



Statement of Environmental Effects

Kareela Hutte Access Tracks

Thredbo Alpine Resort,
Kosciuszko National Park

September 2024

Document Control

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Project Number: 24008MO

Kosciuszko Thredbo Pty Ltd

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1 Introduction

This Statement of Environmental Effects (SEE) has been prepared to support the Development Application (DA) for the construction of access tracks at Kareela Hutte, Thredbo Alpine Resort (hereinafter referred to as the Development).

1.1 Application Details

Table 1: Application Details

Application Details	
Applicant	Kosciuszko Thredbo Pty Ltd (KT)
ABN	95 000 139 015
Applicant Address	1 Friday Drive, Thredbo NSW 2625
Development Address	Kareela Hutte, Thredbo Alpine Resort, Kosciuszko National Park, 2 Friday Drive, Thredbo NSW 2625
Lot/Plan	876/DP1243112 (Thredbo Head Lease) 852/DP1119757 (Kareela Hutte)
Local Government Area	Snowy Monaro Regional Council
Zoning	Zone C1 – National Parks and Nature Reserves
Planning Instrument	State Environmental Planning Policy (Precincts – Regional) 2021 (Precincts – Regional SEPP)
Integrated Development	Not applicable
Consent Authority	Department of Planning, House and Infrastructure
Type of Development	Infrastructure facilities
Summary of works	<ul style="list-style-type: none"> • vegetation clearing • earthworks and construction of access tracks • site rehabilitation

1.2 Supporting Documentation

This application is supported by the documentation listed below.

Table 2: Supporting Documentation

Document	Title/Description	Author/Prepared by	Date	Document Reference
Cover Sheet	Cover, Sheet, Drawing List and Locality Plan	CLM Civil Engineering	9/9/2024	V-333, C, Sheet 1 of 5
Site Plan and Long Section	Site Plan and Access Track Long Section	CLM Civil Engineering	9/9/2024	V-333, C, Sheet 2 of 5
Cross Sections	Access Track Cross Sections	CLM Civil Engineering	9/9/2024	V-333, C, Sheet 3 of 5
Erosion and Sediment Control Plan	Erosion and Sediment Control Plan	CLM Civil Engineering	9/9/2024	V-333, C, Sheet 4 of 5
Erosion and Sediment Control Plan	Erosion and Sediment Control Plan Details	CLM Civil Engineering	9/9/2024	V-333, C, Sheet 5 of 5
Site Environmental Management Plan	Site Environmental Management Plan – Kareela Hutte Access Tracks	Kosciuszko Thredbo Pty Ltd	23/09/2024	Rev 0
Geotechnical Assessment	Geotechnical Assessment for Kareela Hutte Access Road, Thredbo NSW	AssetGeoEnviro, Mark Bartel	16/09/2024	7480-3-R1 Rev1

Document	Title/Description	Author/Prepared by	Date	Document Reference
Geotechnical Form 4	Form 3 – Minimal Impact Certification	AssetGeoEnviro, Mark Bartel	16/09/2024	
Flora and Fauna Assessment	Ecological Assessment – Kareela Hutte Access – Thredbo Alpine Resort	Eco Logical Australia Pty Ltd	19/09/2024	6835

2 Site Context

2.1 Regional Context

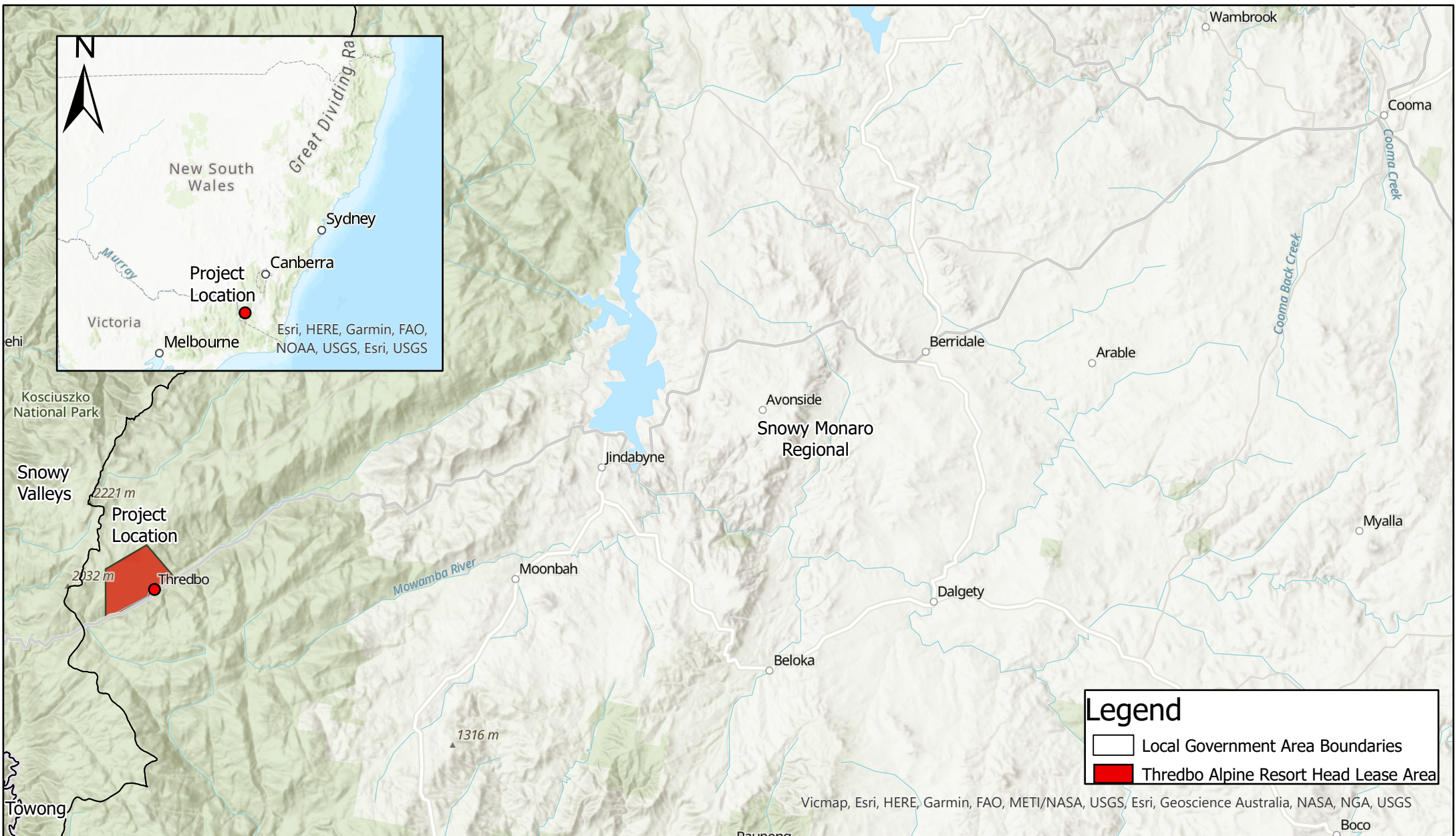
The Development is located within Thredbo Alpine Resort (Thredbo), in the southern part of Kosciuszko National Park (KNP), approximately 35 km south-west of Jindabyne in the Snowy Monaro Regional Council LGA (**Figure 1**).

2.2 Local Context

The Development site is located on Lots 876/DP1243112 (Thredbo Head Lease) and 852/DP1119757 (Kareela Hutte). Kareela Hutte is located approximately 290 m southeast of the Kosciuszko Express Chairlift top station at an elevation of approximately 1810 m AHD (**Figure 2**). The site is located between the summer mountain access road and Kareela Hutte.

2.3 Site Description

The site is a predominately disturbed ski slope, comprising a mix of exotic and native vegetation, underground services and the Cannonball Downhill mountain bike (MTB) trail, refer **Figure 3** to **Figure 5**. There are no records of contamination within the site.



Scale: 1:305,832

3 1.5 0 3 6 9 12 Kilometers

Map Projection: Universal Transverse Mercator
Horizontal Datum: GDA 2020
Grid: GDA 2020 MGA Zone 55



FIGURE 1: REGIONAL SITE CONTEXT

Revision: A
Date: 7/06/2022
Produced By: KO

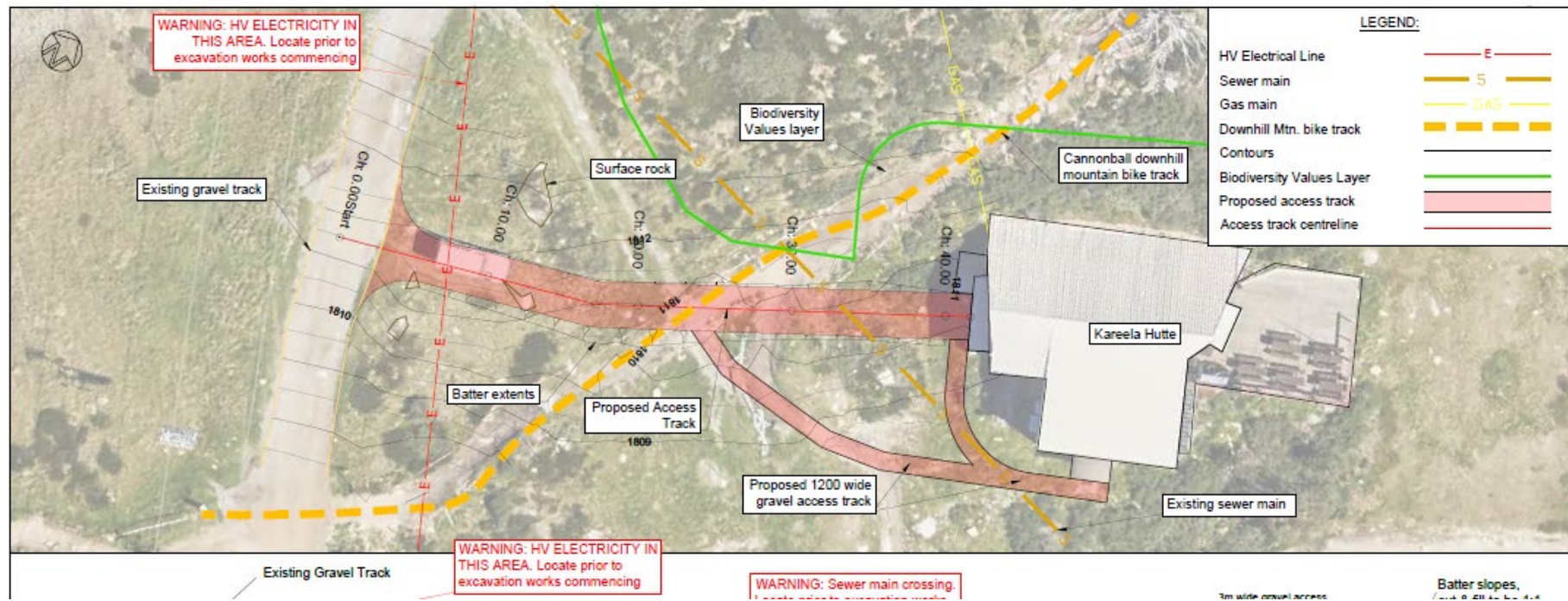


Figure 2: Site Plan (Source: CLM Civil 2024)



Figure 3: Proposed track to follow existing access corridor



Figure 4: Proposed track within cleared corridor facing towards Kosciuszko Express Chairlift



Figure 5: Proposed secondary access within predominately disturbed area

3 Project Description

3.1 Development Components

The purpose of the Development is to formalise the access tracks at Kareela Hutte.

The Development will include:

- clearing of grasses and shrubs
- earthworks and construction of access tracks
- site rehabilitation.

The works will be carried out in accordance with the CLM Civil Plans provided separately with this application.

3.2 Construction Details

Construction activities and management details are outlined in the Site Environmental Management Plan (provided separately with this DA).

3.3 Operational Details

The new access tracks will form part of the mountain road/access track network.

4 Legislation & Statutory Framework

4.1 Commonwealth Legislation

4.1.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act provides a legal framework to protect and manage nationally and internationally important aspects of the Australian environment. The EPBC Act is administered by the Department of Climate Change, Energy, the Environment and Water (DCCEEW). Under Part 3 of the EPBC Act, a person must not undertake an action (e.g. a development) that will have, or is likely to have, a significant impact on a protected matter (MNES), without approval from the Australian Government Minister for the Environment. MNES that may occur, or relate to the search area (within a 5 km buffer) are provided in the EPBC Act Protected Matters Report (**Appendix A**). Matters to be considered under the EPBC Act are provided in **Table 3**.

Table 3: EPBC Act Considerations

EPBC Act Considerations	Comment
MNES – World Heritage Properties	Not applicable.
MNES – National Heritage Places	No impacts proposed.
MNES – Wetlands of International Importance	No impacts proposed.
MNES – Great Barrier Reef Marine Park	Not applicable.
MNES – Commonwealth Marine Area	Not applicable.
MNES – Listed Threatened Ecological Communities	No impacts proposed.
MNES – Listed Threatened Species	No impacts proposed.
MNES – Listed Migratory Species	No impacts proposed.
Commonwealth Land	No impacts proposed.

An EPBC Act referral to the Commonwealth Environment Minister is not recommended as the Development is unlikely to have a significant impact on any MNES or Commonwealth land.

4.2 State Legislation

4.2.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

A review of the Development against Section 4.15 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) is provided in **Table 4**.

Table 4: EP&A Act Matters for consideration

Environmental Planning and Assessment Act 1979, Section 4.15 Matters for consideration	Comment
(i) any environmental planning instrument	The Precincts – Regional SEPP is the only environmental planning instrument which applies to the site for this proposal. Refer to assessment in the next section.
(ii) any proposed instrument	Not applicable. There are no draft Environmental Planning Instruments that are applicable to the Development.
(iii) any development control plan	Not applicable. There are currently no development control plans applicable to the site.
(iiia) any planning agreement	Not applicable. There are no planning agreements applicable to Thredbo under the Precincts – Regional SEPP.
(iv) the regulations	The DA and supporting information has been prepared in accordance with the relevant requirements of the EP&A Regulation.
(a) the likely impacts of that development	The likely impacts of the Development on the natural and built environment, and social and economic impacts in the locality have been assessed in this document.
(b) the suitability of the site for the development	The site suitability has been addressed in this document.
(c) any submissions made in accordance with this Act or the regulations	Consideration will be given to submissions made.
(d) the public interest.	Refer Section 5.5 .

4.2.2 Biodiversity Conservation Act 2016

The purpose of the *Biodiversity Conservation Act 2016* (BC Act) is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ESD. The *Biodiversity Conservation Regulation 2017* (BC Regulation) sets out threshold levels for when the Biodiversity Offset Scheme (BOS) will be triggered, see **Table 5**.

Table 5: BC Regulation BOS Triggers

BOS Trigger	Comment
Whether the amount of native vegetation being cleared exceeds the area threshold	<p>Given the site is zoned C1 – National Park under the Snowy River Local Environmental Plan 2013, there is no minimum lot size. Therefore, the lot size allows for clearing up to 1 ha.</p> <p>The proposed clearing is below 1 ha, therefore area clearing threshold is not triggered.</p>

BOS Trigger	Comment
Whether the impacts occur on an area mapped on the Biodiversity Values Map (BVM) published by the Minister for Environment	The Development will not impact on an area mapped on the BVM, refer to the Flora and Fauna Assessment (ELA 2024).
The 'test of significance' in section 7.3 of the BC Act identifies that the development or activity is likely to significantly effect threatened species or ecological communities, or their habitats	The Development is unlikely to significantly impact on threatened species or ecological communities, or their habitats, refer to the Flora and Fauna Assessment (ELA 2024).
The works are carried out on a declared area of outstanding biodiversity value	Not applicable.

The Development will not trigger the BOS, refer to the Flora and Fauna Assessment (ELA 2024) for further details.

4.2.3 State Environmental Planning Policy (Precincts – Regional) 2021

Development in the NSW alpine resort areas are subject to the provisions in Chapter 4 of the *Statement Environmental Planning Policy (Precincts -Regional) 2021* (Precincts – Regional SEPP). Consideration of the relevant provisions to the Development is provided in **Table 5**.

Table 6: *Precincts – Regional SEPP Considerations*

Precincts – Regional SEPP Considerations	Comment
Section 4.7 Land Use Table	'Infrastructure facilities' is considered permissible development with consent within the Thredbo Alpine Resort.
Section 4.21 Heritage Conservation	The Development will not impact upon any heritage items or Aboriginal heritage items or places.
Section 4.24 Flood Planning	The site is not located in a flood planning area and is not subject to flooding.
Section 4.25 Earthworks (3) In deciding whether to grant development consent for earthworks, or for development involving ancillary earthworks, the consent authority must consider the following matters—	-
(a) the likely disruption of, or adverse impact on, drainage patterns and soil stability in the locality of the development,	Unlikely.
(b) the effect of the development on the likely future use or redevelopment of the land,	The Development is not anticipated to impact upon the future use or redevelopment of the land.
(c) the quality of the fill or the soil to be excavated, or both,	The excavated material will be re-used onsite.
(d) the effect of the development on the existing and likely amenity of adjoining properties,	There are no adjoining properties.
(e) the source of any fill material and the destination of any excavated material,	Fill material will be sourced from NPWS approved locations. Any excess spoil from excavation works will be transported to an approved location, either within the resort or off-site to a licenced facility.
(f) the likelihood of disturbing relics,	Unlikely, refer Section 5.7 .
(g) the proximity to, and potential for adverse impacts on, a waterway, drinking water catchment or environmentally sensitive area,	Adverse impacts unlikely, refer Section 5.2 .

Precincts – Regional SEPP Considerations	Comment
(h) appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.	Refer to the SEMP.
Section 4.26 Master plans	The Snowy SAP Master Plan is applicable to the site.
Section 4.27 Consultation with National Parks and Wildlife Service	The DA will be referred to NPWS as part of the assessment process.
Section 4.28 Consideration of master plans and other documents	The Development is consistent with the Snowy SAP Master Plan.
(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,	The Development is consistent with the aim and objectives.
(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,	A Geotechnical Assessment and Form 4 is provided in Appendix B .
(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 Development is consistent with the Snowy SAP Master Plan.
Section 4.29 Consideration of environmental, geotechnical and other matters	
(1) (a) measures proposed to address geotechnical issues relating to the development,	A Geotechnical Assessment and Form 4 is provided in Appendix B .
(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,	The measures proposed in the Geotechnical Assessment will not result in any significant impacts on the natural environment. No other measures to mitigation hazards such as bush fires and flooding are required.
(c) the visual impact of the proposed development, particularly when viewed from the land identified as the Main Range Management Unit in the Kosciuszko National Park Plan of Management,	The Development will result in acceptable visual impacts.
(d) the cumulative impacts of development and resource use on the environment of the Alpine Subregion in which the development is carried out,	The impacts of the Development are assessed in Section 5 .
(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,	No impact.
(f) the capacity of existing waste or resource management facilities to deal with additional waste generated by the development, including in peak periods.	No impact.

Precincts – Regional SEPP Considerations	Comment
(2) For development involving earthworks or stormwater draining works, the consent authority must also consider measures to mitigate adverse impacts associated with the works.	Refer mitigation measures are outlined in the SEMP, geotechnical assessment and civil plans.
(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 Development will not significantly alter the character of the resort, refer Section 5.8 .
Section 4.30 Kosciuszko National Park Plan of Management	The Development is consistent with the relevant provisions of the Kosciuszko National Park Plan of Management.

4.2.4 Integrated Development Considerations

Integrated development requires development consent and one or more of the approvals outlined in Section 4.46 of the EP&A Act. A review of the *Development referrals guideline* (DPIE 2021) has been undertaken to inform this Application. The Development is not integrated development.

4.3 Plans

4.3.1 South East and Tablelands Regional Plan 2036

The *South East and Tablelands Regional Plan 2036* (Regional Plan) describes the vision, goals and actions that will deliver greater prosperity for those who live, work and visit the region. The Regional Plan promotes well planned, efficient and sustainable development that complements the area's natural and cultural values. In relation to the NSW Alpine Resorts, the Regional Plan seeks to promote year-round alpine tourism opportunities that will strengthen long-term resilience.

The Development is consistent with the Regional Plan as it will support the operation of Kareela Hutte, a popular on-mountain restaurant.

4.3.2 Snowy Mountains Special Activation Precinct Master Plan 2022

The Snowy Mountains Special Activation Precinct Master Plan 2022 (Master Plan) applies to the NSW Alpine Resort Areas, including Thredbo. The Development is for the provision of a formalised access track into Kareela Hutte, an on-mountain restaurant. The tracks will ensure safe and efficient movements for staff deliveries, as such it is considered consistent with the aims and performance criteria in Chapter 13.1 (Transport network) of the Master Plan.

5 Impact Assessment

The assessment for the development consisted of a desktop review of publicly available data sources. A preliminary site assessment was undertaken by KT Project personnel and various technical consultants to validate the desktop assessment results, inform the design process and ensure appropriate environmental controls are implemented to avoid, mitigate and/or management potential impacts on environmental and cultural values.

5.1 Geotechnical Considerations

A Geotechnical Assessment and Form 4 is provided in **Appendix B**.

5.2 Soil and Water

The Development site is not located within 40 m of a mapped watercourse. The access tracks will be constructed in accordance with the CLM Civil plan and geotechnical recommendations for the site. Part of the Cannonball Downhill MTB trail will be re-constructed to integrate with the access road. Sustainable trail construction techniques will be incorporated to shed water away from the trail tread and ensure surface water runoff does not undermine the access track.

During construction, appropriate environmental controls will be implemented in accordance with the SEMP to mitigate potential impacts to the receiving environment from uncontrolled surface water runoff and erosion.

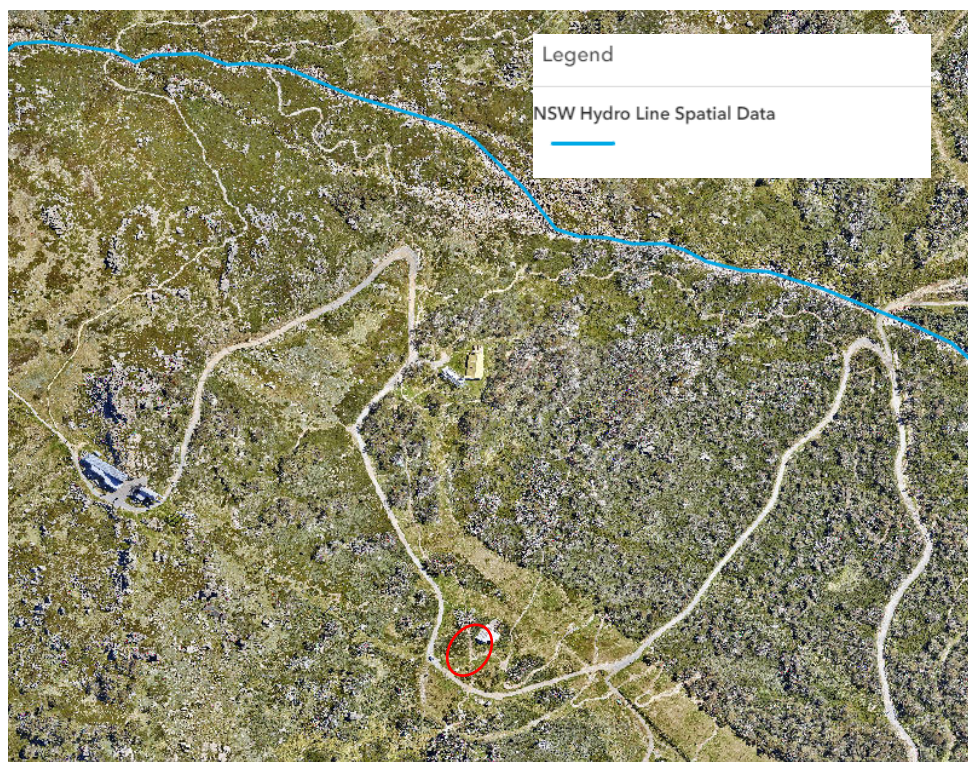


Figure 6: Mapped watercourses (Source: Hydroline Spatial Data, NSW Government 2024d)

5.3 Biodiversity

A Flora and Fauna Assessment is provided in **Appendix C**.

5.4 Waste Management

The Development is expected to generate minimal waste during construction. Storage and disposal of construction waste will be managed in accordance with the SEMP.

5.5 Socio-economic

The Development is considered within the public interest as it will provide safer access into Kareela Hutte, a popular on-mountain restaurant.

5.6 Heritage

The Development will not impact any listed heritage items or places.

5.7 Aboriginal Cultural Heritage

To establish due diligence for the Development, an assessment against the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010) is provided in **Table 7**.

Table 7: Aboriginal Cultural Heritage Due Diligence Process

Due Diligence Process	Comment
1. Will the activity disturb the ground surface or any culturally modified trees?	The Development will require ground disturbance within a predominately modified site. There are no culturally modified trees within the site.
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	There are no known records within the site, refer to the AHIMS search results in Appendix B for reference. Several historical independent assessments have been undertaken within the resort (Dabyne 2020; NGH Environmental 2017; Past Traces Heritage Consultants 2017; Iron Bark Heritage 2013; URS Australia 2004, 2005). All studies provide an indication that the ski slope areas have low archaeological potential due to the level of disturbance associated with the previous ski slope work. The studies also concluded that given the steepness and exposed aspect/lack of sheltering tors, the ski slopes are unlikely to have been favourable campsite locations.
c) landscape features that are likely to indicate presence of Aboriginal objects?	The Development site is located in a highly disturbed environment, which has been subject to previous construction disturbance including clearing and earthworks, removing potential for Aboriginal sites to remain within these heavily disturbed areas. There are no landscape features within the Development site that would indicate the presence of Aboriginal objects due to the extensive disturbance that has occurred. As such, it is considered the Development has low potential to impact on unrecorded Aboriginal objects or sites. There is no requirement to move onto Steps 3 and 4.
3. Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?	Not applicable.
4. Does a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely?	

As identified above, all reasonable steps have been undertaken to ensure the Development fulfils the requirements of the Aboriginal Cultural Heritage Due Diligence Process. Potential impacts from the Development on objects or sites of Aboriginal Cultural Heritage significance are considered unlikely. In the unlikely event that Aboriginal objects are discovered, management measures outlined in the SEMP will be implemented.

5.8 Landscape Character and Amenity

The Development is consistent with existing land uses in the locality including the summer mountain access road and existing access tracks. The track has been designed to integrate with the Cannonball Downhill MTB trail. The impacts on the landscape character are considered acceptable.

5.9 Air Quality, Noise and Vibration

There are no sensitive receptors surrounding the Development site. Dust and noise mitigation measures will be implemented during construction in accordance with the SEMP.

5.10 Access and Traffic

During construction, the site is accessible via the main summer mountain access road. A section of Cannonball Downhill MTB trail will be temporarily closed during construction and riders diverted onto the Kosciuszko Flow trail uphill of the construction site, refer SEMP for details.

The access track has been designed to integrate with the Cannonball Downhill MTB trail to ensure the ongoing operation of the trail.

6 Conclusion

This application is seeking development approval for the construction of access tracks into Kareela Hutte, located in Thredbo Alpine Resort.

In accordance with the requirements of the EP&A Act, EP&A Regulations and Precincts – Regional SEPP, this SEE has assessed the potential impacts of the Development on the human, built and natural environment of the Development site and surrounds. With the implementation of appropriate environmental controls, the impacts of the Development are considered acceptable.

The Development is considered within the public interest as it will provide safer access into Kareela Hutte, a popular on-mountain restaurant.

7 References

Assetgeoenviro 2024, Geotechnical Assessment for Kareela Hutte Access Road, Thredbo NSW, 7480-3-R1.

DAWE 2023, *National Heritage Places – Australian Alps National Parks and Reserves*, Department of Agriculture, Water and the Environment, <https://www.environment.gov.au/heritage/places/national/australia-alps>

DCCEEW 2024, *Protected Matters Search Tool*, Department of Agriculture, Water and the Environment, <https://www.environment.gov.au/epbc/protected-matters-search-tool>

DoE 2013, *Matters of National Environmental Significance: Significant Impact Guidelines 1.1*, Department of the Environment.

DECC 2007, *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park*, New South Wales, Department of Environment and Climate Change, National Parks and Wildlife Service.

DIPNR 2003, *Geotechnical Policy Kosciuszko Alpine Resorts*, Department of Infrastructure, Planning and Natural Resources, NSW Government.

DPE 2017, *What to include with your development application (DA)*, January 2017, Department of Planning & Environment, NSW Government.

DPIE 2006, *Kosciuszko National Park Plan of Management*, Department of Planning, Industry and Environment.

DECCW 2010, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Department of Environment, Climate Change and Water, <https://www.heritage.nsw.gov.au/search-for-heritage/publications-and-resources/aboriginal-cultural-heritage-publications/>

Eco Logical Australia 2024, Ecological Assessment – Kareela Hutte Access – Thredbo Alpine Resort.

Heritage NSW 2024, *AHIMS Web Services*, NSW Government, <https://www.environment.nsw.gov.au/awssapp/>

NSW Government 2024a, ePlanning Spatial Viewer, <https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address>

NSW Government 2024b, Biodiversity Values Map and Threshold Tool, <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>

NSW Government 2024c, NSW BioNet, <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet>

NSW Government 2024d, *Water Management (General) Regulation 2018 Hydro Line spatial data*, <https://www.industry.nsw.gov.au/water/licensing-trade/hydroline-spatial-data>

8 Appendices

Appendix A Desktop Search Results



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 12-Feb-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	2
Wetlands of International Importance (Ramsar	8
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	47
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	15
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	4
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places			[Resource Information]
Name	State	Legal Status	Buffer Status
Historic			
Snowy Mountains Scheme	NSW	Listed place	In feature area
Natural			
Australian Alps National Parks and Reserves	ACT	Listed place	In feature area

Wetlands of International Importance (Ramsar Wetlands)			[Resource Information]
Ramsar Site Name		Proximity	Buffer Status
Banrock station wetland complex		700 - 800km upstream from Ramsar site	In buffer area only
Barmah forest		200 - 300km upstream from Ramsar site	In buffer area only
Blue lake		Within 10km of Ramsar site	In feature area
Gunbower forest		300 - 400km upstream from Ramsar site	In buffer area only
Hattah-kulkyne lakes		500 - 600km upstream from Ramsar site	In buffer area only
Nsw central murray state forests		200 - 300km upstream from Ramsar site	In buffer area only
Riverland		700 - 800km upstream from Ramsar site	In buffer area only
The coorong, and lakes alexandrina and albert wetland		700 - 800km upstream from Ramsar site	In buffer area only

Listed Threatened Ecological Communities			[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.			
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.			
Community Name	Threatened Category	Presence Text	Buffer Status

Community Name	Threatened Category	Presence Text	Buffer Status
Alpine Sphagnum Bogs and Associated Fens	Endangered	Community known to occur within area	In feature area
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community may occur within area	In feature area

Listed Threatened Species

[[Resource Information](#)]

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
CRUSTACEAN			
Euastacus diversus Orbost Spiny Crayfish [66782]	Endangered	Species or species habitat may occur within area	In buffer area only
Euastacus rieki Riek's Crayfish [83155]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Galaxias supremus Kosciuszko Galaxias [87878]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Galaxias terenassus Roundsnout Galaxias [87175]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In buffer area only
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area	In feature area
FROG			
Litoria spenceri Spotted Tree Frog [25959]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Litoria verreauxii alpina Alpine Tree Frog, Verreaux's Alpine Tree Frog [66669]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
MAMMAL			
Burramys parvus			
Mountain Pygmy-possum [267]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Mastacomys fuscus mordicus			
Broad-toothed Rat (mainland), Tooarrana [87617]	Endangered	Species or species habitat known to occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat may occur within area	In buffer area only
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Pseudomys fumeus			
Smoky Mouse, Konoom [88]	Endangered	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In buffer area only
PLANT			
Argyrotegium nitidulum			
Shining Cudweed [82043]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calotis glandulosa			
Mauve Burr-daisy [7842]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Colobanthus curtisiae Curtis' Colobanth [23961]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat may occur within area	In feature area
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat may occur within area	In feature area
Pimelea bracteata [8125]	Critically Endangered	Species or species habitat may occur within area	In feature area
Prasophyllum bagoense Bago Leek-orchid [84276]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterostylis oreophila Blue-tongued Orchid, Kiandra Greenhood [22903]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Ranunculus anemoneus Anemone Buttercup [14889]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rytidosperma pumilum Feldmark Grass [66716]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Viola improcera Dwarf Violet [3879]	Endangered	Species or species habitat may occur within area	In buffer area only
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat may occur within area	In feature area

REPTILE			
Cyclodomorphus praealtus Alpine She-oak Skink [64721]	Endangered	Species or species habitat known to occur within area	In feature area
Liopholis guthega Guthega Skink [83079]	Endangered	Species or species habitat known to occur within area	In feature area
Liopholis montana Mountain Skink [87162]	Endangered	Species or species habitat likely to occur within area	In feature area
Pseudemoia cryodroma Alpine Bog Skink, Alpine Bog-skink [84408]	Endangered	Species or species habitat known to occur within area	In feature area

Listed Migratory Species [Resource Information]			
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]		
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Kosciuszko	National Park	NSW	In feature area

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.	

RFA Name	State	Buffer Status
Southern RFA	New South Wales	In feature area

EPBC Act Referrals			[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
Aerial baiting for wild dog control	2006/2713	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the [Contact us](#) page.

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Department of Climate Change, Energy, the Environment and Water

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Canberra ACT 2601 Australia

+61 2 6274 1111

Kosciusko Thredbo

Date: 12 February 2024

Attention: Jocelyn Best

Email: jocelyn_best@evt.com

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -36.4958, 148.29 - Lat, Long To : -36.4947, 148.2919, conducted by Jocelyn Best on 12 February 2024.

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:

0	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.

Appendix B Geotechnical Assessment and Form 4

Kosciuszko Thredbo Pty Ltd / EVT
1 Friday Drive
Thredbo NSW 2625

Attention: Chloe Chalk

Dear Chloe,

Geotechnical Assessment for Kareela Hutte Access Road, Thredbo NSW

1. Introduction

This report presents the results of a geotechnical assessment for a proposed access road to Kareela Hutte in Thredbo NSW. The assessment was commissioned by Chloe Chalk of Kosciuszko Thredbo Pty Ltd / EVT, PO KTM0041723. The assessment was carried out in accordance with our proposal ref: 7480-P1; dated: 16 February 2024.

The site is not within an area designated as "G" as defined in the maps accompanying DIPNR's "Geotechnical Policy – Kosciuszko Alpine Resorts", November 2003, and therefore a geotechnical report is not required to accompany the development application as per the requirements of the Geotechnical Policy.

This report must be read in conjunction with the attached "Important Information about your Geotechnical Report".

2. Project Details

Documents supplied to us for this assessment comprised:

- Track Plan (Prepared by: CLM Civil Pty Ltd; Project No: V-333; Sheets: 1 to 5; Issue: C; dated: 9 September 2024).

It is proposed to construct the access road and secondary access track from the nearby dirt track to the southwest directly to the southwest side of Kareela Hutte as shown in the attached plan.

3. Assessment Procedure

The assessment comprised the following scope of work:

- A review of existing regional maps and reports relevant to the site held within our files.
- Visual observations of surface features by a Senior Principal Geotechnical Engineer on 15 March 2024.
- Engineering assessment and reporting.

4. Regional Topography

The regional topography comprises moderately to steeply sloping terrain flanking the north-easterly flowing Thredbo River, with ground slopes over the land flanking the river generally ranging from 10° to 30° and some locally steeper sections, and more gentle slopes over the river shoulders. Numerous drainage depressions and watercourses flow towards the river, with some of the persistent watercourses to the north of the river carved several metres into the underlying granite bedrock. Side slopes to creeks and watercourses are typically steeper at 20° to 35°, and typically include numerous granite boulders and cobbles.

5. Site Observations

The site is located north of the Thredbo River and northwest of Thredbo Village in Thredbo as shown in Plate 1.



Plate 1 - Site Locality (not to scale)

The proposed track runs from a gravel track located southwest of the Kareela Hutte as shown in the attached Plan. It is situated on a south-easterly facing slope of about 15° as shown in Photos 1 to 3.

Granite exposures were observed across the proposed access track alignment. Variable subsurface conditions are expected to be encountered including minor fill, clay slope-wash soils, completely decomposed granite (sands), with granite cobbles and boulders interspersed throughout the profile, and occasionally granite bedrock is anticipated.

No obvious signs of slope instability were observed during the site inspection. No signs of surface seepage were observed.

6. Discussions & Recommendations

It is understood that the proposed primary access track will be 3m wide and secondary access track will be 1.2m wide. It is recommended that the track is constructed by filling on top of the slope (i.e., no cut-to-fill earthworks). For a downslope batter of nominally 2H:1V, the width of the earthworks would be 3m track width plus 3.5m width for the downslope batter for a total formation width of about 6.5m.

Alternatively, a steeper batter could be formed using rock fill, nominally 1H:1V, in which case the total formation width would be 4m.

For either case, the maximum fill depth would be less than 1m above existing ground surface level.

It is understood that a turning area is to be provided adjacent to Kareela Hutte, at the location shown in Photo 3, and at the level of the small timber deck outside the access door. This will require extensive filling with a batter slope for soils (2H:1V) or rockfill facing (1H:1V), or a suspended deck.

The following recommendations are provided for the development:

- Based on our site observations and previous test pitting in the general area, we expect that due to previous site disturbance and observed slopes, the site is Class 'P', in accordance with AS2870-2011 'Residential slabs and footings'.
- Excavation is anticipated to be predominantly within completely weathered granite and cobbles and boulders with some overlying soils. Excavation could be achieved by suitably sized excavator, with rock-breaking or blasting required if less weathered granite is encountered.
- No cutting is proposed except for subgrade preparation for filling, and footing excavation for retaining works or suspended structures.
- Filling for the access track formation, and for the turning circle if required, should be constructed as follows:
 - Strip existing fill and topsoil.
 - Prepare horizontal benches within the stripped surface of width suitable for compaction equipment and proof roll with tracked excavator and tamping with excavator bucket. Areas of soft or heaving soils should be further excavated.
 - Place earth fill in horizontal layers over prepared subgrade, in layers not exceeding 0.2m loose thickness and compact to a dry density ratio (AS1289.5.4.1-2007) not less than 95% Standard. Suitable earth fill could comprise a mixture of site-won soils and decomposed granite but should not include material with excessive moisture content (>3% wet of Standard Optimum) or excessive organic content (>2% by mass).
 - Filling should be over-placed (i.e., extend beyond the design formation extent and level) and then trimmed back after compaction, to ensure that the outside edges of the earth mound are adequately compacted.
 - A maximum batter slope of 2H:1V to be adopted for earth fill construction, for local stability requirements.

- A maximum batter slope of 1H:1V to be adopted for rock fill facing to the earthworks, width of rockfill and erosion protection to be determined during detailed design.
- Earth fill to be covered by topsoil and vegetated or otherwise protected to limit erosion.
- Foundations for rock retaining and suspended structures should be on weathered granite and may be designed for an allowable bearing pressure of at least 200kPa.

It is assessed that the proposed works will have 'minimal or no geotechnical impact' on the site, based on the likely subsurface conditions, the lack of obvious signs of hillside instability observed or expected, and the relatively small area of the development. We therefore consider that a geotechnical report prepared in accordance with the Geotechnical Policy for Kosciuszko Alpine Resorts (2003) is not required. A completed Form 4 – Minimal Impact Certification is attached to this report.

7. Limitations

In addition to the limitations inherent in site investigations (refer to the attached Information Sheets), it must be pointed out that the recommendations in this report are based on assessed subsurface conditions from limited observations.

This report may have included geotechnical recommendations for design and construction of temporary works (e.g., temporary batter slopes or temporary shoring of excavations). Such temporary works are expected to perform adequately for a relatively short period only, which could range from a few days (for temporary batter slopes) up to six months (for temporary shoring). This period depends on a range of factors including but not limited to: site geology; groundwater conditions; weather conditions; design criteria; and level of care taken during construction. If there are factors which prevent temporary works from being completed and/or which require temporary works to function for periods longer than originally designed, further advice must be sought from the Geotechnical Engineer.

This report and details for the proposed development should be submitted to relevant regulatory authorities that have an interest in the property (e.g., Department of Planning) or are responsible for services that may be within or adjacent to the site for their review.

Asset accepts no liability where our recommendations are not followed or are only partially followed. The document "Important Information about your Geotechnical Report" in Appendix A provides additional information about the uses and limitations of this report.



For and on behalf of

Asset Geotechnical Engineering Pty Ltd



Mark Bartel

BE, MEngSc, GMQ, CPEng, RPEQ/NER(Civil), DEP/PRE (NSW)
Managing Director | Senior Principal Geotechnical Engineer

Encl: Site Photos

Plan Showing Proposed Access Road, Kareela Hutte, Thredbo
Important Information about your Geotechnical Report
Form 4

Document Control

Distribution Register

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2	Secure PDF	Mark Bartel	Asset Geotechnical Engineering

Document Status

Rev	Revision Details	Date	Author	Reviewer	Approver
0	Initial issue	28 March 2024	MAB		MAB
1	Updated with review comments	16 September 2024	MAB		MAB



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SITE PHOTOS



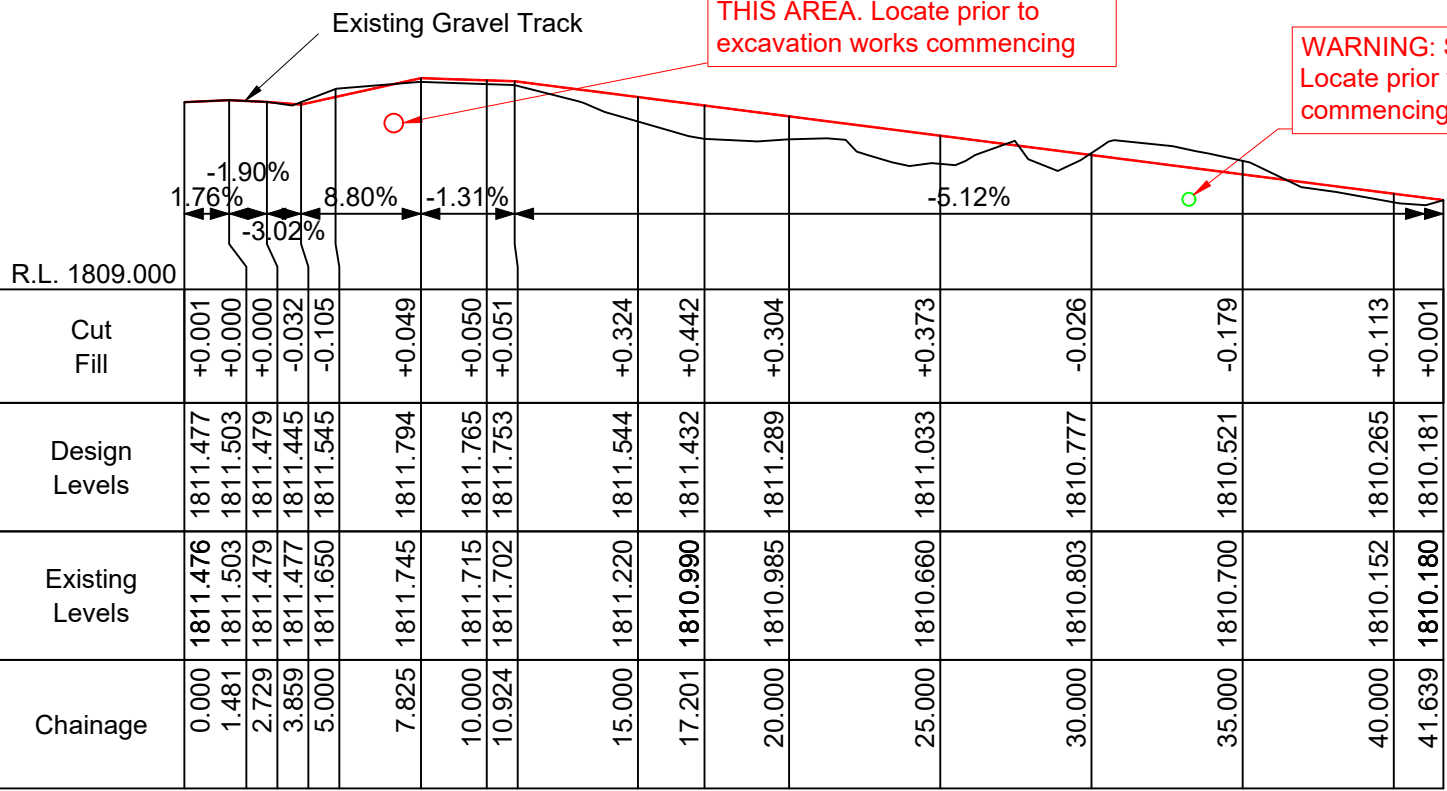
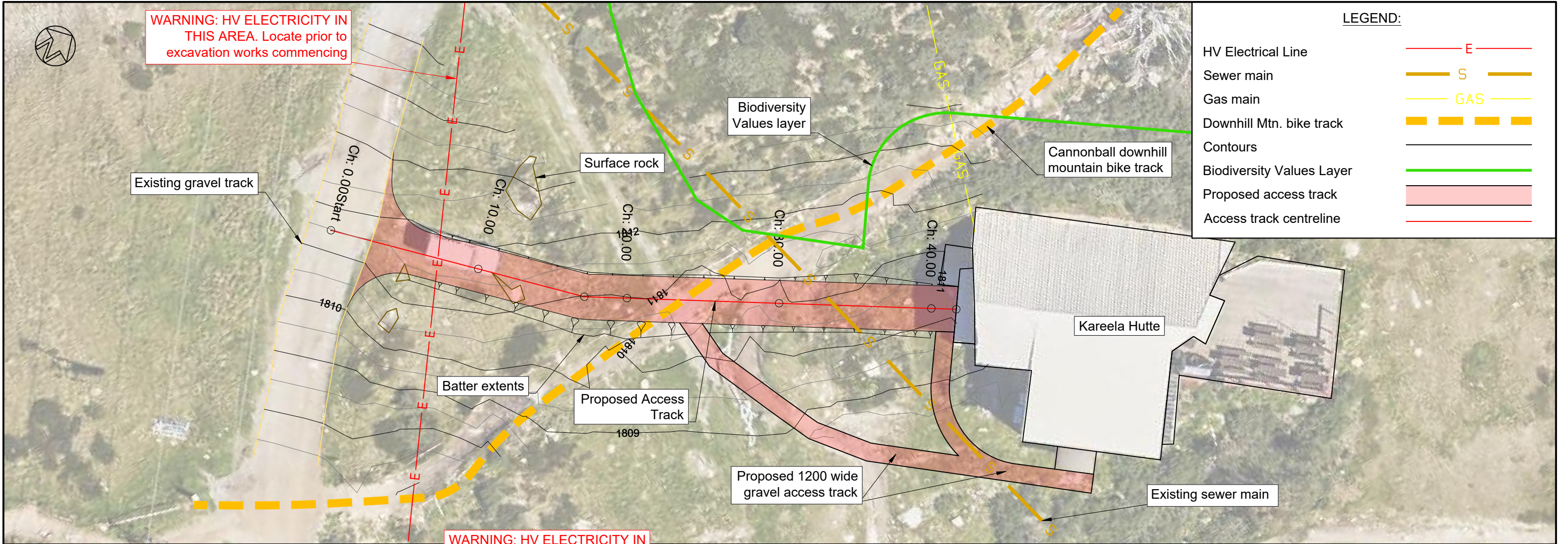
Photo 1 – View along proposed access track.



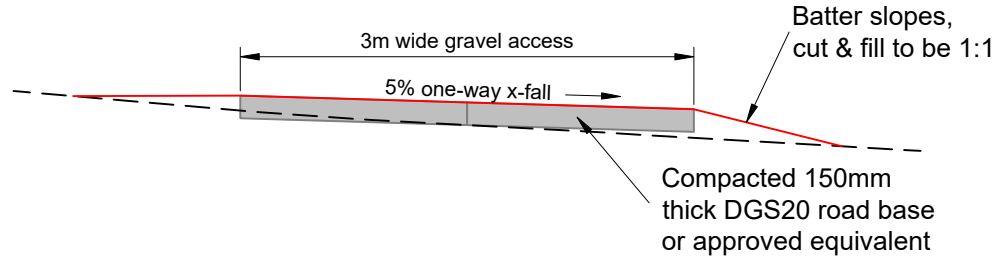
Photo 2 – Closer view along proposed access track.



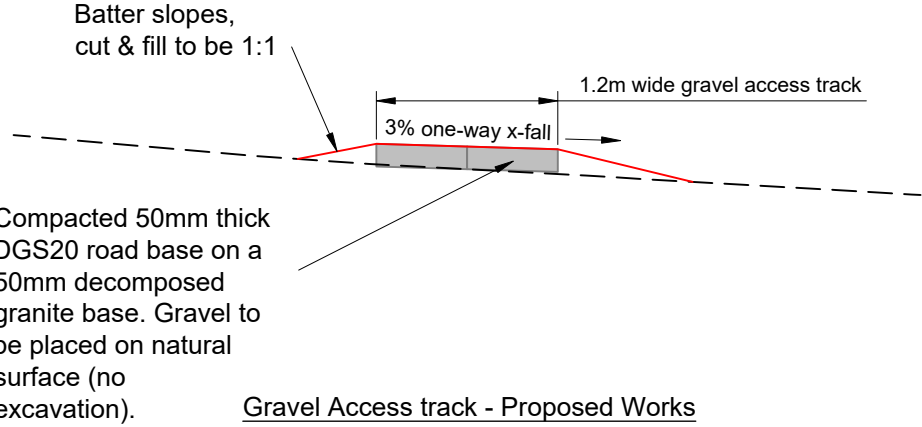
Photo 3 – View of southwest side of Kareela Hutte.



Access Track Long Section
1:250H 1:100 V



Access Track - Proposed Works
Typical Cross Section



Gravel Access track - Proposed Works
Typical Cross Section

Rev	Date	Description
A	1/8/24	First Issue
B	28/8/24	Secondary access track added
C	9/9/24	Access track relocated

Proposed Access Track to
Kareela Hutte

CLM CIVIL Engineering
205 Bobundara Road
BERRIDALE NSW 2628
PH: 0427 886 623
E: greg@clmcivil.com.au

Client: Kosciuszko Thredbo Pty Ltd

This Drawing: Site Plan and Access Track Long Section

Status: Client Review

Datum: GDA2020/AHD	Scale: Plan 1:250	Size: A3
Project Number: V-333	Sheet: 2 of 5	Revision: C

Scope of Services

The geotechnical report ("the report") has been prepared in accordance with the scope of services as set out in the contract, or as otherwise agreed, between the Client and Asset Geotechnical Engineering Pty Ltd ("Asset"), for the specific site investigated. The scope of work may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

The report should not be used if there have been changes to the project, without first consulting with Asset to assess if the report's recommendations are still valid. Asset does not accept responsibility for problems that occur due to project changes if they are not consulted.

Reliance on Data

Asset has relied on data provided by the Client and other individuals and organizations, to prepare the report. Such data may include surveys, analyses, designs, maps, and plans. Asset has not verified the accuracy or completeness of the data except as stated in the report. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations ("conclusions") are based in whole or part on the data, Asset will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented, or otherwise not fully disclosed to Asset.

Geotechnical Engineering

Geotechnical engineering is based extensively on judgment and opinion. It is far less exact than other engineering disciplines. Geotechnical engineering reports are prepared for a specific client, for a specific project and to meet specific needs, and may not be adequate for other clients or other purposes (e.g., a report prepared for a consulting civil engineer may not be adequate for a construction contractor). The report should not be used for other than its intended purpose without seeking additional geotechnical advice. Also, unless further geotechnical advice is obtained, the report cannot be used where the nature and/or details of the proposed development are changed.

Limitations of Site Investigation

The investigation program undertaken is a professional estimate of the scope of investigation required to provide a general profile of subsurface conditions. The data derived from the site investigation program and subsequent laboratory testing are extrapolated across the site to form an inferred geological model, and an engineering opinion is rendered about overall subsurface conditions and their likely behavior regarding the proposed development. Despite investigation, the actual conditions at the site might differ from those inferred to exist, since no subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies.

The engineering logs are the subjective interpretation of subsurface conditions at a particular location and time, made by trained personnel. The actual interface between materials may be more gradual or abrupt than a report indicates.

Therefore, the recommendations in the report can only be regarded as preliminary. Asset should be retained during the project implementation to assess if the report's recommendations are valid and whether changes should be considered as the project proceeds.

Subsurface Conditions are Time Dependent

Subsurface conditions can be modified by changing natural forces or man-made influences. The report is based on conditions that existed at the time of subsurface exploration. Construction operations

adjacent to the site, and natural events such as floods, or ground water fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report. Asset should be kept apprised of any such events and should be consulted to determine if any additional tests are necessary.

Verification of Site Conditions

Where ground conditions encountered at the site differ significantly from those anticipated in the report, either due to natural variability of subsurface conditions or construction activities, it is a condition of the report that Asset be notified of any variations and be provided with an opportunity to review the recommendations of this report. Recognition of change of soil and rock conditions requires experience, and it is recommended that a suitably experienced geotechnical engineer be engaged to visit the site with sufficient frequency to detect if conditions have changed significantly.

Reproduction of Reports

This report is the subject of copyright and shall not be reproduced either totally or in part without the express permission of this Company. Where information from the accompanying report is to be included in contract documents or engineering specification for the project, the entire report should be included to minimize the likelihood of misinterpretation from logs.

Report for Benefit of Client

The report has been prepared for the benefit of the Client and no other party. Asset assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of Asset or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own inquiries and obtain independent advice in relation to such matters.

Data Must Not Be Separated from The Report

The report presents the site assessment and must not be copied in part or altered in any way.

Logs, figures, drawings, test results etc. included in our reports are developed by professionals based on their interpretation of field logs (assembled by field personnel) and laboratory evaluation of field samples. These data should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

Report Recommendations not Followed

Where the recommendations of the report are not followed or are only partially followed, there may be significant implications for the project (e.g., commercial loss, property loss or damage, personal injury, or loss of life). Consult Asset if you are not intending to follow all the report recommendations, to assess what the implications could be. Asset does not accept responsibility where the report recommendations have not been followed or have only been partially followed.

Other Limitations

Asset will not be liable to update or revise the report to consider any events or emergent circumstances or fact occurring or becoming apparent after the date of the report.

Form 4 – Minimal Impact Certification

DA Number: _____

This form may be used where minor construction works which present minimal or no geotechnical impact on the site or related land are proposed to be erected within the “G” line area of the geotechnical maps.

A geotechnical engineer or engineering geologist must inspect the site and/or review the proposed development documentation to determine if the proposed development requires a geotechnical report to be prepared to accompany the development application. Where the geotechnical engineer determines that such a report is not required then they must complete this form and attach design recommendations where required. A copy of Form 4 with design recommendation, if required, must be submitted with the development application.

Please contact the Alpine Resorts Team in Jindabyne for further information - phone 02 6456 1733.

To complete this form, please place a cross in the appropriate boxes ☐ and complete all sections.

1. Declaration made by geotechnical engineer or engineering geologist in relation to a nil or minimal geotechnical impact assessment and site classification

I,
 Mr ☒ Ms ☐ Mrs ☐ Dr ☐ Other

First Name	Family Name
Mark	Bartel

OF
 Company/organisation

certify that I am a geotechnical engineer /engineering geologist as defined by the “Policy” and I have inspected the site and reviewed the proposed development known as

As a result of my site inspection and review of the following documentation

(List of documentation reviewed)

Track Plan (Prepared by; CLM Civil Pty Ltd; Reference No; V-33; Sheets 1 to 5; Dated 9 September 2024

I have determined that;

- ☒ the current load-bearing capacity of the existing building will not be exceeded or adversely impacted by the proposed development, and
- ☒ the proposed works are of such a minor nature that the requirement for geotechnical advice in the form of a geotechnical report, prepared in accordance with the "Policy", is considered unnecessary for the adequate and safe design of the structural elements to be incorporated into the new works, and
- ☒ in accordance with AS 2870.1 Residential Slabs and Footings, the site is to be classified as a type
(insert classification type)

Class P

- ☒ I have attached design recommendations to be incorporated in the structural design in accordance with this site classification.

I am aware that this declaration shall be used by the Department as an essential component in granting development consent for a structure to be erected within the "G" line area (as identified on the geotechnical maps) of Kosciuszko Alpine Resorts without requiring the submission of a geotechnical report in support of the development application.

2. Signatures

Signature

Mark Bartel

Chartered professional status

CPEng 35641 NER (Civil)

Name

Mark Bartel

Date

16 September 2024

3. Contact details

Alpine Resorts Team

Shop 5A, 19 Snowy River Avenue

P O Box 36, JINDABYNE NSW 2627

Telephone: 02 6456 1733

Facsimile: 02 6456 1736

Email: alpineresorts@planning.nsw.gov.au

Appendix C Flora and Fauna Assessment

Date: 19 September 2024

Our ref: 6835

Kosciuszko Thredbo Pty Ltd
PO Box 92
Thredbo Village NSW 2625

Attention: Chloe Chalk

Dear Chloe,

Ecological Assessment – Kareela Hutte Access - Thredbo Alpine Resort

As requested, I have reviewed the potential impacts on vegetation and fauna habitats associated with the proposed Kareela Hutte access upgrade, as shown in Figure 1 below. This included an inspection of the vegetation and habitats to be affected on 28 September 2023. The proposed works are described in more detail below.

The proposed works include:

- Construction of a 3 m wide and 150 mm thick gravel vehicle access track from the existing Summer Road to the top entry of Kareela Hutte over a distance of approximately 35 m.
- Construction of two 1.2 m wide and 50 mm thick gravel secondary access tracks from the proposed vehicle access to the lower entry of Kareela Hutte over a combined distance of approximately 30 m.
- Minor cut and fill batters for the construction of the vehicle access track. The cut and fill would be no greater than 2 m.
- Minor vegetation removal, predominately exotic grasses and small patches of native shrubs.
- Sediment and erosion control measures, such as the installation of silt fencing and straw bale filters.

To avoid, minimise and mitigate impacts, the proposed works will be located entirely within existing highly disturbed areas. As such, there will be only very minor direct impacts on native vegetation. Direct impacts on vegetation will be restricted to approximately 10 m² of regrowth native shrubs that occur in small patches within highly disturbed areas dominated by exotic grassland or bare ground, as shown in Photos 1 -3.

Indirect impacts associated with the proposal are expected to be minor as:

- The footprint of the proposed direct impacts is small.
- The areas affected are already highly disturbed and located immediately adjacent to existing infrastructure.
- The proposed works will be implemented with appropriate safeguards.

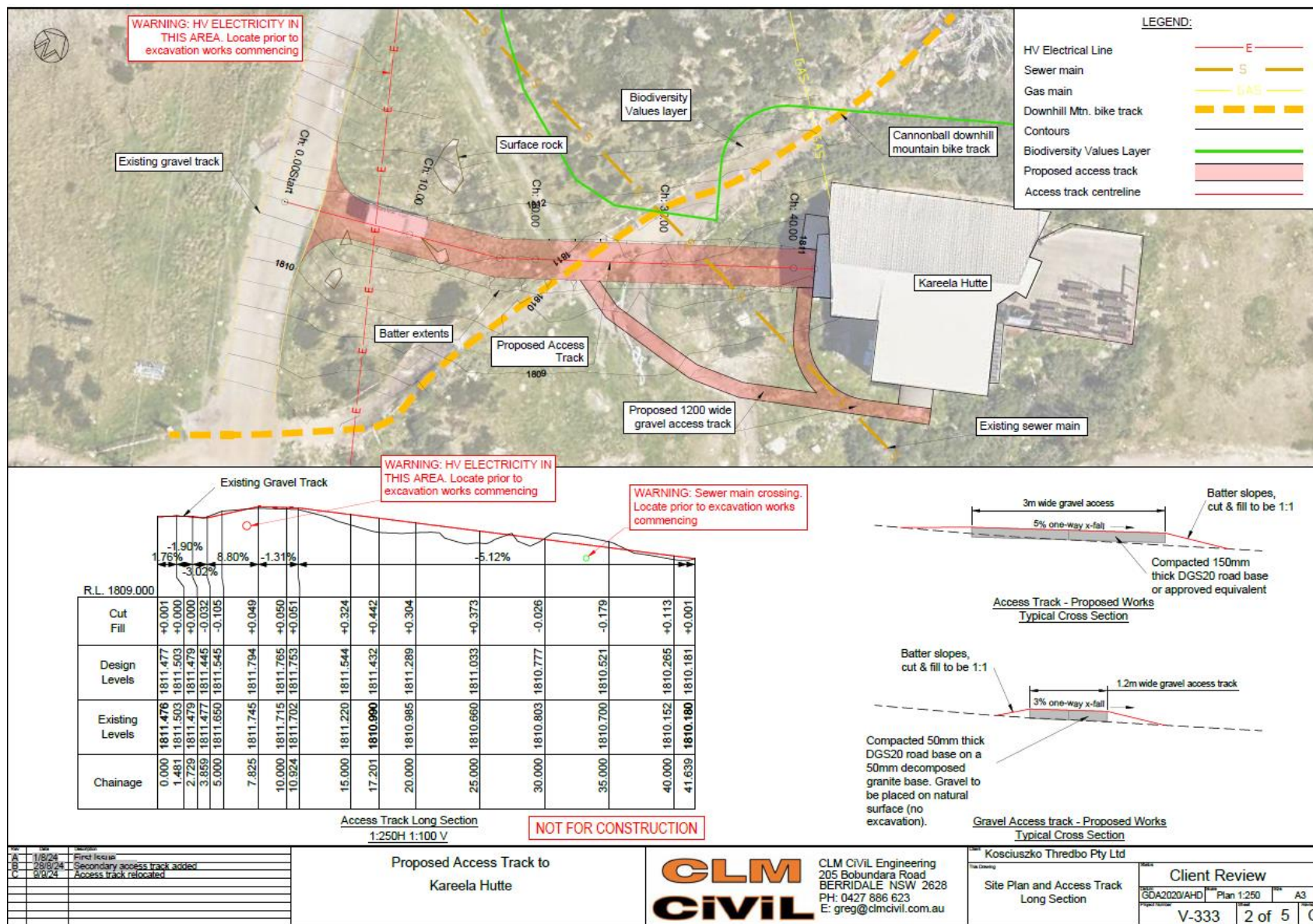


Figure 1: The proposed development.



Figure 2: The proposed works will not affect any vegetation on the Biodiversity Values Map.



Photo 1: The proposed vehicle access will be entirely contained within existing heavily disturbed areas.



Photo 2: The proposed vehicle access will traverse the existing Cannonball mountain bike trail. The area immediately adjacent to Kareela Hutte is highly disturbed and dominated by exotic grasses, particularly *Dactylis glomerata* (Cocksfoot) with scattered *Ozothamnus secundiflorus* (Cascade Everlasting).



Photo 3: The location of the proposed secondary access tracks are also highly modified and dominated by exotic grasses.

NSW Biodiversity Offset Scheme

The proposed works will not affect any areas mapped within the Biodiversity Values Map as defined in the NSW *Biodiversity Conservation Regulation 2017* (BC Reg), as shown in Figure 2, nor will the potential impacts on native vegetation or habitats exceed the 1 ha native vegetation clearance threshold which applies to the Thredbo Resort Area as per the BC Reg. As such, the proposal will not trigger the NSW Biodiversity Offset Scheme (BOS).

Impacts on vegetation communities

The proposal will result in only very minor impacts on native vegetation, being limited to the removal of approximately 10 m² of regrowth shrubs, mainly *Ozothamnus secundiflorus* (Cascade Everlasting), but also including, *Olearia phlogopappa* (Dusty Daisy-bush), *Nematolepis ovatifolia*, *Oxylobium ellipticum* and *Hovea montana* (Alpine Hovea). The rest of vegetation within the development footprint comprises exotic grassland resulting from a long history and range of disturbances. The exotic grassland which is dominated by a range of exotic grasses such as *Festuca rubra* (Red Fescue), *Dactylis glomerata* (Cocksfoot) and *Agrostis capillaris* (Browntop Bent), and weeds such as *Acetosella vulgaris* (Sheep Sorrel), *Achillea millefolium* (Yarrow), and *Hypochaeris radicata* (Flatweed).

Impacts on threatened ecological communities

The proposed development will not affect any threatened ecological communities.

Impacts on flora species of conservation significance

The proposed development will not affect any threatened flora species.

Impacts on fauna habitats

Potential impacts on fauna habitats associated with the proposed works will be limited to minor potential impacts on connectivity as no potentially important fauna habitats will be directly impacted by the proposed works. The proposed works will not affect connectivity for highly mobile fauna species, nor is it considered likely that the proposed works will adversely affect the capacity for less mobile species such as small mammals and reptiles, to access habitats surrounding the proposed works.

Searches of the affected vegetation did not detect any evidence of use by *Mastacomys fuscus* (Broad-toothed Rat) however it is likely that the species occurs in the heathy woodland surrounding the Hutte and occasionally occurs in the study area. The habitats to be affected are unlikely to be used by other threatened mammal species such as *Cercartetus nanus* (Eastern Pygmy-possum) or *Burramys parvus* (Mountain Pygmy-possum). Whilst highly mobile threatened bird species such as the *Petroica phoenicea* (Flame Robin), may occasionally forage in the study area they would not be affected by the proposed works. The proposal will not affect any potentially important habitat for the threatened reptiles such as *Liopholis guthega* (Guthega Skink) or *Cyclodomorphus praealtus* (Alpine She-oak Skink).

The proposal will not result in substantial modifications to the hydrological environment. Similar developments have been undertaken over many years within the Thredbo Resort area, and elsewhere within the NSW Alps, with negligible impacts on the hydrological environment and associated ecosystems.

Under these circumstances, the impacts of the proposal on fauna habitats are considered to be negligible and acceptable. The potential impact of the proposal on threatened fauna have been assessed further (Appendix A) pursuant to relevant statutory assessments.

Recommendations

To further mitigate the potential impacts of the proposal, the following recommendations for impact mitigation and amelioration are suggested.

Vegetation and habitat management

- All disturbance should be kept to the minimum required to achieve the proposal.
- The proposed works should be constructed and implemented in accordance with best practice design standards to ensure that there are no adverse modifications to the hydrological environment that may impact on surrounding vegetation and associated habitats.
- Appropriate safeguards should be in place during the proposed works to limit the potential for invasive plants or pathogens, chemicals or any other pollutants to enter the environment in association with the proposed development.

Sediment control

- Appropriate sediment control measures should be implemented prior to any construction work for the proposal and retained in place until exposed areas of soil or vegetation are stabilised and/or revegetated.
- Sediment control measures are to have particular regard to the prevention of any sedimentation of watercourses or vegetation communities adjoining the study area.

Rehabilitation

- Rehabilitation activities should be consistent with the resort areas rehabilitation guidelines (NGH Environmental 2007).
- Only weed-free straw or natural thatch/litter should be used in sediment control activities.

Conclusion

The proposed works will not result in any adverse impacts on threatened species, populations or ecological communities and will not have a significant impact on these entities pursuant to the NSW *Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The proposal will not result in any substantial adverse impacts on native vegetation communities or associated fauna habitats, nor will there be any impacts on flora species of conservation significance, important fauna habitats, habitat connectivity or any other biodiversity values of conservation significance.

Should you require any further information please contact me on 0422 802 447.

Regards,



Ryan Smithers
Principal Ecologist

References

Department of Environment and Conservation. 2006. *Plan of Management Kosciuszko National Park*. Department of Environment and Conservation, South Sydney.

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.

Appendix A : Test of significance

Test of significance pursuant to section 7.3 of the BC Act: Five-part test

An assessment of the effects of the proposal on threatened species, populations and ecological communities which may be directly or indirectly affected by the proposal may be carried out by applying the five factors from Section 7.3 of the BC Act.

This test of significance is presented below for the threatened fauna species:

- *Mastacomys fuscus* (Broad-toothed Rat)

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Broad-toothed Rat *Mastacomys fuscus* (potential occurrence)

The Broad-toothed Rat generally occurs in two widely separated areas in NSW, the Barrington Tops area and the wet alpine and subalpine heaths and woodlands of the Kosciuszko NP and adjacent areas. The species lives in a complex of runways through dense vegetation of wet grass, sedge or heath and under the snow in winter. Home range size is thought to range between approximately 0.1 ha and 0.27 ha. Individuals nest alone over summer but congregate in communal nests during winter. The species is thought to be locally common in the alpine and high subalpine tracts of the Snowy Mountains area, where suitable habitats are present. The study area provides a very small amount of potential foraging and sheltering habitat for the Broad-toothed Rat.

The proposed development will not affect any key resources for the species, and the habitats immediately adjoining the study area will continue to be available to the species after the implementation of the proposed development. As such, the proposed development will not adversely affect a significant proportion of the home range of any Broad-toothed Rat individuals.

The proposed development is highly unlikely to result in any habitat fragmentation or the creation of barriers which could isolate individuals or a population of the Broad-toothed Rat. Whilst the proposal includes earthworks and the construction of a gravel vehicle track and secondary access tracks, the proposed works will not sever connectivity between surrounding habitats such that it would impede the movement of the Broad-toothed Rat.

Under these circumstances, the proposed development is considered unlikely to disrupt the life cycle of the Broad-toothed Rat such that a viable local population is likely to be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

There are no endangered or critically endangered ecological communities within the study area.

(c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The proposed development will not impact any known Broad-toothed Rat habitat. The proposed development is not considered likely to modify connectivity between habitats adjoining the proposed works to the extent that the Broad-toothed Rat would be adversely impacted.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

The effects of the action proposed on habitat connectivity will be minor and the native fauna which may occur within the study area, will continue to be able to traverse the study area and access habitats adjoining the proposed works.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

The habitats that will be effected by the proposed works are not considered to be important for the Broad-toothed Rat.

d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

The proposed development will not affect any area of outstanding biodiversity value.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The proposed development is not part of any key threatening process.

EPBC Act Significant Impact Criteria

The EPBC Act Administrative Guidelines on Significance 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; and
- 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.

The only Commonwealth listed species which is considered to have the potential to occur within the study area or be affected by the action proposed is 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 proposal does not impact on a World Heritage Property or a National Heritage Place as addressed in the SEE. (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 Ramsar wetland.
any impact on Commonwealth Listed Critically Endangered or Endangered Species;	<p>Yes. The study area provides potential habitat for one Commonwealth listed endangered species: the Broad-toothed Rat.</p> <p>The significant impact criteria for endangered species are discussed below:</p> <p>a. lead to a long-term decrease in the size a population of a species,</p> <p>Whilst the proposed action will affect some marginal potential habitat for the Broad-toothed Rat, the proposal is considered highly 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.</p> <p>Under these circumstances, it is considered highly unlikely that the proposed action will lead to a long-term decrease in the size of the Broad-toothed Rat population.</p> <p>b. reduce the area of occupancy of the species</p> <p>The proposed works will not affect any key habitat resources for the Broad-toothed Rat; nor substantially adversely affect the species ability to access habitats within or beyond the study area.</p> <p>Under these circumstances, the proposed action is highly unlikely to reduce the area of occupancy of the local population of the Broad-toothed Rat.</p> <p>c. fragment an existing population into two or more populations</p> <p>The proposed works will not affect any key habitat resources for the Broad-toothed Rat; nor substantially adversely affect the species ability to access habitats within or beyond the study area.</p> <p>Under these circumstances, the proposed action will not fragment an existing population of the Broad-toothed Rat into two or more populations.</p> <p>d. adversely affect habitat critical to the survival of a species</p> <p>No habitat within the development site is considered likely to be critical to the survival of the Broad-toothed Rat. There are thousands of hectares of similar habitats in the alpine and subalpine zones of the Australian alps, including elsewhere within the Thredbo Resort area. The Broad-toothed Rat continues to occur within the Thredbo Resort Area despite a long history of similar and more extensive disturbances.</p> <p>e. disrupt the breeding cycle of a population</p> <p>It is considered highly unlikely that the Broad-toothed Rat would breed within the study area given the absence of suitable habitat.</p> <p>Under these circumstances, the proposed action will not 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>

Matters to be considered	Impact
	<p>The proposed action will modify a very small area of potential habitat for the Broad-toothed Rat, but this area is unlikely to be important to these species in the context of the extent of potential habitat in the locality.</p> <p>Under these circumstances it is highly unlikely that the proposed action would 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.</p> <p>g. result in invasive species that are harmful to an endangered species becoming established in the endangered or critically endangered species' habitat</p> <p>The proposed action is unlikely to result in invasive species that are harmful becoming established in potential habitat of the Broad-toothed Rat. Species such as cats or foxes are already present in the landscape and are subject to control programs within the resort.</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. interfere substantially with the recovery of the species.</p> <p>As the proposed action is not considered to decrease or fragment any existing populations the recovery of the Broad-toothed Rat is unlikely to be adversely impacted.</p>
Any impact on Commonwealth Listed vulnerable Species;	No. The study area does not provides potential habitat for any Commonwealth listed vulnerable species.
Any impact on a Commonwealth Endangered Ecological Community	No. The proposal will not impact any Commonwealth listed endangered ecological communities.
Any environmental impact on Commonwealth Listed Migratory Species;	No. The proposal 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.