>Coronidium scorpioides</i>	Button Everlasting	,				Forb (FG)	g	1	100
Phormiaceae	<i>Dianella tasmanica</i>		,				Forb (FG)	g	0.3	20
Myrtaceae	<i>Eucalyptus niphophila</i>		,				Tree (TG)	m	4	20
Proteaceae	<i>Grevillea australis</i>	Alpine Grevillea	,				Shrub (SG)			
Fabaceae (Faboideae)	<i>Hovea montana</i>		,				Shrub (SG)	g	55	500
Asteraceae	<i>Hypochaeris radicata</i>	Catsear	,		*			g	0.1	10
Violaceae	<i>Melicytus dentatus</i>	Tree Violet	,				Shrub (SG)			
Rutaceae	<i>Nematolepis ovatifolia</i>		,				Shrub (SG)			
Asteraceae	<i>Olearia phlogopappa</i>		,				Shrub (SG)	m	3	50
Fabaceae (Faboideae)	<i>Oxylobium ellipticum</i>	Common Shaggy Pea	,				Shrub (SG)	g	0.3	5

Family	Species	Common Name	Listing Status	ROTAP	Exotic	High Threat Weed	Growth Form Group	Plot 1		
								Stratum & Layer	Cover	Abundance
Asteraceae	<i>Ozothamnus secundiflorus</i>	Cascade Everlasting	,				Shrub (SG)	m	0.3	3
Thymelaeaceae	<i>Pimelea axiflora</i> subsp. <i>alpina</i>		,				Shrub (SG)	g	1	20
Thymelaeaceae	<i>Pimelea ligustrina</i> subsp. <i>ciliata</i>		,				Shrub (SG)	m	0.3	5
Poaceae	<i>Poa ensiformis</i>	Purple-sheathed Tussock-grass	,				Grass & grasslike (GG)	g	5	1000
Poaceae	<i>Poa fawcettiae</i>	Smooth Blue Snowgrass	,				Grass & grasslike (GG)	g	8	500
Araliaceae	<i>Polyscias sambucifolia</i> subsp. <i>Short leaflets</i> (V.Stajsic 196) Vic. Herbarium		,				Shrub (SG)	m	0.1	1
Lamiaceae	<i>Prostanthera cuneata</i>	Alpine Mint-bush	,				Shrub (SG)			
Ranunculaceae	<i>Ranunculus graniticola</i>	Granite Buttercup	,				Forb (FG)			
Asteraceae	<i>Senecio gunnii</i>		,				Forb (FG)	g	0.2	20
Caryophyllaceae	<i>Stellaria pungens</i>	Prickly Starwort	,				Forb (FG)	g	0.1	1
Winteraceae	<i>Tasmannia xerophila</i> subsp. <i>xerophila</i>	Alpine Pepperbush	,				Shrub (SG)	m	10	50

Appendix C - Vegetation Integrity Plot Data

Table 27: Plot location data

Plot no.	PCT	Condition	Easting	Northing	Bearing
1	645	Moderate	623470	5973138	322

Table 28: Vegetation integrity data (composition)

Composition (number of species)						
Plot	Tree	Shrub	Grass	Forb	Fern	Other
1	1	8	4	6	0	0

Table 29: Vegetation integrity data (Structure)

Structure (Total cover)						
Plot	Tree	Shrub	Grass	Forb	Fern	Other
1	4.0	70.0	13.5	4.7	0.0	0.0

Table 30: Vegetation integrity data (Function)

Function											
Plot	Large Trees	Hollow trees	Litter Cover	Length Fallen Logs	Tree Stem 5-9	Tree Stem 10-19	Tree Stem 20-29	Tree Stem 30-49	Tree Stem 50-79	Tree Regen	High Threat Weed Cover
1	0	0	40	1	0	0	0	0	0	1	3.0

Appendix D - EPBC Act Significant Impact Criteria

The EPBC Act Administrative Guidelines on Significance (DoE 2013) set out 'Significant Impact Criteria' that are to be used to assist in determining whether a proposed action is likely to have a significant impact on Matters of National Environmental Significance. Matters listed under the EPBC Act as being of national environmental significance include:

- Listed threatened species and ecological communities
- Listed migratory species
- Wetlands of International Importance
- The Commonwealth marine environment
- World Heritage properties
- National Heritage places
- Nuclear actions
- Great Barrier Reef.

Specific 'Significant Impact Criteria' are provided for each Matter of National Environmental Significance except for threatened species and ecological communities in which case separate criteria are provided for species listed as endangered and vulnerable under the EPBC Act.

Only one Commonwealth listed entities is known or considered to have the potential to occur within the study area the:

- Broad-toothed Rat

The relevant Significant Impact Criteria have been applied to determine the significance of impacts associated with the proposal.

Matters to be considered	Impact
Any environmental impact on a World Heritage Property or National Heritage Places	No. The proposed action does not impact on a World Heritage Property or a National Heritage Place - (listed natural: Australian Alpine National Parks and Reserves; nominated historic: Snowy Mountains Scheme NSW).
Any environmental impact on Wetlands of International Importance	No. The proposal will not affect any part of a wetland of international importance.
Any impact on Commonwealth Listed Critically Endangered or Endangered Species;	No. The development site does not provide potential habitat for any Commonwealth listed endangered entities
Any impact on Commonwealth Listed Vulnerable Species;	<p>Yes. The study area provides known habitat for one Commonwealth listed vulnerable species: the Broad-toothed Rat.</p> <p>The significant impact criteria in terms of the vulnerable species are discussed below:</p> <p>a. lead to a long-term decrease in the size of an important population of a species.</p> <p>Whilst the proposed action will affect some known Broad-toothed Rat habitat, it will affect only a very small amount (0.14 ha) of the potential habitat for the species in the immediate area. As such, the proposed works are unlikely to adversely affect a significant proportion of the home range of one or more Broad-toothed Rat individuals and will not result in habitat fragmentation which could isolate individuals or a population of the Broad-toothed Rat. The noise and vibration associated with the proposed works is likely to temporarily deter any Broad-toothed Rat</p>

Matters to be considered	Impact
	<p>individuals that may be near the affected areas. As such, it is unlikely that any individuals would be killed during the implementation of the proposed action.</p> <p>Under these circumstances the proposed action will not lead to a long-term decrease in the size of an important population of the Broad-toothed Rat.</p>
<p>b. reduce the area of occupancy of an important population</p>	<p>It is highly likely that the Broad-toothed Rat will continue to occur within the development site after the implementation of the proposed action. The species continues to be locally common in the Perisher Resort Area where there have been many similar and larger developments over many decades. As such, the proposed action is highly unlikely to reduce the area of occupancy of the Broad-toothed Rat.</p>
<p>c. fragment an existing important population into two or more populations</p>	<p>The proposed action will not fragment an existing important population of the Broad-toothed Rat into two or more populations. The species populations extends beyond the development site and the Perisher Resort Area.</p>
<p>d. adversely affect habitat critical to the survival of a species</p>	<p>No habitat within the development site is considered to be critical to the survival of the Broad-toothed Rat.</p>
<p>e. disrupt the breeding cycle of an important population</p>	<p>The proposed action and affected area is too small to disrupt the breeding cycle of a population of the Broad-toothed Rat.</p>
<p>f. modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</p>	<p>The proposed action will not modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the Broad-toothed Rat is likely to decline as the habitat to be affected is very small in the context of the available habitat within the Perisher Resort Area and the proposal will not cause any additional fragmentation of habitat or barriers to movement.</p>
<p>g. result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</p>	<p>The proposed action will not result in invasive species that are harmful becoming established in habitat for the Broad-toothed Rat. Invasive species, including foxes and cats, are already present.</p>
<p>h. introduce disease that may cause the species to decline</p>	<p>The proposed action is unlikely to introduce disease that may cause the Broad-toothed Rat to decline.</p>
<p>i. interferes substantially with the recovery of the species.</p>	<p>Whilst there have been documented declines in some Broad-toothed Rat populations within the Snowy Mountains, these declines have been attributed to factors such as major bushfire events and early snow thaws and not impacts of the nature of those proposed. The local population of the Broad-toothed Rat appears to continue to be relatively large on the basis of the abundance of the species scat throughout the Thredbo Resort Area, including within the village, and in areas that have been subject to the sorts of activities proposed. As such, it is considered highly unlikely that proposed action will substantially interfere with the recovery of the Broad-toothed Rat.</p>

Matters to be considered	Impact
Any impact on a Commonwealth Endangered Ecological Community	No: The development site does not provide potential habitat for any Commonwealth listed endangered ecological community.
Any environmental impact on Commonwealth Listed Migratory Species;	No. The proposed action will not have any adverse impacts on any listed migratory species.
Does any part of the Proposal involve a Nuclear Action;	No. The project does not include a Nuclear Action.
Any environmental impact on a Commonwealth Marine Area;	No. There are no Commonwealth Marine Areas within the study area.
In addition- any direct or indirect impact on Commonwealth lands	No. The project does not directly or indirectly affect Commonwealth land.

Appendix E - Staff CVs



CURRICULUM VITAE

Ryan Smithers**SENIOR ECOLOGIST****QUALIFICATIONS**

BEnvSc (Land Resources Management)- University of Wollongong with 1st Class Honours 1995.
 Accredited BBAM- FBA- and BAM Assessor
 Alpine Ecology Course Australian Alpine Institute and La Trobe University
 Senior First Aid- St. Johns Ambulance.

Ryan brings to ELA more than 20 years' experience in natural resource management (21 years as a consultant- and 3 years with Sydney Catchment Authority as a Catchment Protection Officer). He has extensive practical experience in flora and fauna surveying- fire-fighting- planning and land management throughout southern NSW and has undertaken numerous flora and fauna surveys- biodiversity plans- environmental impact assessments- vegetation management plans- fire management plans and weed management plans.

Ryan has extensive experience in general and targeted fauna surveys using a diverse range of survey techniques. Ryan has undertaken many flora and fauna surveys on the NSW south coast- southern tablelands and in the Australian Alps- and in other parts of Australia including in the Northern Territory.

Ryan is an accredited Biobanking (BBAM)- Framework for Biodiversity Assessment (FBA) and Biodiversity Assessment Method (BAM) assessor and has undertaken many surveys using BBAM- BAM and DPIE Vegetation Survey Standard or very similar methodologies. Ryan project managed ELAs contributions to the Full-floristic Vegetation Survey and Condition Assessment for the South-east Highlands and Australian Alps of the Upper Murrumbidgee Catchment and South-east Corner Biometric Benchmark projects which involved the collection of more than 250 plots.

Ryan has particular ecological expertise in the NSW southern tablelands and Alps- gained from 15 years of survey and assessment across the Alps- including many assessments within the Charlotte Pass- Thredbo and Perisher Ski Resorts- and assessments on the Monaro including around Jindabyne.

Ryan has undertaken assessments in the region for a broad range of clients including NSW NPWS, Local Land Services, Biodiversity Conservation Trust, Kosciuszko Thredbo, Vail Resorts and Charlotte Pass Ski Resort.

RELEVANT PROJECT EXPERIENCE

Monaro and Werriwa Snow Gum Woodland and Grasslands Conservation Tender
 Monaro Grasslands Conservation Tender
 Kosi Walk Realignment Review of Environmental Factors
 Diggings Campground Upgrade Review of Environmental Factors
 Mount Perisher Chairlift Biodiversity Development Assessment Report
 Merritt's Gondola Biodiversity Development Assessment Report
 Corin Forest Ski Slope Assessment
 Montane Peatlands Strategic Action Plan
 Perisher Guthega Skink Targeted Surveys
 Numerous Mountain Bike Ecological Assessments at Thredbo
 Leichardt Chairlift Ecological Assessment
 Thredbo Masterplan Ecological Assessment
 Guthega Quad Chair Flora and Fauna Assessment
 Thredbo Chairlift Constraints Analysis
 Friday Flat Ecological Assessment
 Sponar's Traverse Flora and Fauna Assessment
 Lobs Hole Review of Environmental Factors
 Lake Wallace Flora and Fauna Assessment for Cooma Monaro Shire at Nimmitabel
 Numerous Impact Assessments in alpine and sub-alpine environments for OEH- Vail- Kosciuszko- Thredbo and Charlotte Pass Ski Resorts
 Boco Rock Wind Farm Ecological Assessment and Offsets Analysis
 South-east Highlands and Australian Alps of the Upper Murrumbidgee Catchment Full Floristic Survey and Condition Assessment
 South-east Corner Biometric Benchmark Project
 Queanbeyan Biodiversity Study
 Mount Jerrabomberra Ecological Assessment
 Eurobodalla Bio-certification Project
 Jervis Bay Biodiversity Assessment
 Broulee and South Moruya Biocertification Project
 North Moruya Biodiversity Study
 Eurobodalla Vegetation Mapping Validation
 Eurobodalla Biodiversity Study for future Urban Expansion Lands
 Merimbula STP Upgrade Terrestrial Ecological Assessment
 Cobowra LALC Lands Biobanking Assessment
 Upper Lachlan Shire Biodiversity Planning Framework
 Parkes- Cabonne- Bland- Upper Lachlan and Temora Shires Biodiversity Assessment and NRM Projects
 Old Comma Road deviation Species Impact Statement
 Flora and Fauna Assessment Edwin Lane Parkway Extension
 Ecological Studies – Proposed Googong township
 Tarrawonga Biobanking Assessment – Boggabri
 Katherine to Gove Pipeline – Mitchell Ranges fauna surveys
 Darwin regional flora and fauna survey RAAF Darwin- defence establishment Berrimah and Shoal Bay receiving station.

Appendix F - Biodiversity credit report



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00037430/BAAS17061/22/00037431	Guthega Carpark Chairlift Uphill Line Replacement	19/12/2022
Assessor Name	Assessor Number	BAM Data version *
Ryan Smithers	BAAS17061	56
Proponent Names	Report Created	BAM Case Status
	19/01/2023	Finalised
Assessment Revision	Assessment Type	Date Finalised
0	Part 4 Developments (Small Area)	19/01/2023
BOS entry trigger	* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.	
BOS Threshold: Biodiversity Values Map		

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		
Species		
Nil		

Additional Information for Approval

Assessment Id	Proposal Name
00037430/BAAS17061/22/00037431	Guthega Carpark Chairlift Uphill Line Replacement



BAM Biodiversity Credit Report (Like for like)

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT

No Changes

Predicted Threatened Species Not On Site

Name

No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
645-Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Not a TEC	0.1	0	2	2

BAM Biodiversity Credit Report (Like for like)

645-Alpine Snow Gum shrubby open woodland at high altitudes in Kosciuszko NP, Australian Alps Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199	Subalpine Woodlands <50%	645_Moderate	No	2	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Mastacomys fuscus / Broad-toothed Rat	645_Moderate	0.1	3.00

Credit Retirement Options

Like-for-like credit retirement options

Mastacomys fuscus / Broad-toothed Rat	Spp	IBRA subregion
	Mastacomys fuscus / Broad-toothed Rat	Any in NSW



APPENDIX D - Archaeological Due Diligence

Project Name: Guthega Carpark Chairlift Uphill Line

The due diligence assessment below is taken from the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, DECCW 2010. The assessment was undertaken by Beth Davies; Health, Safety and Environment Officer, September 2022.

1 Generic Due Diligence Process

1. Will the activity disturb the ground surface or any culturally modified trees?

Yes, trenching will occur in previously disturbed areas.

2. Are there any:

- a. relevant confirmed site records or other associated landscape feature information on AHIMS? and/or
- b. any other sources of information of which a person is already aware? and/or
- c. landscape features that are likely to indicate presence of Aboriginal objects?

Yes, a search of the AHIMS Web Service showed 2 confirmed site recorded in the area

Is the proposed development:

- Located within 200m of water? No
- Located within a sand dune system? No
- Located on a ridge top, ridge line or headland? No
- Located within 20m of a cave, rock shelter? No

And, is on land that is not disturbed land? **No, the site is previously disturbed.**

CONCLUSION – A search of the Heritage NSW AHIMS Web Services system showed 2 Aboriginal sites recorded in or near the location (attached).

An extensive search of the AHIMS Web Service (see attached) was carried out on 30 August 2022, and showed an Isolated Find identified as Perisher Blue Isolated Find 2. A Navin Officer Heritage Consultant report from 1999 located the Isolated Find to the West of the Carpark Double Chair and just to the North of Norwegian Road (as shown on Figure 1). The project has been designed such that trenching and project impacts will avoid this area.

AHIP application not necessary. Proceed with caution. If any Aboriginal objects are found, stop work and notify DECCW. If human remains are found, stop work, secure the site and notify the NSW Police and DECCW.

Perisher

Date: 30 August 2022

Kosciuszko Road

Perisher New South Wales 2624

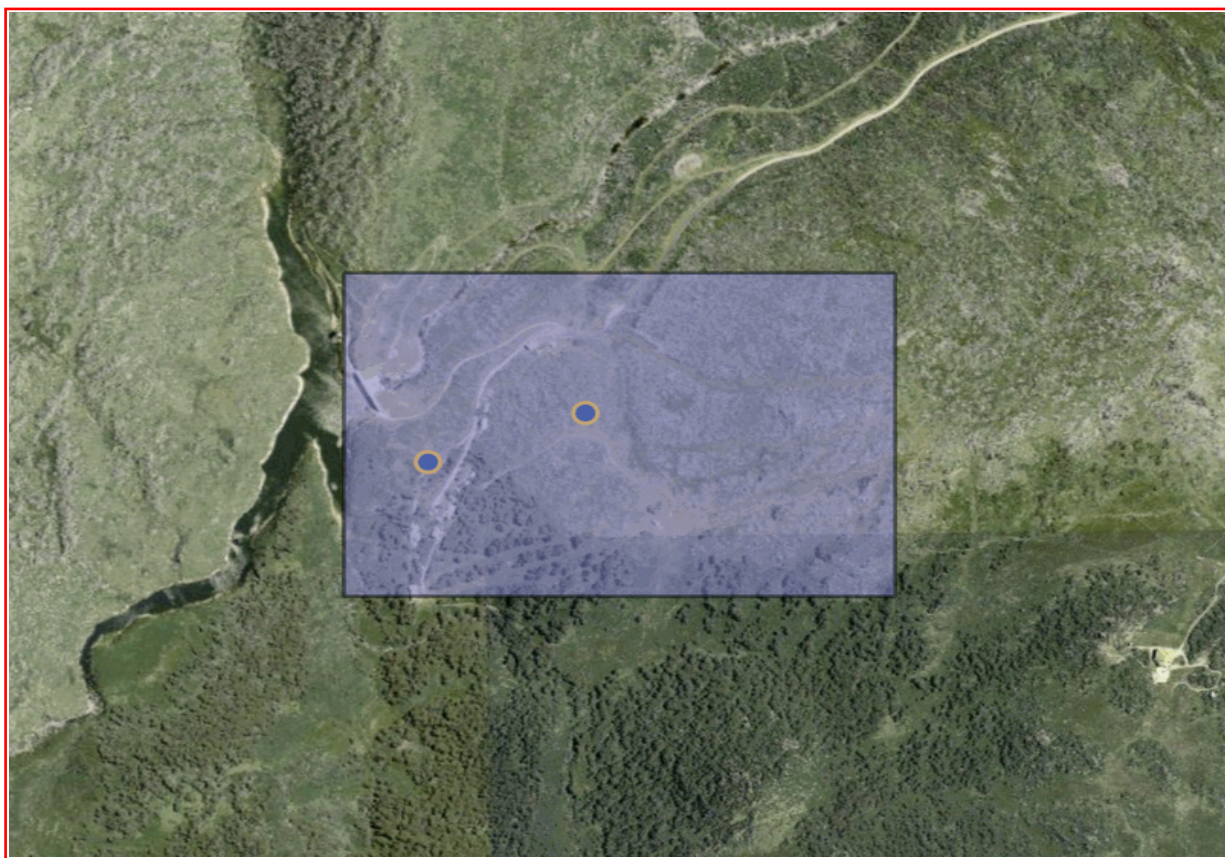
Attention: Beth Davies

Email: bethany.davies@vailresorts.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -36.3845, 148.37 - Lat, Long To : -36.3759, 148.3855, conducted by Beth Davies on 30 August 2022.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

2	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.



Client Service ID : 718261

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

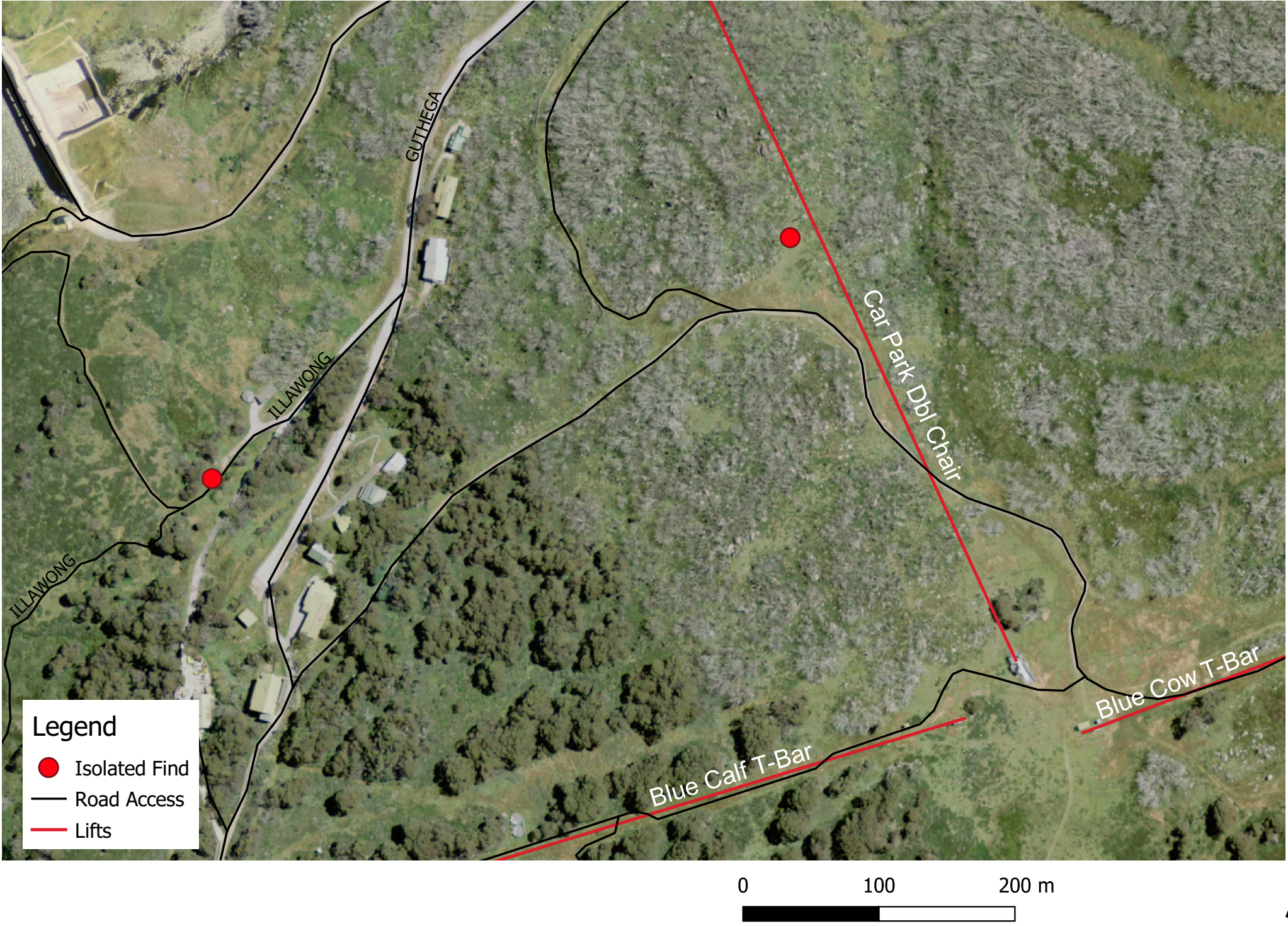
Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Page 1 of 1

Figure 1 - Location of Isolated Finds



APPENDIX E – Site Environmental Management Plan

PROJECT & EMERGENCY CONTACTS

Project Name	Replacement of Uphill Line, Guthega Carpark Double Chairlift
Perisher Project Manager	Andrew Kennedy – 02 6459 4402
Perisher Operations	Mountain Office - 02 6459 4408
Perisher Environmental Manager	Tanya Bishop – 02 6459 4504
Perisher HSE Officer	Beth Davies- 02 6459 4487
Emergency	000
DPIE	Sarah Collum – 02 6450 5543
EPA	131 555

ENVIRONMENTAL MANAGEMENT MEASURES

PRIOR TO CONSTRUCTION

Induction	<ul style="list-style-type: none"> All project staff to be made aware of disturbance footprint and environmental safeguards prior to works commencing
Access	<ul style="list-style-type: none"> Site works to be limited to dry periods, to minimise soil disturbance Fence off all approved construction areas, access corridors and No-Go areas Machinery from offsite to be cleaned prior to accessing site All access to site via the formed Guthega Road or Norwegian Road (see, SEMP Figure 1).
Flora & Fauna	<ul style="list-style-type: none"> Treat weeds onsite prior to works and annually following works
Storage	<ul style="list-style-type: none"> All equipment to be stored in areas of exotic grass only. No storage of equipment or machinery under trees or on native vegetation.
Disturbance to Soil	<ul style="list-style-type: none"> Sedimentation and erosion controls to be installed in areas likely to experience soil loss into the surrounding environment

DURING CONSTRUCTION

Disturbance to Soil	<ul style="list-style-type: none"> For erosion control, the combined use of straw bale filters and sediment fencing are to be used, as appropriate Prioritise straw bale filters in areas of sensitive vegetation to minimise extent of excavation / disturbance Minimise time trenches are left open, stage trenching where possible Erosion and sedimentation controls shall be monitored &
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	maintained daily and immediately following a rainfall event
Flora & Fauna	<ul style="list-style-type: none"> • Machinery will be cleaned with brushes and/or water using a fire trailer to prevent the spread of weeds beyond weed infested areas • No unapproved removal or disturbance of native vegetation • Refuel away from areas of native vegetation • No storage of material beneath the canopy of trees or on native vegetation • Any excavations left open overnight will be left such that any fauna are able to escape easily
Machinery / Fuel	<ul style="list-style-type: none"> • Spill kits shall be readily accessible • Spills of any liquids shall be controlled and cleaned up immediately • No maintenance other than emergency repairs shall be undertaken on site.
Work Hours	<ul style="list-style-type: none"> • Limit work to approved hours only (daylight)
Waste	<ul style="list-style-type: none"> • All litter and waste to be contained and removed from site regularly
FOLLOWING CONSTRUCTION	
Stabilisation & revegetation	<ul style="list-style-type: none"> • All disturbance to be stabilised immediately as works cease in an area • Revegetation to be carried out as soon as practical following works • Mulch disturbed areas with straw, with brush-matting if possible to stabilise • Control weeds annually, or as required in the area
Disturbance to Soil	<ul style="list-style-type: none"> • All erosion and sedimentation controls to be removed from site once ground has stabilised



Department of Planning
and Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No 23/1923

Granted on the 5 April 2023

Signed S Butler

Sheet No 2 of 5