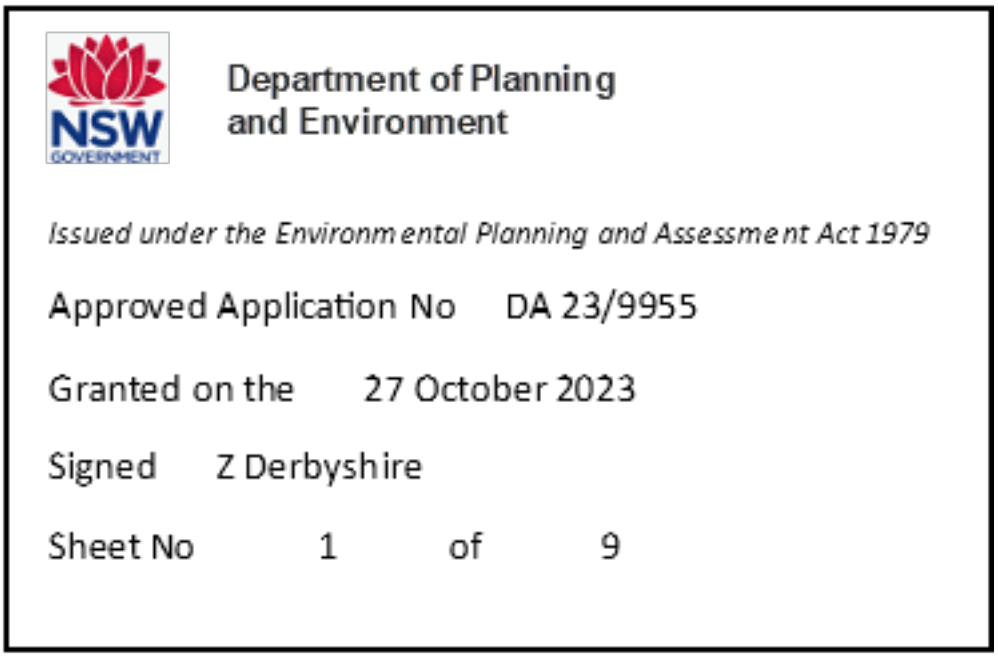
Statement of Environmental Effects

Harusch Walking Track

Thredbo Alpine Resort
Kosciuszko National Park, NSW

July 2023



Document Control

Revision	Date	Revision Type	Author	Reviewed by
A	05.07.2023	Draft	C.Chalk	K.Delpit, A.Harrigan
0	13.07.2023	Final	C.Chalk	A.Harrigan

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Development Proposal	This Statement of Environmental Effects (SEE) has been prepared to support the Development Application (DA) for the Harusch Walking Track (hereinafter referred to as the Development). The purpose of the Development is to provide an easily accessible walking experience at the top of the Merritts Gondola. The walking track will provide an opportunity for visitors with limited walking experience to walk easily in a natural environment. The DA is seeking development approval for the following works: • Vegetation clearing and trimming; • Earthworks; • Demolition of operator's hut; • Construction of walking track and associated infrastructure; and • Rehabilitation works.
Site Details	**Address**: Thredbo Alpine Resort, Friday Drive, Thredbo NSW 2625
	Lot Description: Lot 876/DP 1243112
	Zoning: Kosciuszko National Park, C1: National Parks and Reserves
Applicant	Kosciuszko Thredbo Pty Ltd (KT)
Key Planning Considerations	The Development is subject to the requirements of the *State Environmental Planning Policy (Precincts – Regional) 2021* (Precincts – Regional SEPP). As such, the NSW Minister for Planning is the consent authority for the DA. The Development has been assessed against the relevant requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act), *Environmental Planning and Assessment Act 1979* (EP&A Act), *National Parks and Wildlife Act 1974* (NPW Act), *Biodiversity Conservation Act 2016* (BC Act), *Water Management Act 2000* (WM Act) and associated statutory instruments. The Development is consistent with the *Snowy Mountains Special Activation Precinct Master Plan* (DPE 2022) (Snowy SAP Master Plan) and the *South East and Tablelands Regional Plan 2036* (Regional Plan). The Development is not integrated development.
Key Matters	A Biodiversity Development Assessment Report (BDAR) has been prepared by Eco Logical Australia Pty Ltd (ELA), refer **Appendix C**. The Development is expected to affect 0.05 ha of native vegetation, most of which is already highly modified (ELA 2023). The Development will require one ecosystem credit and one species credit to offset the unavoidable impacts to vegetation and fauna habitats present within the Development footprint. The BDAR concluded the Development is unlikely to have a significant impact on MNES or Commonwealth land, and referral to the Commonwealth Environment Minister is therefore not recommended. The Geotechnical Assessment (AssetGeoEnviro 2023) concluded the Development will have 'minimal or no geotechnical impact' on the site, based on the relatively shallow depths of excavation required, the lack of obvious signs of hillside instability observed or expected, and anticipated subsurface conditions expected in the area (**Appendix B**). In accordance with the relevant legislative requirements, this SEE has assessed the potential impacts of the Development on the human, built and natural environment and surrounds. The Development is compatible with adjoining land uses of the locality and would not result in any significant adverse impact on the environment. The Development will provide a positive guest experience, and the Development considered to be within the public interest.

Cross-reference Table – Mandatory Application Requirements

The following table provides a cross-reference to the mandatory application requirements for Development Applications outlined in the Department of Planning and Environment (DPE) *Application requirements* (March 2022).

Requirement	Reference in this SEE
1.1 Information requirements for development applications	
a. the name and address of the applicant	Executive summary
b. a description of the development to be carried out	**Section 3**.
c. the address, and formal particulars of title, of the land on which the development is to be carried out	**Section 2**.
d. an indication as to whether the land is, or is part of, critical habitat	Not applicable, refer **Appendix C**.
e. an indication as to whether the development is likely to significantly affect threatened species, populations or ecological communities, or their habitats, unless the development is taken to be development that is not likely to have such an effect because it is biodiversity compliant development	Unlikely, refer **Appendix C**.
f. the estimated cost of the development	Detail provided separately as part of the DA.
g. evidence that the owner of the land on which the development is to be carried out consents to the application, but only if the application is made by a person other than the owner and the owner's consent is required by the Regulation	Not applicable.
h. a list of the documents accompanying the application	Refer **Section 1.2**.
i. a Statement of Environmental Effects. See section 1.2 below for detailed requirements	This document addresses the requirements for a SEE.
j. a site plan of the land.	Refer **Figure 3**.
k. drawings of the development.	Not applicable to the Development.
Table 1 – essential document requirements for a development application	
l. an A4 plan of the building that indicates its height and external configuration, as erected, in relation to its site	No building proposed.
Section 1.2 Requirements for a Statement of Environmental Effects	
a. the environmental impacts of the development	Refer **Section 7**.
b. how the environmental impacts of the development have been identified	Refer **Section 6**.
c. the steps to be taken to protect the environment or to lessen the expected harm to the environment	Refer **Section 7** and **Appendix C**.
d. any matters required to be indicated by any guidelines issued by the Planning Secretary	This SEE has addressed the applicable guidelines for the Development. Relevant guidelines have been referenced throughout.
e. drawings of the proposed development in the context of surrounding development, including the streetscape	Refer **Figure 3**.
f. development compliance with building heights, building height planes, setbacks and building envelope controls (if applicable) marked on plans, sections and elevations	Not applicable.

g.	drawings of the proposed landscape area, including species selected and materials to be used, presented in the context of the proposed building or buildings, and the surrounding development and its context	No landscaping proposed. Rehabilitation of disturbed land will be undertaken in accordance with the SEMP (**Appendix D**)
h.	if the proposed development is within an area in which the built form is changing, statements of the existing and likely future contexts	Refer **Section 7.5.**
i.	photomontages of the proposed development in the context of surrounding development	Not warranted for nature of proposal.
j.	a sample board of the proposed materials and colours of the facade	Not warranted for nature of proposal.
k.	detailed sections of proposed facades	Not applicable.
l.	if appropriate, a model that includes the context.	Not applicable.

1 Introduction

This Statement of Environmental Effects (SEE) has been prepared to support the Development Application (DA) for the Harusch Walking Track (hereinafter referred to as the Development). The Development is located at Thredbo Alpine Resort (Thredbo), Kosciuszko National Park (KNP), New South Wales (NSW) 2625. The Applicant for the DA is Kosciuszko Thredbo Pty Ltd (KT) (ABN 95 000 139 015).

The DA is seeking development approval for the following works:

- Vegetation clearing and trimming;
- Earthworks;
- Demolition of operator's hut;
- Construction of walking track and associated infrastructure; and
- Rehabilitation works.

Development in NSW alpine resort areas is governed by the *State Environmental Planning Policy (Precincts – Regional)* 2021 (Precincts – Regional SEPP). The Development proposal has been designed to achieve the relevant provisions of the Precincts – Regional SEPP, *Environmental Planning and Assessment Act 1979* (EP&A Act) and *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation). The Department of Planning and Environment (DPE) Minister for Planning is the consent authority for development in the alpine resort areas under Part 4 of the EP&A Act.

The Development is not integrated development.

1.1 Purpose

The purpose of this SEE is to:

- Describe the proposed development in relation to the existing environment;
- Evaluate the proposed development against the relevant statutory planning framework; and
- Assess the following key issues in relation to the proposed development –
  - the impacts of the development on the natural, human and built environment and how these impacts have been identified
  - mitigation and management measures that will be taken to protect the environment or to reduce expected environmental harm
  - any specific matters identified by the Secretary of DPE.

1.2 Supporting Documents and Plans

Supporting documents and plans are listed in **Table 1**.

Table 1: Supporting Documents and Plans

Document	Title / Description	Author / Prepared by	Document Reference
BDAR	Proposed Harusch Walking Trail, Thredbo Alpine Resort – Biodiversity Development Assessment Report	Eco Logical Australia Pty Ltd	Version 2, 7 July 2023
Geotechnical Assessment	Harusch Walking Track, Thredbo NSW: Proposal for Geotechnical Assessment	Asset Geo Enviro	7227-R1, Rev 1, 13 July 2023

SEMP	Site Environmental Management Plan, Harusch Walking Track	Kosciuszko Thredbo Pty Ltd	Rev 0
Cost of Works	Harusch Walking Track, Cost of works	Kosciuszko Thredbo Pty Ltd	08 June 2023

2 Site Context and Analysis

2.1 Regional Context

The Development site is located in Thredbo Alpine Resort (Thredbo) NSW 2625, within the southern part of KNP, approximately 30 km south-west of Jindabyne in the Snowy Monaro Regional Council Local Government Area (LGA) (**Figure 1**).

2.2 Local Context

Thredbo has a range of infrastructure to support year-round recreational use, including ski slopes, snowmaking infrastructure, tourist accommodation, municipal services infrastructure, mountain bike trails, walking tracks and other recreational facilities.

Within the resort context, the site is located below the Merritts Gondola top station and Merritts Mountain House (**Figure 2**). The site sits within the land formally described as Lot 876/DP1243112 (known as the Thredbo Head Lease).

2.3 Site Access

The site is accessible via the Merritts Gondola located at Valley Terminal base station, off Friday Drive. Friday Drive is the main road through the village, accessible via the Alpine Way).

2.4 Zoning

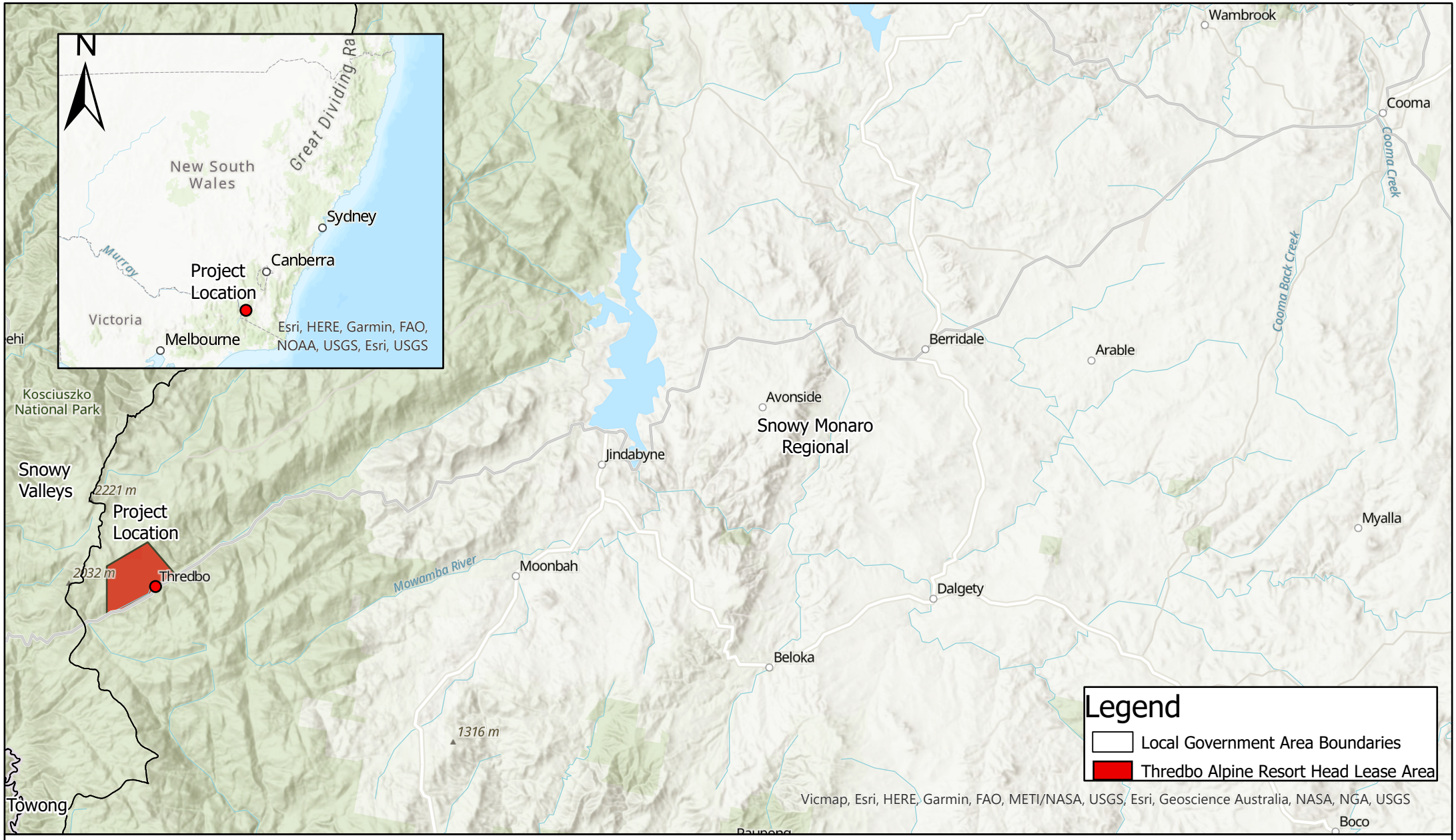
The site is zoned as C1: National Parks and Nature Reserves (NSW Government 2023a).

2.5 Present and Previous Uses

The Development site was previously utilised as a beginner ski run, known as the 'Harusch' which included a now removed rope tow lifting system. The rope tow was decommissioned in 1994. Parts of the infrastructure still remain onsite, including the bull wheel and operator's hut as pictured below. The site comprises a mix of disturbed and undisturbed native vegetation, and exotic species.

The present land use includes: access tracks and roads, infrastructure facilities, recreational infrastructure and ski slopes.

Adjoining land uses include: lifting facilities (Merritts Gondola), recreational infrastructure, infrastructure facilities; and ski slopes (Dream Run and the Schuss).



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3 1.5 0 3 6 9 12

Kilometers

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

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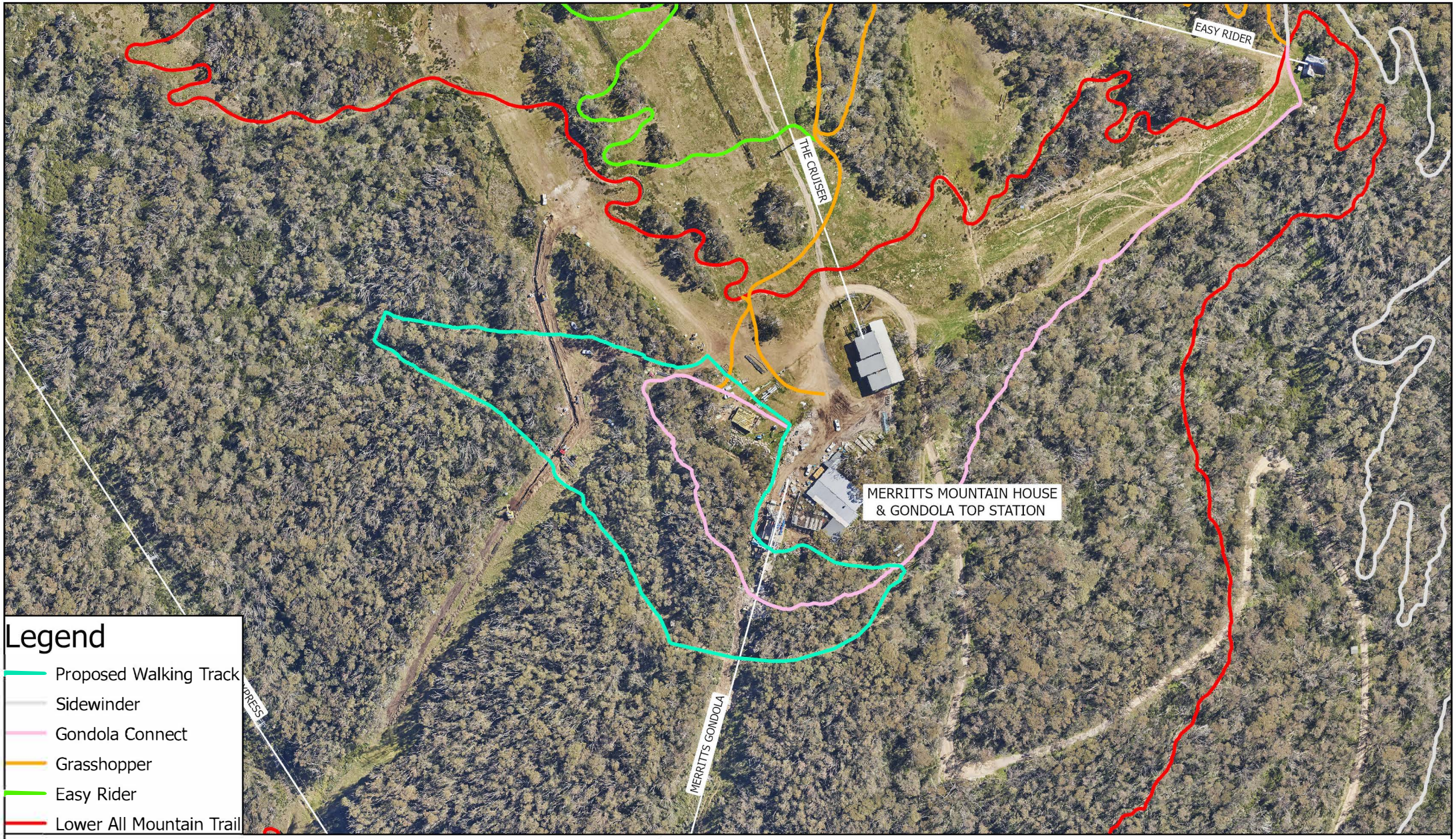
FIGURE 1: REGIONAL SITE CONTEXT

Revision: A

Date: 7/06/2022

Produced By: KO



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0 15 30 60 90 120

Meters

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

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FIGURE 2: SITE OVERVIEW

Project: Proposed Harusch Walking Track

Revision: 1

Date: 29/05/2023

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0 5 10 20 30 40

Meters

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

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FIGURE 3: SITE PLAN

Project: Proposed Harusch Walking Track

Revision: 1

Date: 29/05/2023

Produced By: BB

2.6 Site Suitability

The existing site has generally been subject to previous earthworks (cut and fill) associated with the construction of the former Harusch and Dream Run ski runs and other access tracks and trails. The site and surrounds contain a mix of disturbed and undisturbed native vegetation, and exotic species. The majority of the alignment is grass-covered, with parts comprising a compacted gravel surface (i.e. access track associated with the Merritts Mountain House services infrastructure). The terrain surrounding the proposed track is heavily vegetated. The existing access track ranges between 2.5-4 m in width.

The following matters have been considered to demonstrate the site is suitable for the Development.

Site Suitability Considerations	**Consideration**
Site constraints such as flooding, slope, geotechnical hazards, bushfire and any other risks	Overall ground slopes range from about 5° to 10° in the vicinity of the Gondola top station, increasing to about 10° to 15° downslope (AssetGeoEnviro 2023). Development of the ski slopes has typically involved some minor surface reshaping and disturbance, typically relatively shallow (less than about 1 m depth). No granite exposures were observed by AssetGeoEnviro (2023). Variable subsurface conditions including fill, clay slopewash 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 by AssetGeoEnviro (2023).
Effects on the local environment, landscape, streetscape, appearance or scenic quality of the locality	The Development will result in acceptable impacts to the local environment, landscape, appearance and scenic quality of the locality. A detailed assessment is provided in subsequent sections.
Biological and ecological impacts including the impacts on fauna and flora	A Biodiversity Development Assessment Report (BDAR) has been prepared by Eco Logical Australia Pty Ltd (ELA 2023) for the Development, refer **Appendix C**. The Development has been designed to take advantage of existing disturbed areas and minimise native vegetation clearing. Offsets are proposed for residual unavoidable impacts.
Impacts on existing and future amenity of the locality	No adverse impacts on the existing and future amenity of the locality are proposed. The Development will allow guests to walk and appreciate the alpine environment.
The age and condition of any structures or buildings.	The former Harusch rope tow operator's hut will be demolished. The bull wheel will be retained and interpretive signage installed on its history. No other structures or buildings are located within the alignment.

2.6.1 Options Analysis / Development Alternatives

The original proposal (shown in **Figure 4**) was to create a walking track that follows the former ski run and access track to minimise the amount of native vegetation removal. However, this option was dismissed due to the following:

- The wet area on the western section of the proposed alignment. Whilst this small section is not mapped on the Biodiversity Values Map, and evidence of previous disturbance is apparent (see **Figure 5** and **Figure 6**), the area has undergone some level of regeneration and supports native vegetation species.
- From an operational and safety perspective it was determined it would be best to keep walkers off the summer mountain access road to avoid vehicle and pedestrian conflict.

The final alignment (**Figure 3**) was considered the preferred option as it will avoid the wet area to the west and minimise pedestrian and vehicle conflicts.

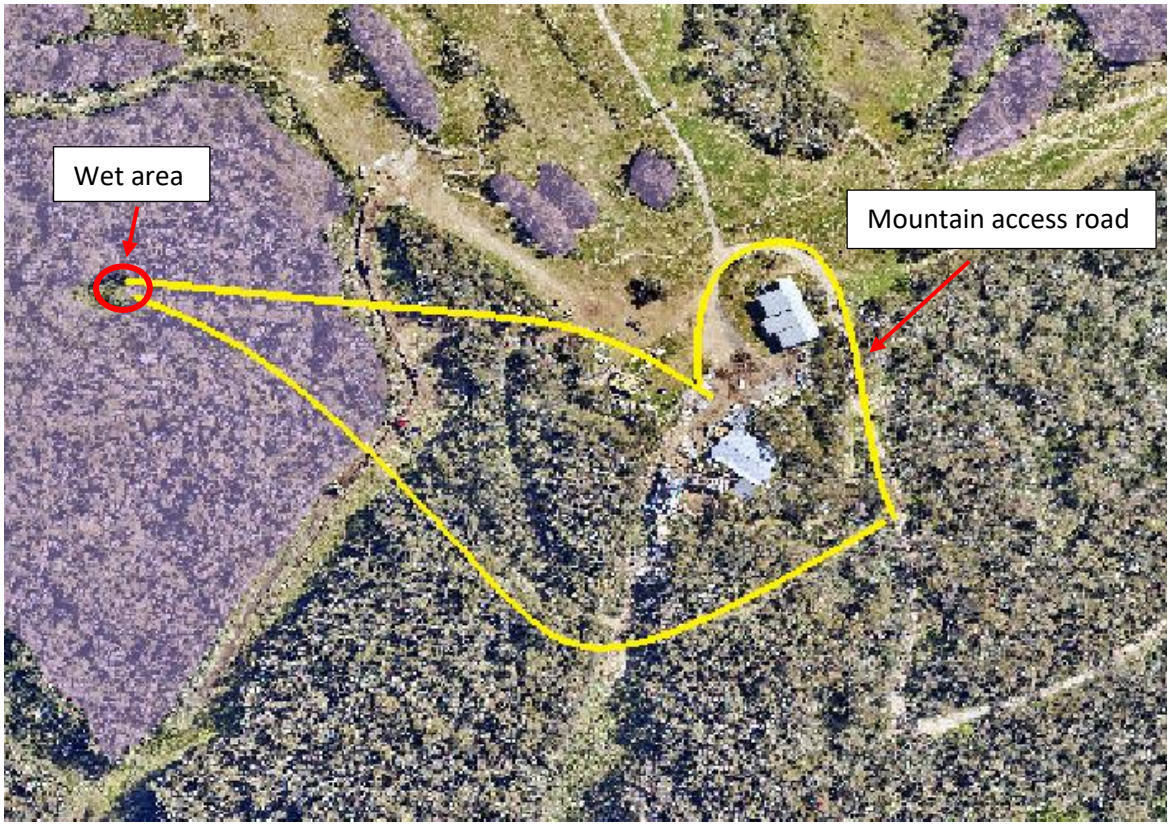

Figure 4: Development Alternative

Figure 5: Evidence of previous disturbance associated with former Harusch ski run in wet area

Figure 6: Original concept to follow entire existing access track through wet area to the west

3 Project Description

3.1 Background

Thredbo offers multiple walking tracks comprising varying length and difficulty of terrain. The walking track network has a mix of shared use (pedestrian and bike riders) and single use tracks.

3.2 Purpose of Development

The purpose of the Development is to provide an easily accessible walking experience at the top of the Meritt's Gondola. The walking track will provide an opportunity for visitors with limited walking experience to walk easily in a natural environment.

3.3 Track Overview

The walking track is a short loop (approx. 730 m) commencing and terminating at the top of Merritts Gondola. The track generally follows existing access tracks and other disturbed areas. A small section of the alignment will require the clearing of native vegetation.

A description of the proposed walking track is provided below.

Item	Description
Track width	The width of the walking track will be variable, but generally 900 mm wide.
Track conditions	The walking track will be hardened and compacted using decomposed granite and road base, as required.
Gradient	The track is relatively flat with gentle hill sections in areas. Generally, the track will be no steeper than 1:10, with one section of steps.
Infrastructure and signage	Wayfinding signage will be installed to ensure the safety of the public. Interpretive signage will also be installed along the track. Signage will be installed in pre-disturbed locations in accordance with existing wayfinding signage designs throughout the resort. No signage will be illuminated. Walking track infrastructure will be consistent with Australian Standard (AS) 2156.1-2001 Walking tracks – Classification and signage. To avoid environmental impacts to an existing wet area on the western boundary of the track, steps will be installed down the existing embankment rather than allowing users to traverse the wet area. The steps shall comply with relevant standards.
Drainage	Appropriate drainage will be installed to preserve the track and related infrastructure.
Facilities	Track head facilities will include amenities provided by Merritts Mountain House at the top of Merritts Gondola (amenities subject to differing opening hours during the year). Alternate amenities provided at the base of Merritts Gondola at Valley Terminal base station.
Terrain	Users do not need bushwalking experience. Users will encounter natural hazards such as minor drainage crossings.

A description of the walking track accompanied by site photos is provided below.

Description	Site Photo
The walking track head commences at the top of Merritts Gondola and generally follows the Gondola Connect MTB trail.	
Users will traverse the edge of the Gondola Connect MTB trail onto an existing access track towards the open ski slope (Dream Run). Pedestrians and bike riders will be directed with the use of signage or flexible fencing to avoid conflicts along this short section of the track.	

The first section of the walking track follows an existing access track, then traverses across the upper section of Dream Run, before continuing onto the existing access track on the skiers right.	
The walking track alignment follows the existing access track to the west before making a turn into the vegetation island on the left.	

The former Harusch rope tow operator's hut is located on the edge of the existing access track. The building will be demolished as part of this Development. The Bull wheel will be retained onsite with an interpretive sign installed describing its history.	
The walking track then heads east along the existing track and traverses below the Merritts Gondola corridor.	

After passing below the Merritts Gondola corridor the walking track continues eastward towards the intersection with Gondola Connect MTB trail. Signage to be installed at intersection to managed pedestrian and bike rider conflicts. After crossing the MTB trail the walking track follows an existing access track (gravel surface) towards Merritts Gondola top station.	
Users to follow existing access track (gravel surface) which links back to Merritts Gondola top station.	

Walk terminates at the top of Merritts Gondola, between the ski patrol hut and Merritts Gondola top station.	

3.4 Construction Management Details

3.4.1 Construction Site Access

The Development site is accessible via the Mountain summer access road. Access to the site will be via the existing access track and ski slopes.

3.4.2 Construction Activities

The proposed construction techniques will include (but not limited to):

- Site establishment, including installation of temporary signage, delineation of the construction corridor with flagging/fencing, as required.
- Marking of vegetation to be removed and no-go areas.
- Vegetation clearing and trimming. Trim overhanging tree limbs where required and brush cut either side of the track to ensure clear pathway.
- Installation of temporary erosion and sediment controls as required.
- Construction of track using techniques outlined in **Table 2**.
- Backfilling of open excavation on Dream Run ski slope using clean fill.
- Construction of steps, including vegetation removal, pegging/flagging of footings, pouring of concrete footings and installation of pre-fabricated steps.

Post-construction activities will include:

- Site stabilisation and rehabilitation in accordance with the Rehabilitation Plan.
- Removal of machinery and equipment.
- Removal of temporary erosion and sediment controls once site has been stabilised.
- Site clean-up.

Table 2: Construction Techniques

Technique / Method	Comment
Track surface	The Track alignment predominately follows an existing cleared access track which is grass-covered with some minor shrubs. The last section of the track currently comprises a gravel surface which was constructed as part of the recent Merritts Services upgrade works. Construction of the track surface will include: • Mark the alignment with flagging tape or similar, as required. Align the trail to avoid impacts to native vegetation where possible. • Clear the track alignment of ground covers/shrubs/roots with excavator. • Compact the subgrade with decomposed granite or road base, as required. Geotextile material can be installed between the soil and gravel to create a base layer and improve track stability.
Drainage	Appropriate drainage will be incorporated in the track to redirect water away from the track and to reduce erosion of the track surface, such as: • Rock drainage crossing / rock steps: Larger rocks to be placed across drainage lines that traverse the track to allow water to drain unimpeded through these areas. Ensure rocks are placed at either end of the drainage line crossing to help avoid erosion. • Water bars: Incorporate water bars at an angle across the track on slopes where required to manage surface run-off and reduce erosion impacts to the track. Water bars may be constructed as an open cross drain or constructed with rocks. Rocks to be set on a stable base of fine crushed rock and/or compacted sub-grade. Ensure water bars extend beyond the edge of the track on the downhill site to help disperse water. • Outsloping: Where required, outsloping of the track will be used to encourage water to sheet across and off the track. • Box/Grate Drains: Incorporate ready to install box drains on flatter sections of track to avoid any water pooling in track. Box drain are to be installed at appropriate angles for effective drainage.  *Example of drainage line that will require rock drainage crossing*

3.4.3 Vehicles, Machinery and Equipment

The Development will require (but not limited to) the following vehicles, machinery and equipment:

- Manitou/forklift;
- 4WD vehicles and utilities;
- Excavator;
- Plate compactor;
- Auger;
- Concrete mixer;
- Chainsaws; and
- Brush cutters.

3.4.4 Construction Corridor and Disturbance

The walking track alignment generally follows the former Harusch ski run, access tracks and other highly disturbed areas, except for the short section where steps are proposed.

The track will be 0.9 m wide on average. The expected average disturbance footprint during construction is 2 m in width. Where steps are proposed, the disturbance footprint is expected to be up to 3 m wide.

3.4.5 Site Compound

Due to the nature and size of the Development no site compound is required.

3.4.6 Stockpile Sites

Temporary stockpiles may be required within the construction corridor to effectively manage excavated materials during the works. Soil will be separated so that it can be used during rehabilitation works.

All stockpiles will be managed in accordance with the *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park* (OEH 2017) (Soil Stockpile Guidelines). Stockpile locations are identified in the SEMP (**Appendix D**).

3.4.7 Material Storage Areas

Materials will be temporarily stored at the flat area outside of Merritts Mountain House and transported to site as required.

3.4.8 Work Hours

Work hours are proposed between the hours of 7.00am and 6.00pm on Monday to Friday inclusive, and 7:00am to 1.00pm on Saturdays, with no work on Sunday or gazetted public holidays.

3.5 Operational Details

3.5.1 Operational Timing

Operation is proposed for summer 2023/24 following construction completion.

3.5.2 Hours of Operation

The Development will be operational in accordance with general summer mountain operations.

3.5.3 Operational Site Access

During operation the Development will be accessible via the Merritts Gondola.

4 Legislation, Policies, Plans and Guidelines

4.1 Legislative Review

A review of key legislation and planning instruments applicable to the Development is provided in **Table 3**.

Table 3: Legislative Review

Acts & Planning Instruments	Summary
Commonwealth Legislation	
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. An assessment is provided in **Section 7.10**.
State Legislation	
Environmental Planning and Assessment Act 1979 (EP&A Act) *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation)	The EP&A Act is the primary piece of legislation governing development within NSW. DPE assesses development proposals within NSW alpine resort areas where the Minister for Planning is the consent authority under Part 4 of the EP&A Act. Section 4.15 of the Act sets out matters a consent authority is to take into consideration when determining a DA (refer **Section 4.2.1** for detail). This SEE has been prepared in accordance with the relevant requirements set out in the EP&A Regulation. Throughout the planning and design phases KT has considered the principles of ESD.
National Parks and Wildlife Act 1974 (NPW Act) *National Parks and Wildlife Regulation 2019*	The NPW Act governs the establishment, protection, conservation and management of national parks, including the conservation of objects, places or features (including biological diversity) of cultural value within the landscape. As detailed in this SEE and supporting technical reports, appropriate environmental mitigation and management measures are proposed to ensure the Development results in acceptable environmental impacts. *Aboriginal Heritage* Section 87 of the NPW Act provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution if they later unknowingly harm an object without an Aboriginal heritage impact permit. Refer to **Section 7.4.1.1** for the due diligence assessment.
Biodiversity Conservation Act 2016 (BC Act) *Biodiversity Conservation Regulation 2017* (BC Regulation)	The purpose of the 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 Development is consistent with principles of ESD, as demonstrated in the subsequent sections of this report.

	The BC Regulation sets out threshold levels for when the BOS will be triggered. The threshold has two elements: • whether the amount of native vegetation being cleared exceeds the area threshold; and • whether the impacts occur on an area mapped on the Biodiversity Values Map (BVM). If clearing and other impacts, including biodiversity impacts prescribed by Clause 6.1 of the BC Regulation, exceed either trigger, the BOS applies. The BOS also applies when: • 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; or • the works are carried out on a declared area of outstanding biodiversity value. If the BOS is not triggered, the test of significance detailed in section 7.3 of the BC Act must be used to determine whether a local development is likely to significantly affect threatened species. Refer **Section 7.1** for detail.
Water Management Act 2000 (WM Act) *Water Management (General) Regulation 2018* (WM (General) Regulation)	Controlled activities carried out in, on, or under waterfront land are regulated by the WM Act. Waterfront land includes the bed and bank of any river, lake or estuary and all land within 40 m of the highest bank of the river, lake or estuary. The NSW Department of Planning and Environment – Water (DPE – Water) administers the WM Act and is required to assess the impact of any proposed controlled activity to ensure minimal harm to waterfront land. A controlled activity approval (CAA) must be obtained before commencing the controlled activity, unless an exemption applies under the WM (General) Regulation. Refer **Section 7.3** for details, no CAA is required.
State Environmental Planning Instruments	
State Environmental Planning Policy (Precincts – Regional) 2021 (Precincts – Regional SEPP)	Development in NSW alpine resort areas are governed by Chapter 4 (Kosciuszko National Park and alpine resorts) of the Precincts – Regional SEPP. The aim of Chapter 4 is to protect and enhance the Alpine Region by ensuring development is managed with regard to the principles of ecologically sustainable development, including the conservation and restoration of ecological processes, natural systems and biodiversity. Refer **Section 4.2.2** for an assessment of the Development against the key provisions of Chapter 4.

4.2 Planning Framework

An assessment against the relevant matters of the EP&A Act and relevant environment planning instruments, policies and plans is provided in this section.

4.2.1 Environmental Planning and Assessment Act 1979

Pursuant to Section 4.15 of the EP&A Act, the consent authority is to consider the matters outlined below.

(1) Matters for consideration – General	**Consideration**
the provisions of—	
(i) any environmental planning instrument	The Precincts – Regional SEPP is the only environmental planning instrument which applies to the site for this proposal. An assessment against the relevant sections of the Precincts – Regional SEPP have been addressed in **Section 4.2.2**.
(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved)	Not applicable to the Development.
(iii) any development control plan	Not applicable to the Development.
(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4	Not applicable to the Development.
(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph)	The DA and supporting information has been prepared in accordance with the requirements of the EP&A Regulation.
(a) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality	The likely impacts of the Development on the natural and built environment, and social and economic impacts in the locality have been assessed in **Section 7.**
(b) the suitability of the site for the development	The site is suitable for the Development, refer **Section 2.6**.
(c) any submissions made in accordance with this Act or the regulations	-
(d) the public interest.	The Development is considered to be within the public interest for the following reasons: • The Development is consistent with the aim and objectives of the Precincts – Regional SEPP.

	• The Development is compatible with the site. • The Development will not have any significant adverse environmental impacts. • The Development is consistent with the principles of ESD. • The Development will contribute to tourism and recreation opportunities in Thredbo resort.

4.2.2 Precincts – Regional SEPP

The relevant sections of Chapter 4 (Kosciuszko National Park and alpine resorts) of the Precincts – Regional SEPP are addressed in this section.

4.2.2.1 Section 4.9 – Land Use Table (Thredbo Alpine Resort)

Pursuant to the Land Use Table in Chapter 4, Section 4.9 of the Precincts – Regional SEPP, the Development is permissible development with consent within the Thredbo Alpine Resort as it will provide 'recreation infrastructure' which is a permitted land use.

4.2.2.2 Section 4.25 Earthworks

Section 4.25 Earthworks	**Consideration**
(1) The objective of this section is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.	The Development is consistent with the objectives of this section.
(2) Development consent is required for earthworks in the Alpine Region unless— (a) the earthworks are exempt development under this Chapter or another environmental planning instrument, or (b) the earthworks are ancillary to— (i) development permitted without consent under this Chapter, or (ii) development for which development consent has been given.	Earthworks form part of this Application seeking Development Consent.
(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, (b) the effect of the development on the likely future use or redevelopment of the land,	a) Unlikely, refer **Section 7**. b) The Development is not anticipated to adversely impact upon the redevelopment of the site. c) Refer to Geotechnical Assessments provided in **Appendix B**. d) Unlikely, refer to **Section 7.5.**

(c) the quality of the fill or the soil to be excavated, or both, (d) the effect of the development on the existing and likely amenity of adjoining properties, (e) the source of any fill material and the destination of any excavated material, (f) the likelihood of disturbing relics, (g) the proximity to, and potential for adverse impacts on, a waterway, drinking water catchment or environmentally sensitive area, (h) appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.	e) No fill material is proposed. In the event fill material is required, it will be sourced in accordance with the requirements outlined in the SEMP (**Appendix D**). f) Unlikely, **Section 7.4.2.** g) Impacts unlikely, refer **Section 7.3.** h) Refer **Section 8** for mitigation measures.

4.2.2.3 Section 4.28 – Consideration of master plans and other documents

Matters for consideration	**Consideration**
(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 objectives of Chapter 4, as demonstrated in this report.
(b) a draft development control plan that is intended to apply to the land and has been published on the NSW planning portal,	Not applicable.
(c) a conservation agreement under the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth that applies to the land,	Not applicable.
(d) the Geotechnical Policy —Kosciuszko Alpine Resorts published by the Department in November 2003,	Refer **Appendix B**.
(e) for development in the Perisher Range Alpine Resort— (i) the Perisher Range Resorts Master Plan, published by the National Parks and Wildlife Service in November 2001, and (ii) the Perisher Blue Ski Resort Ski Slope Master Plan adopted by the National Parks and Wildlife Service in May 2002.	Not applicable to the Development.
(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	Refer **Section 4.4.2**.
(b) if a master plan has not been approved—a draft master plan prepared under section 4.26	Master Plan has been approved, see above.

that is intended to apply to the land and has been published on the NSW planning portal.	

4.2.2.4 Section 4.29 – Consideration of environmental, geotechnical and other matters

Matters for consideration	Consideration
(1) In deciding whether to grant development consent to development in the Alpine Region, the consent authority must consider the following— (a) measures proposed to address geotechnical issues relating to the development, (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, (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,	(a) Refer to the Geotechnical Assessment (AssetGeoEnviro 2023) in **Appendix B**. (b) None of the proposed measures in **Appendix B** will adversely impact on the conservation of the natural environment. c) Not visible from the Main Range Management Unit, refer **Section 7.5** for visual impact assessment.
(d) the cumulative impacts of development and resource use on the environment of the Alpine Subregion in which the development is carried out,	There is no framework to assess cumulative impacts within the Alpine Subregion. The impacts of the Development are addressed in **Section 7**. With the implementation of appropriate environmental controls during construction and operation, the Development is not anticipated to result in any significant adverse impacts on identified environmental values of the site and surrounds.
(e) the capacity of existing infrastructure and services for transport to and within the Alpine Region to deal with additional usage generated by the development, including in peak periods,	The Development will not impact upon the capacity of existing infrastructure and services for transport to deal with additional usage generated by the Development.
(f) the capacity of existing waste or resource management facilities to deal with additional waste generated by the development, including in peak periods.	The Development will not impact upon the capacity of existing waste or resource management facilities.
(2) For development involving earthworks or stormwater draining works, the consent authority must also consider measures to	Earthworks are proposed. Temporary drainage, erosion and sediment control measures will be implemented during construction to mitigate

mitigate adverse impacts associated with the works.	potential adverse impacts associated with earthworks (refer to the SEMP, **Appendix D**).
(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 alter the alpine resort character. The Development will contribute to sustainable year-round recreational opportunities through the provision of an additional walking track within the resort.

4.3 Integrated Development Requirements

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.

4.4 Plans, Policies and Guidelines

4.4.1 South East and Tablelands Regional Plan 2036

The *South East and Tablelands Regional Plan 2036* (Regional Plan) provides directions for land use planning for the South-east and tablelands region for the next 20 years. The region comprises nine (9) local government areas including Bega Valley, Eurobodalla, Goulburn Malware, Hilltops, Queanbeyan-Palerang, Snowy Monaro, Upper Lachlan, Wingecarribee and Yass Valley.

The Regional Plan identifies the following goals for new development with the region:

- A connected and prosperous economy;
- A diverse environment interconnected by biodiversity corridors;
- Healthy and connected communities; and
- Environmentally sustainable housing choices.

Direction 3 of the Regional Plan is to develop the Snowy Mountains into Australia's premier year-round alpine destination. The Regional Plan recognises that an increase in year-round visitors requires better parking access, public facilities and housing/accommodation.

The Regional Plan promotes well planned, efficient and sustainable development that complements the area's natural and cultural values. The Development is consistent with the goals and objectives of the Regional Plan.

4.4.2 Snowy Mountains Special Activation Precinct Master Plan

The *Snowy Mountains Special Activation Precinct Master Plan* (DPE 2022) (Snowy SAP Master Plan) is a 40-year plan that sets out the vision, principles, and precinct-wide performance criteria to support the planning controls in three Environmental Planning Instruments (EPIs).

The Snowy Mountains SAP Master Plan aims to ensure development maximises sustainable opportunities that contribute to the vision of becoming a year-round sustainable tourism destination.

The Development will enhance Thredbo's walking track network, catering to a broader range of walker abilities.

The protection of the natural, cultural and social values of KNP is a primary focus of the Snowy Mountains Special Activation Precinct. As demonstrated in this SEE and supporting technical reports, the Development will not result in any significant adverse impacts on natural values. The Development has been designed to first avoid impacts on the natural environment, then minimise and mitigate impacts through a range of mitigation and management measures implemented in the design, construction and operational phases.

The Snowy SAP Master Plan describes the future desired character of Thredbo as –

"Thredbo is the densest alpine village among the alpine resorts, meaning future infrastructure improvements will focus on pedestrian connectivity within the resort and long-term public transport solutions at the Alpine Precinct scale. Developments and renewal within the village will continue to support a strong alpine design character, village heart and year-round uses".

The Development is consistent with the desired future character of Thredbo.

4.4.3 Kosciuszko National Park Plan of Management 2006 (KNP PoM)

The KNP PoM outlines objectives and management strategies to guide the long-term management of values within specific areas of KNP. The KNP POM includes several management zones and sub units. The Thredbo Management Unit is part of the Visitor Services Zone/Areas of Exceptional Recreational Significance subject to the provisions of Section 10 of the KNP PoM.

The management objective for the Thredbo Management Unit is outlined below:

"The Thredbo Management Unit is managed so as to provide opportunities for visitors to enjoy, understand and appreciate the values of the park in ways that minimise adverse impacts".

As demonstrated in this SEE and supporting documentation, the Development is consistent with the management objectives relevant to the site.

4.4.4 Geotechnical Policy Kosciuszko Alpine Resorts 2003

AssetGeoEnviro were engaged to prepare a geotechnical assessment in accordance with the *Geotechnical Policy Kosciuszko Alpine Resorts* (DIPNR 2003) (Geotechnical Policy). A copy of the report is provided in **Appendix B**.

4.4.5 Community Participation Plan

There are two triggers for mandatory public exhibition outlined in the Community Participation Plan (DPIE 2019) that may be relevant –

- Table 1 (14 days for applications for development consent); and
    - The Community Participation Plan (p.19) notes "*where we assess development applications under the SEPP (Kosciuszko National Park—Alpine Resorts) 2007, no public exhibition will be undertaken for proposals that relate to works which are wholly internal to a building or where the site is located more than 50 metres away from a tourist accommodation building*".
- Table 2 (28 days for works within the areas outlined in (a)-(d) subject to the SEPP (Kosciuszko National Park – Alpine Resorts) 2007 (now Precincts – Regional SEPP).

The Development is located more than 50 m away from a tourist accommodation building, and it does not meet the criteria within Table 2, therefore no mandatory public exhibition is required.

4.4.6 Guidelines

The following guidelines have been considered during the preparation of this SEE:

- Application requirements (DPE 2022);
- Development referrals guide (DPE 2022); and
- What to include with your development application (DA) (DPE 2017).

5 Other Planning Considerations

5.1 Ecologically Sustainable Development

Australia's *National Strategy for Ecologically Sustainable Development* (1992) defines ESD as '*using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased*'.

The principles of ESD are outlined in both the State EP&A Regulation (Division 5, Clause 193) and Commonwealth EPBC Act (Chapter 1, Part 1, 3A). Throughout the planning and design phases, the Development has considered the principles of ESD, as demonstrated below.

Principles of ESD	**How has the principle been incorporated into the development?**
The precautionary principle – The precautionary principle is that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.	The Development does not pose a threat of serious or irreversible environmental damage. This SEE and supporting technical reports seek to provide robust scientific data and information to prevent and/or mitigate proposed environmental impacts. Where impacts are unavoidable, offsets are proposed.
Inter-generational equity – The principle of inter-generational equity is that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.	The Development has been designed to minimise adverse impacts on existing environmental values as much as practicable whilst achieving the key objectives of the proposal.
Conservation of biological diversity and ecological integrity – The principle of the conservation of biological diversity and ecological integrity is that the conservation of biological diversity and ecological integrity should be a fundamental consideration.	A BDAR (ELA 2023) (**Appendix C**) has been prepared to assess ecological impacts and to ensure the conservation of biodiversity and ecological integrity. The design aims to minimise clearing of native vegetation and minimise the extent of ground disturbance as much as practicable. All disturbed areas will be progressively rehabilitated. A SEMP (**Appendix D**) has been prepared for construction to ensure appropriate mitigation and management measures are implemented onsite to protect existing environmental values.

Improved valuation, pricing and incentive mechanisms – The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services.	This principle includes concepts such as 'polluters pay' i.e. those who generate waste and pollution should bear the costs associated with containment, avoidance and abatement. The development of these mechanisms largely comes down to the responsibility of government and their agencies. KT is responsible for the costs of disposal and treatment of waste generated by the Development. These costs are subject to taxes and charges. KT is responsible for the payment of biodiversity offsets as a result of unavoidable impacts to conservation significant species. Refer to the BDAR (**Appendix C**) for details.
Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.	KT have engaged with key stakeholders during the planning phase of the Development to understand stakeholders needs and concerns, and to ensure appropriate mitigation measures are incorporated into the design. Opportunities for further consultation will continue throughout the assessment process. Collaboration with a range of stakeholders (e.g. designers, technical consultants, government agencies) and identification of potential impacts (positive and negative) allows for informed decision making and ensures that environmental controls will be implemented effectively and sustainably.

6 Assessment Method

The assessment for the Development consisted of a desktop review of publicly available data sources and information. The desktop review was followed by site surveys carried out within the Development area to describe the environmental values present on the site and to aid the Comment of potential impacts of the Development to those values. A summary of the assessment methods is provided in the following sections.

6.1 Desktop Assessment

A desktop assessment was carried out to identify relevant environmental values, that potentially occur within the Development area. Database and information sources utilised in the desktop assessment are listed below.

- Aboriginal Heritage Information Management System Web Services (NSW Government 2023e);
- Biodiversity Values Map and Threshold Tool (NSW Government 2023b);

- Protected Matters Search Tool (DCCEEW 2023);
- NSW BioNet (NSW Government 2023f);
- Water Management (General) Regulation 2018 hydroline spatial data 1.0 (NSW Government 2023c);
- NSW Planning Portal Spatial Viewer (NSW Government 2023a); and
- Bush fire prone land mapping tool (NSW RFS 2023).

The relevant database search results are provided in **Appendix A**. Other resources were also investigated to inform the impact assessment, listed in **Section 10**.

6.2 Preliminary Site Assessment

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. The site assessment included a review of the concept plans and design, followed by a site visit.

The following key stakeholders have been involved in the preliminary planning phase:

- KT project personnel and operational managers;
- Eco Logical Australia Pty Ltd;
- Asset Geotechnical Engineering Pty Ltd;
- Representatives from Department of Planning and Environment (DPE); and
- Representatives from National Parks and Wildlife Service (NPWS).

6.3 Technical Assessments

6.3.1 Geotechnical Assessment

The geotechnical was undertaken by AssetGeoEnviro (2023). The assessment comprised a review of existing regional maps and reports relevant to the site, visual observations of surface features on 26 April 2023, and engineering assessment and reporting (refer **Appendix B** for a copy of the assessment).

6.3.2 Flora and Fauna Assessment

Ryan Smithers (Senior Ecologist and Accredited Person) from Eco Logical Australia Pty Ltd (ELA) was engaged to undertake the flora and fauna assessment. The assessment comprises a desktop assessment, field survey and preparation of Biodiversity Development Assessment Report (refer **Appendix C** for a copy of the BDAR).

7 Impact Assessment

7.1 Land

7.1.1 Geotechnical

The proposed steps above the embankment with post support and footings founded at suitable depth and on a suitable founding stratum (AssetGeoEnviro 2023). The structure will be built in accordance with the recommendations in Section 5 of the Geotechnical Assessment (**Appendix B**).

AssetGeoEnviro (2023) concluded the Development will have 'minimal or no geotechnical impact' on the site, based on the relatively shallow depths of excavation required, the lack of obvious signs of hillside instability observed or expected, and anticipated subsurface conditions expected in the area. Therefore, a geotechnical report prepared in accordance with the Geotechnical Policy is not required. A completed Form 4 – Minimal Impact Certification is provided in (**Appendix B**).

7.1.2 Land Use

The Development is consistent with the land uses permitted under the Precints-Regional SEPP, and is not anticipated to result in any significant adverse impacts to surrounding land uses. As demonstrated in previous sections the Development has been designed to integrate with the existing site and adjacent land uses.

7.2 Flora and Fauna

A summary of the BDAR findings is provided below (**Appendix C**):

- It is anticipated that the Development will result in the removal or modification of 0.05 ha of native vegetation, most of which has already been heavily modified. Approximately 0.11 ha of exotic grassland will also be disturbed in association with the proposed trail.
- The proposal has been designed to avoid and minimise direct and indirect impacts. In particular, this has involved:
    - Locating the proposed trail predominately in disturbed areas.
    - Minimising the disturbance footprint associated with construction.
    - Changing the location of the trail to minimise impacts on less disturbed native vegetation.
    - Changing the location of the trail to avoid wet areas.
    - Designing and constructing the trail to avoid the need for mature tree removal.
    - Using low impact construction methods.
    - Undertaking post construction rehabilitation.
- The Development does not involve any prescribed biodiversity impacts.
- The direct impacts of the Development include:
    - Impacts to 0.05 ha of PCT 644: Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion
    - Impacts to 0.01 ha of Broad-toothed Rat (listed Vulnerable under BC Act and EPBC Act) habitat.
- The Development does not have any Serious and Irreversible Impacts (SAII).
- The Development is unlikely to have a significant impact on MNES or Commonwealth land, and referral to the Commonwealth Environment Minister is therefore not recommended.

The Development will require one ecosystem credit and one species credit to offset the unavoidable impacts to vegetation and fauna habitats present within the Development footprint (ELA 2023).

7.3 Water

The nearest mapped watercourse is more than 250 m south-west of the Development site, refer **Figure 7**. There are no other watercourses within 40 m of the site. For the purposes of the *Water Management Act 2000*, the Development is not located within waterfront land, therefore a CAA is not required.

A drainage line is located approximately 20 m from the western boundary of the site. The drainage line is piped uphill of the site through the existing bench that was constructed by cut and fill as part of the former ski run. The Track has been designed to avoid any impacts to this drainage line. Another minor drainage line traverses through the site along the skiers right of Dream Run ski run, refer **Figure 8**.

Uncontrolled surface water run-off resulting from rainfall and snow-melt has the potential to erode the track creating an unstable surface for users if not appropriately managed. Environmental controls (e.g. water bars, outsloping) will be incorporated in the design to manage surface run-off and minimise erosion of surface material during operation of the track. These controls will be installed at appropriate intervals along the track to manage water run-off velocity and ensure soil/gravel are not displaced leading to track degradation.

Figure 7: Mapped Watercourses (Source: NSW DoP 2006; NSW Dep. of Customer Service 2018)

Figure 8: Drainage line running along skiers right of Dream Run Ski Run

7.4 Heritage

7.4.1 Historic Heritage

A review of the Precincts – Regional SEPP, NSW historic inventory and the Thredbo Alpine Village Conservation Plan, Vol.2 Inventory (Clive Lucas, Stapleton and Partners 1997) was undertaken on 14 March 2023. No heritage items are located within the Development site.

The site is located in KNP, forming part of the Australian Alps National Parks and Reserves (AANP). An assessment is provided below.

7.4.1.1 National Heritage Place (MNES)

The Development site is located within KNP, forming part of the Australian Alps National Parks and Reserves (AANP) which were included on the National Heritage List on 7 November 2008 for their –

1) course or pattern of Australia's natural or cultural history;
2) possession of uncommon, rare or endangered aspects of Australia's natural or cultural history;
3) importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places, or (ii) a class of Australia's natural or cultural environment
4) importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
5) strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; and
6) special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

In total, three reserves, seven national parks and one wilderness area comprise the National Heritage Place.

To determine whether a referral and formal assessment is required for the Development, an assessment against the significant impact criteria in the *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (DEE 2013) has been undertaken in **Table 4**.

Table 4: Significant Impact Assessment – Australian Alps National Parks and Reserves (AANP)

National Heritage Values of the AANP		Significant Impact Assessment
Criteria: An action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause: • one or more of the National Heritage values to be lost, • one or more of the National Heritage values to be degraded or damaged, or • one or more of the National Heritage values to be notably altered, modified, obscured or diminished.		
1)	The AANP are of outstanding landscape value and are important in the pattern of Australia's natural history, containing glacial and periglacial features, fossils, karst, biological heritage, moth feasting, transhumant grazing, scientific research, water harvesting and recreation. The AANP have outstanding heritage value for the longevity and diversity of its recreational use (Commonwealth of Australia 2008).	The Development will not result in significant any adverse impacts on these values. The Development will contribute to the year-round recreational offerings within KNP.
2)	The high altitude peaks and plateaus, glacial lakes and alpine and sub-alpine ecosystems of the alps are rare in Australia's mostly flat, dry and hot continent. The AANP contain a vast range of mountain environments and plant communities adapted to cold climates including tall, wet, fern-filled forests to snowgum woodlands and open expanses of alpine meadows. The alps also contains landforms created by glaciers, remarkable fish fossils and unique fauna including Mountain Pygmy Possum (*Burramys parvus*) and Bogong moth (*Agrotis infusa*) (Commonwealth of Australia 2008; DAWE 2021).	The Development will not result in any significant adverse impacts on these values.
3)	The AANP are listed for the north-east Kosciuszko pastoral landscape values which demonstrate the use of mountain resources, namely he summer grasses and herbfields. The landscape demonstrates the past grazing leases which convey the principal characteristics of transhumance and permanent pastoralism in a remote environment (Commonwealth of Australia 2008). The area contains stockman's huts, homestead complexes, stock yards and stock routes which reflect 150 years of summer grazing on the alpine high plains (DAWE 2021).	The Development is not located within the north-eastern area of KNP, therefore it will not impact on these landscape values.
4)	The AANP is a powerful, spectacular and distinctive landscape and natural beauty. The mountain vistas, alpine streams and rivers, lakes, snow-covered eucalypts, high plain grasslands, summer alpine wildflowers, forests and natural sounds are highly valued by community groups (Commonwealth of Australia 2008; DAWE 2021).	The Development will not result in any significant adverse impacts on these values.
5)	The AANP have a strong association with Australia's pioneering history, while the snowfields and national parks have long been popular recreation areas. Many community groups have a strong association with the alps for social and cultural reasons. The pioneering history of the high country is valued as an important part of the construction of the Australian identity featuring in myths, legends and literature. The mountain huts constructed for	The Development will not result in any signficiant adverse impacts on these values. The walking track will contribute to the recreational value and guest satisfaction through the provision of a broader walking track network.

	grazing, mining and recreation are valued by communities as physical expression of the cultural history of the region (Commonwealth of Australia 2008; DAWE 2021).	
6)	There is a long history of scientific research and endeavour in the AANP and its associated with the life or works of highly recognised persons such as Baron Ferdinand von Mueller (botanist), Eugen Von Guerard (artist), and writers/poets, Andrew Barton 'Banjo' Paterson, Elyne Mitchell and David Campbell (Commonwealth of Australia 2008; DAWE 2021).	The Development will not have any impact on the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

The Development will not cause any of the heritage values of the AANP to be lost, degraded, damaged or to be notably altered, modified, obscured or diminished.

7.4.2 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) has been undertaken below.

Due Diligence Process	Comment
1. Will the activity disturb the ground surface or any culturally modified trees?	It is anticipated the Development will result in the removal or modification of 0.05 ha of native vegetation, most of which has already been heavily modified. Approximately 0.11 ha of exotic grassland will also be disturbed in association with track. The majority of the proposed track follows the former Harusch ski run and access tracks. The site has been previously disturbed through cut and fill excavation associated with the former Harusch rope tow and ski run. There are no cultural modified trees identified within the site.
2. Are there any: a) relevant confirmed site records or other associated landscape feature information on AHIMS? And/or	A search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken on 14 March 2023. The search results (**Appendix A**) identified no Aboriginal sites are recorded in or near the site. The site has generally been cleared of native tree and shrub cover. It is apparent the site has undergone extensive construction works associated with the development of ski runs, roads, access tracks, mountain bike trails and associated infrastructure. The installation of the steps will require the removal of native vegetation on a previously disturbed embankment. It is evident that this area has undergone extensive earthworks including removal of top soil and cut and fill to create benches and level the former ski run, which has since been rehabilitated.
b) Any other sources of information of which a person is already aware? And/or	Several historical cultural heritage assessments have been undertaken within the resort by Past Traces Pty Ltd (2017), NGH Environmental (2017), Iron Bark (2013), and URS Australia Pty Ltd (2004; 2005). Generally, all studies provide

	an indication that the ski slopes have low archaeological potential due to the level of disturbance associated with previous ski slope works, the general steepness of terrain and exposed aspect/lack of shelter. The most recent study within proximity of the site was undertaken by Past Traces Pty Ltd in 2018 for the Merritts Gondola (DA 9130). The study concluded the slopes and Merritts Gondola top station are considered to hold low potential for unrecorded heritage sites or subsurface deposits due to the high level of disturbance and removal of original topsoils.
c) landscape features that are likely to indicate presence of Aboriginal objects?	The Development is located within a predominately highly disturbed environment, which has been subject to previous disturbance for the construction of existing ski runs and access tracks. Previous disturbance has comprised extensive earthworks, vegetation clearing and removal and disturbance to top soils and soil profiles, thus removing potential for Aboriginal sites to remain within the area. No landscape features that are likely to indicate presence of Aboriginal objects were identified within the site. 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?	Not applicable.

The Development has low potential to impact on unrecorded Aboriginal objects or sites. In the unlikely event that Aboriginal objects are discovered, the Unexpected Heritage Finds Procedure outlined in the SEMP (**Appendix D**) will be followed.

7.5 Landscape Character and Visual Amenity

The landscape character and built environment within the site and surrounds comprises the distinctive alpine environment, including alpine woodlands and subalpine vegetation, mountain vistas, recreational open space / ski slopes, lifting infrastructure, infrastructure facilities, mountain bike trails and walking tracks.

The Development is compatible with the character and function of the landscape. The Development will not substantially change the character, amenity or function of the landscape.

7.6 Traffic and Access

The majority of the Development follows an existing track. The access track comprises the former Harsuch ski run, and has since been utilised for resort operational access by KT staff.

If temporary closures are required for Gondola Connect MTB trail when works are being carried out within proximity, these will be managed by the KT Mountain Bike Operations team. Appropriate controls will be utilised during construction to notify the public of construction works nearby the track e.g. signage.

Appropriate wayfinding and signage will be installed to mitigate potential conflict with bike riders and pedestrians during operation. No adverse impacts to the Gondola Connect MTB trail and users are proposed during operation.

7.7 Air Quality

The Development will comprise minor ground disturbance for construction, and therefore unlikely to cause adverse impacts to the existing air quality. During operation, no adverse impacts to the existing air quality are proposed.

7.8 Noise and Vibration

Construction within the resort is generally limited to the months of October – April. Construction noise during summer months is generally expected within the resort over the summer period. Construction will take place during off-peak visitation periods where possible. The Development site is not located within close proximity of tourist accommodation buildings. With the implementation of environmental controls, the Development is not anticipated to result in any adverse noise impacts on the existing environment during construction.

The Development is not anticipated to result in adverse noise impacts during operation. The existing site and surrounds are already subject to noise associated with lift operation, including machinery noise and human activity.

7.9 Socio-Economic

The quality of the resort experience and visitor satisfaction is determined, primarily, by the type and style of facilities and services provided and the capacity of these services to meet visitor expectations (DPIE 2006).

Thredbo is Australia's premier year-round alpine destination. In summer, the resort provides a lift accessed mountain bike park with over 35 km of trails, and access to various hikes. Visitation numbers to the resort have significantly increased over the years, placing additional demand on these facilities.

In response to the growing year-round visitation numbers and visitor expectations, the Development will have a positive influence on the resort through the provision of an additional walking track that caters to a greater range of guests, including beginner walkers.

7.10 Matters of National Environmental Significance

A person must not take an action that has, will have or is likely to have a significant impact on any of the MNES without approval from the Australian Government Minister for the Environment.

A search of the EPBC Act Protected Matters Search Tool (PMST) (DAWE 2023) was undertaken to determine whether any MNES are likely to occur within the Development area. The search encompassed a 5 km buffer around the Development site. The Protected Matters Report (PMR) (**Appendix A**) identified the five (5) categories (as listed under the EPBC Act) of MNES (**Table 5**) that may be relevant to the Development area and surrounds.

Table 5: Summary of MNES

MNES Categories	Comment
National Heritage Places	One (1) National Heritage Place (Australian Alps National Parks and Reserves (AANP)) is considered relevant to the Development. Refer to **Section 7.4.1.1** for an assessment against the relevant significant impact criteria. The Snow Mountains Scheme is not relevant to the Development. No further assessment is required.
Wetlands of International Importance	The closest Wetland of International Importance is Blue Lake, located more than 9 km from the Development site. Blue Lake is not considered relevant to the Development. No further assessment is required.
Listed Threatened Ecological Communities (TECs)[1]	Refer to the BDAR in **Appendix C** for assessments against the relevant significant impact criteria. The assessment concluded that the proposal is unlikely to have a significant impact on MNES or Commonwealth land, and a referral to the Commonwealth Environment Minister is therefore not recommended (ELA 2023).
Listed Threatened Species[1]	
Listed Migratory Species[1]	

[1]While based on some species records, the PMST relies on predictive modelling of suitable habitats and does not necessarily reflect an actual record of the species/community for a particular location.

The Development will not have a significant impact on any of the MNES. Therefore, a referral to the Australian Government Minister for the Environment is not recommended.

7.11 Waste Management

The Development will incorporate the waste hierarchy to ensure the efficient use of resources (EPA 2017):

- **Avoidance** including action to reduce the amount of waste generated by the Development;
- **Resource recovery** including re-use, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources; and
- **Disposal** including management of all disposal options in the most environmentally responsible manner.

Waste generation from construction is expected to be minimal. The Development will generate the following waste:

- General solid waste (putrescible) – e.g. waste from litter bins, food waste.
- General solid waste (non-putrescible) – e.g. plastic, paper, carboard, demolition waste from the former operator's hut (e.g. timber frame and cladding, metal roof sheets) and construction waste.

The following will be provided for the storage and disposal of waste:

- General litter bins for waste such as food waste and non-recyclable plastic.
- Recycling bins for waste such as carboard packaging, paper, recyclable plastic.
- Covered ute for removal of demolition waste from operator's hut. Waste will be transported directly offsite.
- KT's waste transfer facility (materials to be segregated for re-use, recycling etc.).

All waste will be managed in accordance with KT's waste management procedures. All materials will be segregated and where possible reused and recycled within the resort. Materials being kept for re-use elsewhere in the resort will be loaded directly onto a truck to the Thredbo Waste Transfer Facility where they will be stored or taken to the workshop for preservation works prior to storage.

Any waste that cannot be re-used within the resort will be transported off-site by a licenced contractor and disposed of at an external waste facility such as Jindabyne Regional Waste Management Facility, or Cooma Landfill.

8 Mitigation and Management Measures

Recommended mitigation and management measures to reduce potential impacts on the key values of the natural, built and human environment within the site and surrounds are provided below.

	Mitigation and Management Measures	Timing
General		
1	Prepare and implement SEMP (**Appendix D**).	Prior to commencement of works, during construction
2	All project staff and contractors are to undergo a site-specific induction which will cover environmental awareness training, environmental obligations and compliance requirements, emergency and incident response, reporting, and relevant procedures.	Prior to commencement of works
Land		
1	All stockpiles to be constructed and managed in accordance with *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park* (OEH 2017).	Construction
2	The recommendations outlined in the Geotechnical Assessment (AssetGeoEnviro 2023) (**Appendix B**) are to be incorporated.	Design, construction
Flora and Fauna		
1	All disturbance should be kept to the minimum required to achieve the proposal.	Construction
2	All machinery to be used during the construction phase should be limited to the existing disturbed areas, access tracks and the construction corridor.	Construction
3	Appropriate safeguards outlined in the SEMP (**Appendix D**) will be implemented to limit the potential for invasive plants or pathogens, chemicals or any other pollutants to enter the environment in association with the Development (ELA 2023).	Construction
4	Disposal and storage of putrescible wastes must be undertaken appropriately to ensure feral animals aren't attracted to the site.	Construction, operation

5	Implement mitigation measures proposed in Table 22 of the BDAR (**Appendix C**).	Construction
Rehabilitation		
1	Prepare and implement Rehabilitation and Monitoring Plan. Rehabilitation activities are to be undertaken in accordance with the Rehabilitation Guidelines	Prior to commencement of works, construction
Water		
1	Implement appropriate erosion and sediment controls in accordance with the SEMP (**Appendix D**) to ensure impacts to receiving environments are mitigated / minimised.	Prior to commencement of works, construction
Cultural Heritage		
1	Where unexpected items of potential archaeological, built or Aboriginal cultural heritage significance are discovered, works will cease, relevant authorities will be notified and the site will be secured by erecting a no-go zone. If human remains are found, works will cease, the site will be secured and NSW Police will be notified immediately.	Construction
Traffic and Access		
1	Vehicle traffic and pedestrian and bike rider access will be managed as per regular daily operation in the resort.	During construction
2	Appropriate signage will be installed to ensure the safety of road users, bike riders and pedestrians, and prevent unauthorised access to the construction site.	Site establishment; during construction
Air Quality		
1	Reasonable and practicable measures will be implemented to prevent dust from affecting the amenity or the surrounding environment during construction. Air quality controls are outlined in the SEMP (refer **Appendix D**).	Construction
2	In the event a complaint is received in relation to air quality/dust nuisance, the source of the complaint will be investigated, and if required corrective actions will be implemented to minimise or avoid impacts.	Construction
Noise and Vibration		
1	Project staff will take reasonable and practicable management measures to avoid and mitigate environmental nuisance from noise associated with the works. Noise and vibration controls are outlined in the SEMP (refer **Appendix D**).	Construction
2	Construction works and operation of plant should comply with Australian Standard *AS 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites* and the *Interim Construction Noise Guideline* (DECC 2009).	Construction
3	In the event a noise complaint is received, the source of the complaint will be investigated, and if required corrective actions will be implemented to minimise or avoid noise impacts.	Construction
Waste		
1	Waste to be managed in accordance with the waste hierarchy – avoid and reduce → reuse waste→ recycle waste → recover energy→ treat waste→ dispose of waste.	All project phases

2	All demolition/construction waste and litter to be minimised and contained within appropriate receptacles. All receptacles will be in good condition.	Demolition; construction
3	All waste to be managed and disposed of in accordance with legislative requirements and relevant standards	All project phases
4	All waste transportation vehicles should be covered appropriately to ensure waste cannot spill, leak or escape onto the road or wash into stormwater drains.	All project phases
Fuels, Chemicals and Hazardous Substances		
1	All storage of petroleum products, oils or chemicals to be in accordance with Australian Standards.	Construction and operation
2	Refuelling procedures to be implemented to minimise spills of fuel products.	Construction

9 Conclusion

The purpose of the Development is to enhance and expand the existing walking track network, and provide a walking track experience at the Merritt's Gondola top station that is easily accessible for walkers of varying abilities. The walking track will provide an opportunity for visitors with limited walking experience to walk easily in a natural environment.

The Development is consistent with the aim and objectives of Chapter 4 of the Precincts – Regional SEPP, and is permissible with development consent under the Precincts – Regional SEPP. The Development is consistent with NSW Government policies such as the South East and Tableland Region Plan aim to increase visitation to NSW ski resorts. The Development is consistent with the principles of ESD.

In accordance with the relevant legislative requirements, this SEE has assessed the potential impacts of the Development on the human, built and natural environment and surrounds. The Development is compatible with adjoining land uses of the locality and would not result in any significant adverse impact on the environment. The Development will provide a positive influence on the resort operations and guest experience, and the Development considered to be within the public interest.

10 References

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11 Appendices

Appendix A Desktop Search Results

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: 14-Apr-2023

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:	41
Listed Migratory Species:	11

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:	16
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 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
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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known 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 terenasus 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 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
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]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area	In feature area
Pterostylis oreophila Blue-tongued Orchid, Kiandra Greenhood [22903]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Ranunculus anemoneus Anemone Buttercup [14889]	Vulnerable	Species or species habitat likely 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
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat likely to 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			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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
[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]		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]		Species or species habitat known to occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may 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
Calidris acuminata Sharp-tailed Sandpiper [874]		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]		Species or species habitat known 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
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.		
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.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Harusch

Client Service ID : 772968

Kosciuszko Thredbo Pty Ltd

Po Box 92

Thredbo New South Wales 2625

Attention: Chloe Chalk

Email: chloe_chalk@evt.com

Date: 14 April 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -36.4941, 148.3036 - Lat, Long To : -36.4898, 148.3113, conducted by Chloe Chalk on 14 April 2023.

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) 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 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.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Appendix B Geotechnical Assessment

Our ref: 7227-R1 Rev 1
13 July 2023

Suite 2.06 / 56 Delhi Road
North Ryde NSW 2113
02 9878 6005
assetgeoenviro.com.au

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

Attention: Chloe Chalk

Dear Chloe,

Harusch Walking Track, Thredbo NSW
Proposal for Geotechnical Assessment

1. Introduction

this report presents the results of a geotechnical assessment for a proposed new walking track on the old Harusch ski run. Part of the existing track (western end) traverses a bog area that is to be avoided, if possible, by building a staircase or ramp down the embankment. The assessment was commissioned by Chloe Chalk of Kosciuszko Thredbo Pty Ltd / EVT, purchase order KTM0040699. The work was carried out in accordance with our proposal (ref: 7227-P1; dated: 21 April 2023).

Documents supplied to us for this investigation comprised:

- Aerial photo showing outline of proposed walking track.
- Miscellaneous site photos.

No cutting or filling is proposed for the walking track. The proposed staircase or ramp would likely involve an elevated structure above the embankment with post support and footings founded at suitable depth and on a suitable founding stratum.

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

2. 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 26 April 2023.
- Engineering assessment and reporting.

3. 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 10º to 30º 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 35º, and typically include numerous granite boulders and cobbles.

The site lies 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 required to accompany the development application as per the requirements of the Geotechnical Policy.

4. Site Observations

The site is located within Thredbo, in the vicinity of the Gondola top station, as illustrated in Plate 1.

Plate 1 – aerial photo showing outline of walking track (in yellow).

Overall ground slopes range from about 5° to 10° in the vicinity of the Gondola top station, increasing to about 10° to 15° downslope.

The alignment of the track generally follows the Harusch ski run which is grass-covered with occasional small shrubs. The terrain in-between the track is heavily vegetated.

Development of the ski slopes has typically involved some minor surficial reshaping and disturbance, typically relatively shallow (less than about 1m depth). No granite exposures were observed. Variable subsurface conditions including fill, clay slopewash 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.

Concentrated surface water was observed in the western part of the track which forms a relatively boggy section at the approximate location indicated in Plate 1.

5. Discussions & Recommendations

It is proposed to construct the walking track along the existing ski run which will generally not involve any earthworks. To avoid the boggy section noted above, it is proposed to traverse the slope in between the two sections of track using either a ramp or stairs. Either of these options would be suitable. For either option, the structure should be supported by posts and footings at appropriate intervals. Footings must be founded within suitable stratum (ideally extremely weathered or better granite at not less than 0.5m below ground level, or medium dense/stiff or better natural soils not less than 1 m below ground level). A maximum allowable bearing pressure of 150 kPa should be adopted for foundations.

The proposed works will have 'minimal or no geotechnical impact' on the site, based on the relatively shallow depths of excavation required, the lack of obvious signs of hillside instability observed or expected, and anticipated subsurface conditions expected in the area. 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.

The following recommendations are provided for the development:

- Based on our site observations and previous test pitting in the 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 soils of variable nature including completely weathered granite and cobbles and boulders. Excavation could be achieved by suitably sized excavator.
- No filling is anticipated for the development with the exception possibly of backfilling of the open excavation across the track indicated in Photo 5. Further advice must be sought if other significant filling is proposed.

6. 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.

❖❖❖

Thank you for this opportunity to submit a proposal. If you have any questions, please do not hesitate to contact the undersigned. If you wish us to proceed, please complete and sign the attached Authorisation Form and return.

For and on behalf of
Asset Geotechnical Engineering Pty Ltd

Mark Bartel

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

Encl: Site Photos
Important Information about your Geotechnical Report
Professional Services Agreement

Document Control

Distribution Register

Copy	Media	Recipient	Location
1	Secure PDF	Chloe Chalk	Kosciuszko Thredbo Pty Ltd / EVT
2	Secure PDF	Mark Bartel	Asset Geotechnical Engineering

Document Status

Rev	Revision Details	Author	Reviewer		Approved for Issue		
			Name	Initials	Name	Initials	Date
0	Initial issue	M. Bartel			M. Bartel	*MAB*	21 May 2023
1	Minor revisions	M. Bartel			M. Bartel	MAB	13 July 2023

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QAS International
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018 AS/NZS 4801:2001

SITE PHOTOS

Photo 1 – start of track

Photo 2 – typical track formation

Photo 3 – concentrated water flow in boggy section of track

Photo 4 – boggy section of track

Photo 5 – open excavation across track

Photo 6 – diversion up cleared access track below gondola top station (source: Kosciuszko Thredbo Pty Ltd)

Photo 7 – diversion up cleared access track below gondola top station (source: Kosciuszko Thredbo Pty Ltd)

Photo 8 – diversion up cleared access track below gondola top station (source: Kosciuszko Thredbo Pty Ltd)

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

AssetGeoEnviro

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

Harusch Walking Track, Thredbo NSW

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

(List of documentation reviewed)

Site Plan, Proposed Harusch Walking Track, Rev 1, 29/05/2023

various supplied site photos

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~~ not applicable, no existing buildings
- ☒ 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 - Problem Site (due to landslide risk mapping)

☒ 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

13 July 2023

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 Biodiversity Development Assessment Report

Proposed Harusch Walking Trail, Thredbo Alpine Resort
Biodiversity Development Assessment Report

Kosciuszko Thredbo Pty Ltd

Department of Planning and Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No DA 23/9955

Granted on the 27 October 2023

Signed Z Derbyshire

Sheet No 3 of 9

ecological AUSTRALIA
A TETRA TECH COMPANY

1300 646 131
www.ecoaus.com.au

DOCUMENT TRACKING

Project Name	Proposed Harusch Walking Trail, Thredbo Alpine Resort
Project Number	4508
Project Manager	Ryan Smithers
Accredited Assessor Certification	
Prepared by	Ryan Smithers
Reviewed by	Dave Coombes
Approved by	Ryan Smithers
Status	**Final**
Version Number	**2**
Last saved on	**7 July 2023**

This report should be cited as 'Eco Logical Australia 2023. *Proposed Harusch Walking Trail, Thredbo Alpine Resort*. Prepared for Kosciuszko Thredbo Pty Ltd.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Kosciuszko Thredbo Pty Ltd

Template 2.8.1

Executive Summary

Eco Logical Australia Pty Ltd was engaged by Kosciuszko Thredbo Pty Ltd to prepare a BDAR for the proposed construction of a walking trail in the Cruiser ski area, within Thredbo Alpine Resort.

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

The proposed development has been located to take advantage of existing disturbed areas and minimize the required clearing. As a result, it is anticipated that the proposal will involve the clearing or further modification of only 0.05 ha of native vegetation, most of which will require the clearing of understorey and groundcovers only.

The development footprint supports one Plant Community Type (PCT) PCT 644 Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion in two condition states; good and moderate. PCT 644 does not conform to any Endangered Ecological Communities (EEC) listed under the NSW BC Act or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Targeted surveys within the development site and immediate surrounds identified one threatened fauna species, *Mastacomys fuscus* (Broad-toothed Rat), as occurring within the development site. A number of other threatened fauna species are known to occur in adjoining habitats and/or have the potential to occur within the development site, such as *Petroica phoenicea* (Flame Robin).

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

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

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

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Abbreviations

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

1. Introduction

This Biodiversity Development Assessment Report (BDAR) has been prepared by Ryan Smithers, an Accredited Person (BAAS17061) to apply the Biodiversity Assessment Method (BAM) under the NSW *Biodiversity Conservation Act 2016* (BC Act). All credit calculations have been undertaken using the BAM Calculator (BAMC) version 2020 in case number 37804. Consistent with the BAM, the streamlined (small area) assessment module has been used for this assessment.

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

1.1. General description of the development site

The development site predominately comprises existing ski slopes and vehicle access tracks, with only a small portion comprising remnant native vegetation. It is located in the Cruiser ski area, within Thredbo Alpine Resort. The Harusch is an old beginner ski trail, which is no longer used. As a result, parts of the trail, particularly the parts to the south of Dream Run, are becoming overgrown with regrowth native shrubs.

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

1.2. Brief description of the proposal

The proposed development comprises a walking trail, primarily to provide an activity for non-skiers visiting the Merritts Gondola. The proposed trail will be 0.9 m wide on average however for the purposes of this assessment it is assumed that construction of the trail will result in an expected average disturbance footprint of 2 m in width. Where stairs are proposed, the disturbance footprint is expected to be up to 3 m wide. The proposed works are expected to affect 0.05 ha of native vegetation, most of which is already highly modified.

The impacts of the proposed trail can be summarized as follows:

- The clearing of shrubs and groundcovers in a 2-3 m wide corridor where the trail traverses native vegetation. The clearing will be undertaken with a mix of hand tools i.e. chainsaws and brush-cutters, and machinery i.e. mini-excavator.
- Construction of some stairs over an approximately 10 m section of the trail including vegetation removal, pegging/flagging of footings, pouring of concrete footings and installation of pre-fabricated stairway.
- Importation of some decomposed granite for the trail surface where necessary.
- Installation of drainage measures where necessary to divert water away from the trail.
- Installation of temporary erosion and sediment controls as required.
- Backfilling of open excavation on Dream Run ski slope using clean fill.
- Post construction rehabilitation and site clean-up.

The proposal is further identified in Figure 3 and Photo 1 – Photo 5.

Photo 1: The proposed trail traverses "super-groomed" ski runs such as "Dream Run", which comprise exotic grassland, before entering the old Harusch ski trail.

Photo 2: To the south of Dream Run the trail follows the old Harusch ski trail which is slowly being reclaimed by the surrounding forest and largely comprises native shrubs and groundcovers.

Photo 3: Stairs are proposed to avoid a wet area which occurs where there is a bend in the existing Harusch ski trail.

Photo 4: The wet area at the bend mentioned in Photo 3.

Photo 5: To the north of Dream Run the proposed trail is located on existing access roads that are dominated by exotic grasses and which are kept clear of shrub regrowth by regular use.

1.3. Development site footprint

It is anticipated that the proposed development will result in the removal or modification of 0.05 ha of native vegetation, most of which has already been heavily modified. Approximately 0.11 ha of exotic grassland will also be disturbed in association with the proposed trail.

The development site footprint is identified in Figure 2. The proposal is identified in Figure 3.

1.4. Sources of information used

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

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

1.5. Legislative context

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

Table 1: Legislative context

Name	Relevance to the project	Report Section
Commonwealth		
Environment Protection and Biodiversity Conservation Act 1999	Matters of national Environmental Significance (MNES) have been identified on or near the development site. This report assesses impacts to MNES and concludes that the development is unlikely to have a significant impact on MNES.	Appendix D
State		
Environmental Planning and Assessment Act 1979	The proposed development requires consent and is to be assessed under Part 4 of the EP&A Act. The EP&A Act places a duty on the determining authority to adequately address a range of environmental matters including the maintenance of biodiversity and the likely impact to threatened species, populations and communities.	-
Biodiversity Conservation Act 2016	The proposed development involves clearing of vegetation identified as high conservation value on the Biodiversity Values Land Map and thus requires submission of a Biodiversity Development Assessment Report.	-
Environmental Planning Instruments		
Precincts - Regional SEPP 2021	State Environmental Planning Policy (Precincts—Regional) 2021 (Precincts-Regional SEPP) facilitates a planning framework for Special Activation Precincts (Precinct/s) in regional NSW, streamlining planning processes and guiding the delivery of the precincts. The Precincts-Regional SEPP identifies the Minister for Planning as the determining authority for development within the NSW Alpine Resorts. Precincts-Regional SEPP requires the Minister for Planning to refer for comment any development application in the Alpine Resorts to the Director General of the NSW Department of Environment and Climate Change (DECC).	-
Snowy River Shire Local Environment Plan 2013	The subject site is zoned C1 National Parks and Nature Reserves under the Snowy River Shire Local Environment Plan 2013.	-

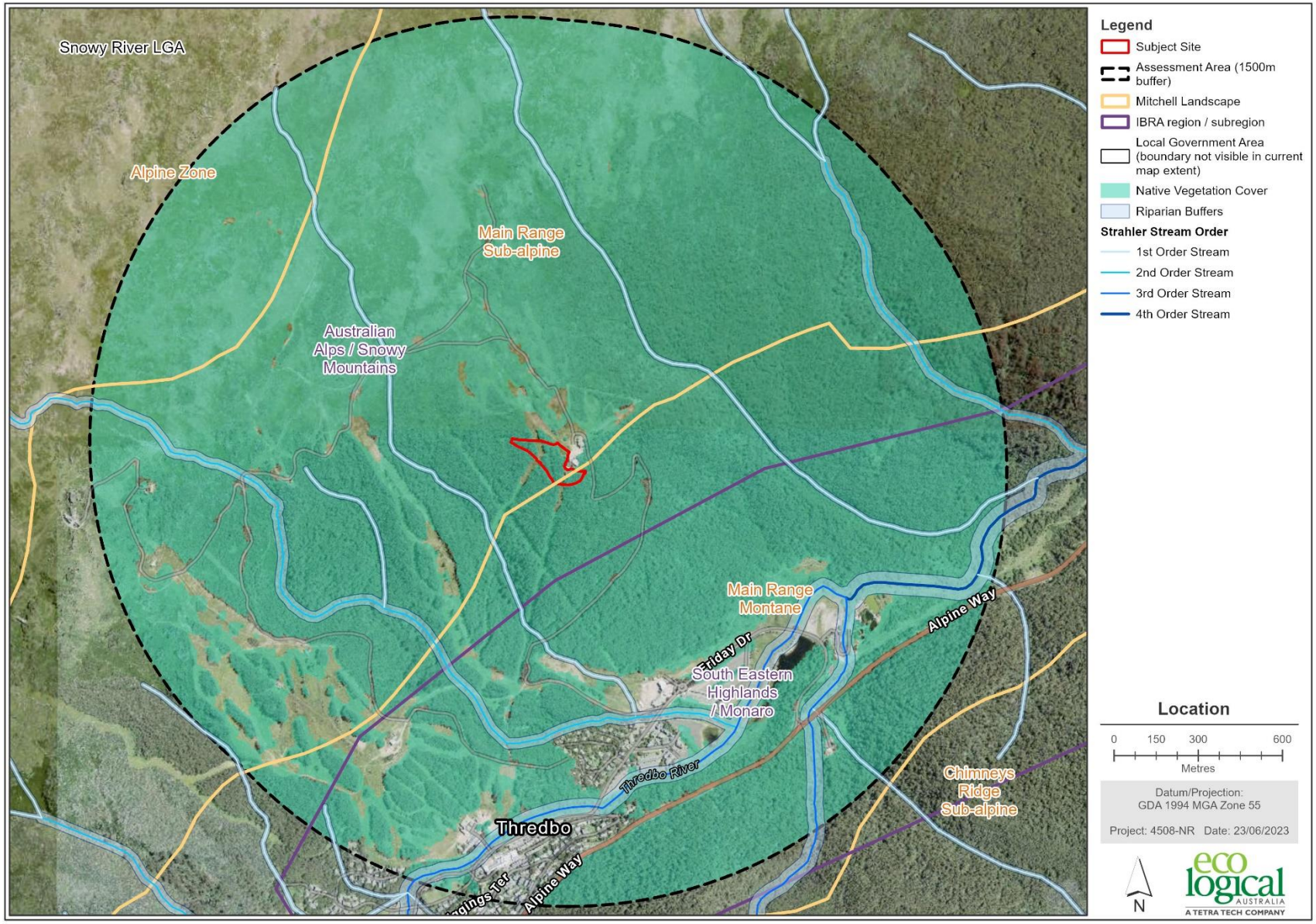

Figure 1: Location Map

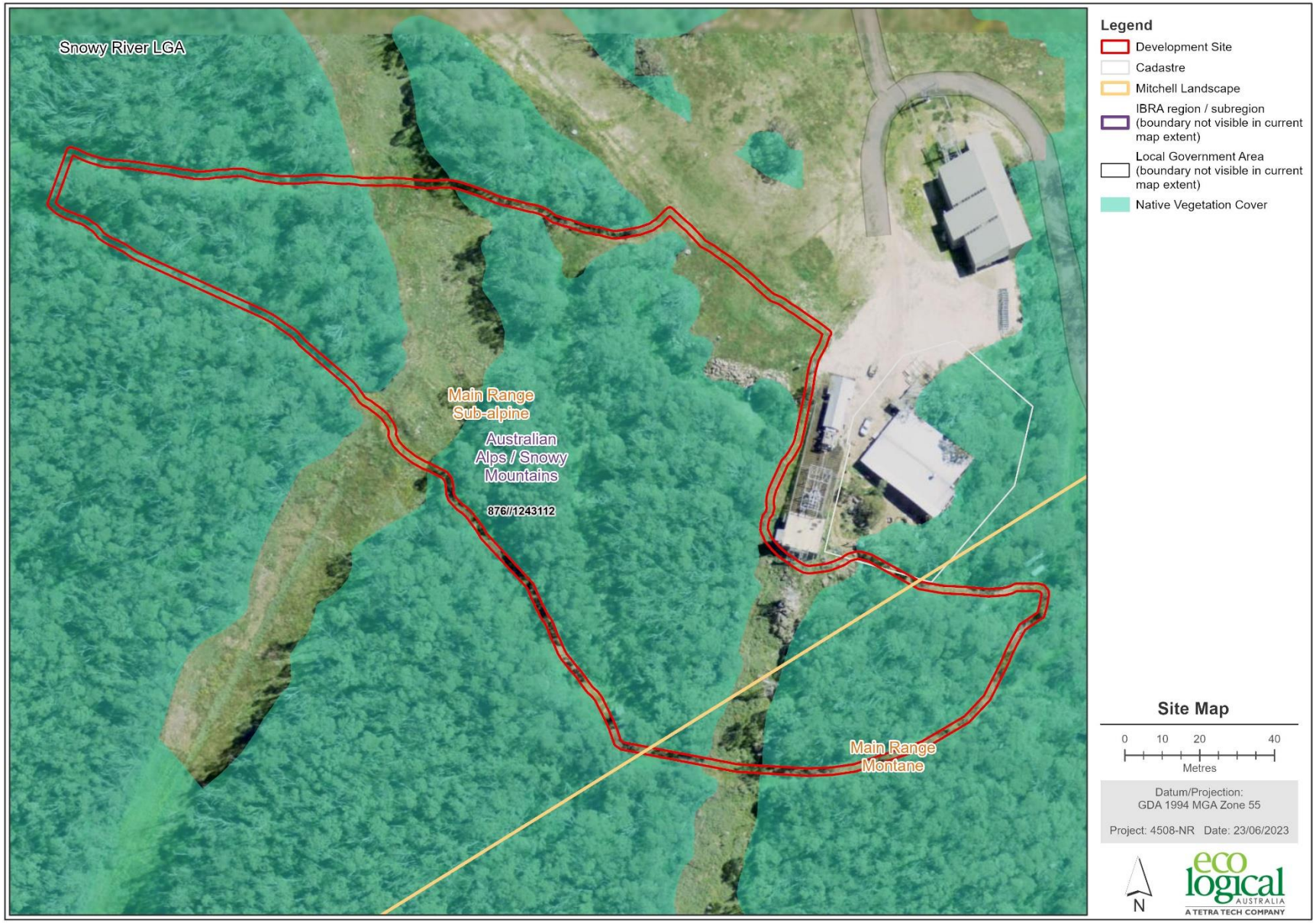

Figure 2: Site Map

Figure 3: The proposal

2. Landscape features

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

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

Table 2: Landscape features

Landscape feature	Development Site	Assessment Area	Data source
IBRA Region(s)	Australian Alps	Australian Alps	Interim Biogeographic Regionalisation for Australia, Version 7
IBRA subregion(s)	Snowy Mountains	Snowy Mountains	Interim Biogeographic Regionalisation for Australia, Version 7
Rivers and streams	Minor unmapped watercourses that are tributaries of Merritts Creek.	Minor unmapped watercourses that are tributaries of Merritts Creek	NSW LPI Waterway mapping
Estuaries and wetlands	No	No	NSW directory of important wetlands
Connectivity of different areas of habitat	The development site is connected to vast areas of native vegetation.	No	Aerial imagery
Geological features of significance and soil hazard features	The rock outcropping in the development site is very typical of the locality and not of any particular geological significance.	No	Site observation
Areas of Outstanding Biodiversity Value	No	No	Register of Declared Areas of Outstanding Biodiversity Value (DPIE 2020)
NSW (Mitchell) Landscapes	Main Range Subalpine	-	NSW (Mitchell) Landscapes - version 3.1 (DPIE 2016)
Percent (%) native vegetation extent	91	There are no substantial differences between the mapped vegetation extent and the aerial imagery	Calculated using aerial imagery and ArcGIS software

3. Native Vegetation

3.1. Survey Effort

Vegetation survey was undertaken within the development site by Ryan Smithers on 31 March 2023 (Figure 4).

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

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

Table 3: Full-floristic PCT identification plots

PCT ID	PCT Name	Number of plots surveyed
644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	1

3.2. Native vegetation extent within the development site

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

3.3. Plant Community Types present

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

Table 4: Plant Community Types

PCT ID	PCT Name	Vegetation Class	Vegetation Formation	Area within the development site (ha)	Percent cleared
644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Subalpine Woodlands	Grassy Woodland	0.05	5

3.3.1. Plant Community Type selection justification

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

Table 5: Potential PCTs

Selected PCT ID	PCT Name	Other PCT options
644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	645

3.4. Threatened Ecological Communities

PCT 644 does not comprise any TEC which is listed on the BC Act or EPBC Act, as identified in Table 6. The wet area which occurs just beyond the development site may comprise the *Montane Peatland and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions* endangered ecological community (EEC) (hereafter referred to as the Montane Peatland and Swamps), which is listed on the BC Act. It may also comprise the *Alpine Sphagnum Bogs and Associated Fens* EEC (hereafter referred to as the Alpine Sphagnum Bogs and Associated Fens) which is listed on the EPBC Act. The proposed development has been designed to avoid impacts on these communities.

Table 6: Threatened Ecological Communities

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

3.5. Vegetation integrity assessment

3.5.1. Vegetation zones

Two vegetation zones were identified within the development site based on the broad condition states of PCT 644, as shown in Figure 5. A total of one vegetation integrity survey plot was collected within the development site, which is consistent with the BAM (Table 7). Descriptions of vegetation zones are provided in Table 8 and Table 9.

3.5.2. Patch size

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

3.5.3. Assessing vegetation integrity

A vegetation integrity assessment using the BAM Calculator (BAMC) was undertaken and the results are outlined in Table 10.

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

Vegetation Zone	PCT ID	PCT Name	Condition	Area (ha)	Patch Size	Vegetation Integrity Survey Plots required	Vegetation Integrity Survey Plots collected
1	644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Good	0.01	101	1	1
2	644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Moderate	0.04	101	0	0
			Total	0.05	101	1	1

Table 8: Zone 1 PCT 644 Good Condition

644 - Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion			
Vegetation formation	Grassy Woodlands		
Vegetation Class	Subalpine Woodlands		
Conservation status	Widespread and well conserved. Not listed as a TEC on the BC Act or EPBC Act		
Description	This community is common in the locality but highly variable. It is poorly described by the current PCTs and associated benchmarks which don't well describe the variety of vegetation communities covered by PCT 644 and the variation in composition and structure values within "benchmark" occurrences.		
Characteristic canopy trees	*Eucalyptus niphophila*.		
Characteristic mid-storey	*Grevillea australis, Ozothamnus cupressoides*, *Prostanthera cuneata, Nematolepis ovatifolia, Ozothamnus secundiflorus, Ozothamnus alpinus, Olearia phlogopappa, Orites lancifolius, Oxylobium ellipticum.*		
Characteristic groundcovers	*Acaena novae-zelandiae , Asperula gunnii , Carex breviculmis, Lycopodium fastigiatum, Pimelea alpina, Poa fawcettiae, Polystichum proliferum, Senecio gunnii.*		
Mean native richness	16		
Exotic species / HTW cover	*Acetosella vulgaris*		
Condition	Good		
Variation and disturbance	PCT 644 is in good condition within the zone with minor variations in shrub cover.		
No. sites sampled	1		
Threatened flora species	-		
Fauna habitats	Broad-toothed Rat and Flame Robin.		
Composition	**Structure**	**Function**	**Vegetation Integrity Score**
43.4	90.4	51.3	58.6

Table 9: Zone 2 PCT 644 Moderate Condition

644 - Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion			
Vegetation formation	Grassy Woodlands		
Vegetation Class	Subalpine Woodlands		
Conservation status	Widespread and well conserved. Not listed as a TEC on the BC Act or EPBC Act		
Description	This community is common in the locality but highly variable. It is poorly described by the current PCTs and associated benchmarks which don't well describe the variety of vegetation communities covered by PCT 644 and the variation in composition and structure values within "benchmark" occurrences.		
Characteristic canopy trees	*Eucalyptus niphophila*.		
Characteristic mid-storey	*Grevillea australis, Ozothamnus cupressoides, Prostanthera cuneata, Nematolepis ovatifolia, Ozothamnus secundiflorus, Ozothamnus alpinus, Olearia phlogopappa, Orites lancifolius, Oxylobium ellipticum.*		
Characteristic groundcovers	*Acaena novae-zelandiae, Asperula gunnii, Carex breviculmis, Lycopodium fastigiatum, Pimelea alpina, Poa fawcettiae, Polystichum proliferum, Senecio gunnii.*		
Mean native richness	16		
Exotic species / HTW cover	*Acetosella vulgaris, Agrostis capillaris*		
Condition	Moderate		
Variation and disturbance	PCT 644 is in moderate condition within the zone and has been affected by historic tree and shrub removal for ski slopes management.		
No. sites sampled	1		
Threatened flora species	-		
Fauna habitats	Broad-toothed Rat and Flame Robin.		
Composition	**Structure**	**Function**	**Vegetation Integrity Score**
69.5	70.9	29.7	52.7

Figure 4: Plant Community Types

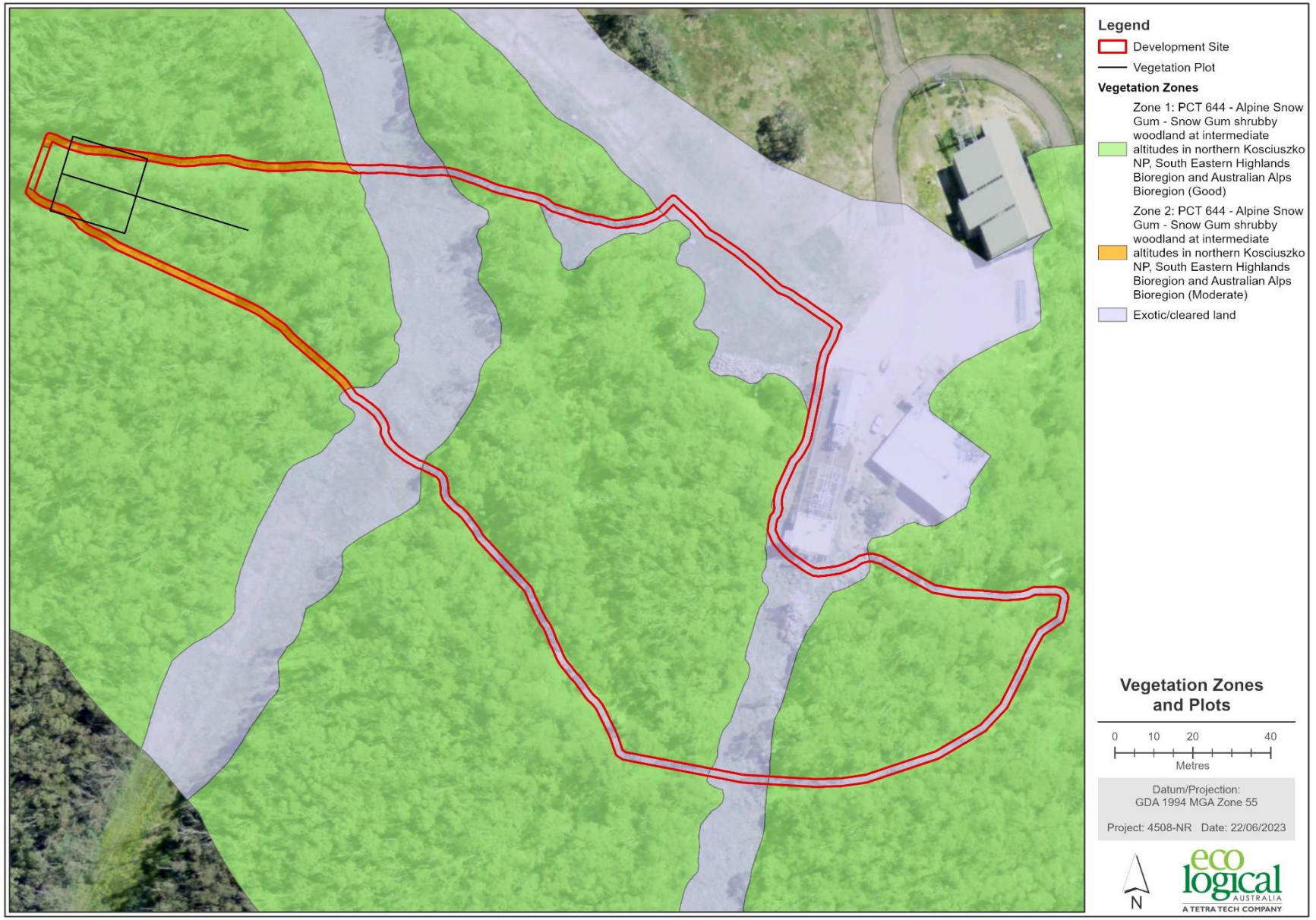

Figure 5: Vegetation Zones and Plots

Table 10: Vegetation integrity scores

Veg Zone	PCT ID	Condition	Area (ha)	Composition Condition Score	Structure Condition Score	Function Condition Score	Presence of Hollow bearing trees	Current vegetation integrity score
1	644	Good	0.01	43.4	90.4	51.3	No	58.6
2	644	Moderate	0.05	69.5	70.9	29.7	No	52.7

3.6. Use of local data

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

4. Threatened species

4.1. Ecosystem credit species

Ecosystem credit species predicted to occur within the development site are generated by the BAMC following the input of VI data and the PCTs identified within Chapter 3. Ecosystem credit species predicted to occur at the development site, their associated habitat constraints, geographic limitations and sensitivity to gain class are included in Table 11.

Table 11: Predicted ecosystem credit species

Species	Common Name	Habitat Constraints	Geographic limitations	Sensitivity to gain class	NSW listing status	EPBC Listing status
Artamus cyanopterus cyanopterus	Dusky Woodswallow	-	-	Moderate	Vulnerable	Not Listed
Callocephalon fimbriatum (foraging)	Gang-gang Cockatoo	-	-	Moderate	Vulnerable	Endangered
Daphoenositta chrysoptera	Varied Sittella	-	-	Moderate	Vulnerable	Not Listed
Dasyurus maculatus	Spotted-tailed Quoll	-	-	High	Vulnerable	Endangered
Falsistrellus tasmaniensis	Eastern False Pipistrelle	-	-	High	Vulnerable	Not Listed
Haliaeetus leucogaster (Foraging)	White-bellied Sea-Eagle	N/A Waterbodies Within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines	-	High	Vulnerable	Not Listed
Hieraaetus morphnoides (Foraging)	Little Eagle	-	-	Moderate	Vulnerable	Not Listed
Hirundapus caudacutus	White-throated Needletail	-	-	High	Not Listed	Vulnerable
Petroica boodang	Scarlet Robin	-	-	Moderate	Vulnerable	Not Listed
Petroica phoenicea	Flame Robin	-	-	Moderate	Vulnerable	Not Listed

4.2. Species credit species

4.2.1. Identification of species credit species

Species credit species that require further assessment within the development site (i.e. candidate species), their associated habitat constraints, geographic limitations and sensitivity to gain class are included in Table 12.

Table 12: Candidate species credit species

Species	Common Name	Habitat Constraints	Geographic limitations	Sensitivity to gain class	NSW listing status	EPBC Listing status
Mastacomys fuscus	Broad-toothed Rat	-	-	High	Vulnerable	Vulnerable
Miniopterus orianae oceanensis (Breeding)	Large Bent-winged Bat	Caves Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave" observation type code "E nest-roost" with numbers of individuals >500	-	Very High	Vulnerable	Not Listed

4.2.2. Assessment of habitat constraints and vagrant species

Justification for the exclusion of other candidate species credit species is provided in Table 13.

Table 13: Justification for exclusion of candidate species credit species

Species	Common Name	NSW listing status	EPBC Listing status	Sensitivity to gain class	Justification for exclusion of species
Miniopterus orianae oceanensis (Breeding)	Large Bent-winged Bat	Vulnerable	Not Listed	Very High	There are no suitable caves that could be used as breeding roosts within the development site.

4.2.3. Candidate species requiring further assessment

One species credit species required further assessment following site survey to assess the condition of the development site and the presence of microhabitats; *Mastacomys fuscus* (Broad-toothed Rat).

4.3. Targeted surveys

The streamlined assessment method only requires targeted surveys for candidate SAII species. The development site does not meet the habitat constraints of any of the candidate species credit species that are candidate SAII species. One species credit species, the Broad-toothed Rat, was incidentally recorded within the development site or immediate surrounds and was added as candidate species.

Targeted surveys for relevant threatened species known from locality were undertaken within the development site and immediate surrounds on the dates outlined in Table 14. Weather conditions during the targeted surveys are outlined in Table 15 and survey effort is outlined in Table 16.

Table 14: Targeted surveys

Date	Surveyors	Target species
31 March 2023	Ryan Smithers	Broad-toothed Rat and Anemone Buttercup

Table 15: Weather conditions

Date	Rainfall (mm)	Minimum temperature 0C	Maximum temperature 0C
31 March 2023	-	10	12

Table 16: Survey effort

Method	Habitat (ha)	Stratification units	Total effort	Target species
Targeted searches	Approx. 0.1 ha	Suitable habitats within and immediately surrounding the development site	1 person hour	Broad-toothed Rat
Targeted threatened flora searches	Approx. 0.1 ha	Suitable habitats within and immediately surrounding the development site	1 person hour	Anemone Buttercup

The characteristic scats of the Broad-toothed Rat were scattered in low densities throughout the development site and surrounds, as they are in suitable habitats throughout much of the locality.

Following completion of field surveys, the species credit species included in the assessment are outlined in Table 17**.**

Table 17: Species credit species included in the assessment

Species	Common Name	Species presence	Geographic limitations	Habitat (ha) / count	Biodiversity Risk Weighting
Mastacomys fuscus	Broad-toothed Rat	Yes	-	0.01	2

4.3.1. Species credit species included in the assessment

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

4.4. Identification of prescribed additional biodiversity impact entities

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

Figure 6: Species polygons

5. Avoiding and Minimising Impacts on Biodiversity Values

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

5.1.1. Direct and indirect impacts

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

- Locating the proposed trail predominately in disturbed areas.
- Minimising the disturbance footprint associated with construction.
- Changing the location of the trail to minimise impacts on less disturbed native vegetation.
- Changing the location of the trail to avoid wet areas.
- Designing and constructing the trail to avoid the need for mature tree removal.
- Using low impact construction methods.
- Undertaking post construction rehabilitation.

5.1.2. Prescribed biodiversity impacts

The proposal does not involve any prescribed biodiversity impacts.

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

5.2.1. Direct and indirect impacts

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

5.2.2. Prescribed biodiversity impacts

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

6. Assessment of Impacts

6.1. Direct impacts

The direct impacts of the development on:

- Native vegetation are outlined in Table 18.
- Threatened species and threatened species habitat is outlined in Table 19.
- Prescribed biodiversity impacts is outlined in Section 6.4.

Table 18: Direct impacts to native vegetation

PCT ID	PCT Name	BC Act listing	EPBC Act listing	Direct impact (ha)
644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not listed	Not Listed	0.05

Table 19: Direct impacts on threatened species and threatened species habitat

Species	Common Name	Direct impact number of individuals / habitat (ha)	BC Act listing status	EPBC Act Listing status
Mastacomys fuscus	Broad-toothed Rat	0.01	Vulnerable	Vulnerable

6.2. Change in vegetation integrity

The change in vegetation integrity as a result of the development is outlined in Table 20.

Table 20: Change in vegetation integrity

Veg Zone	PCT ID	Condition	Area (ha)	Current vegetation integrity score	Future vegetation integrity score	Change in vegetation integrity
1	644	Good	0.01	58.6	0	-58.6
2	644	Moderate	0.04	52.7	0	-52.7

6.3. Indirect impacts

The indirect impacts of the development are outlined in Table 21. Given the nature of the proposed development, and the proposed mitigation measures, indirect impacts (in the form of increased light and wind penetration) are only anticipated to extend a maximum of 10 m into vegetation surrounding the proposed development site. Indirect impact zones are shown on Figure 7.

6.4. Prescribed biodiversity impacts

The proposal does not involve any prescribed biodiversity impact.

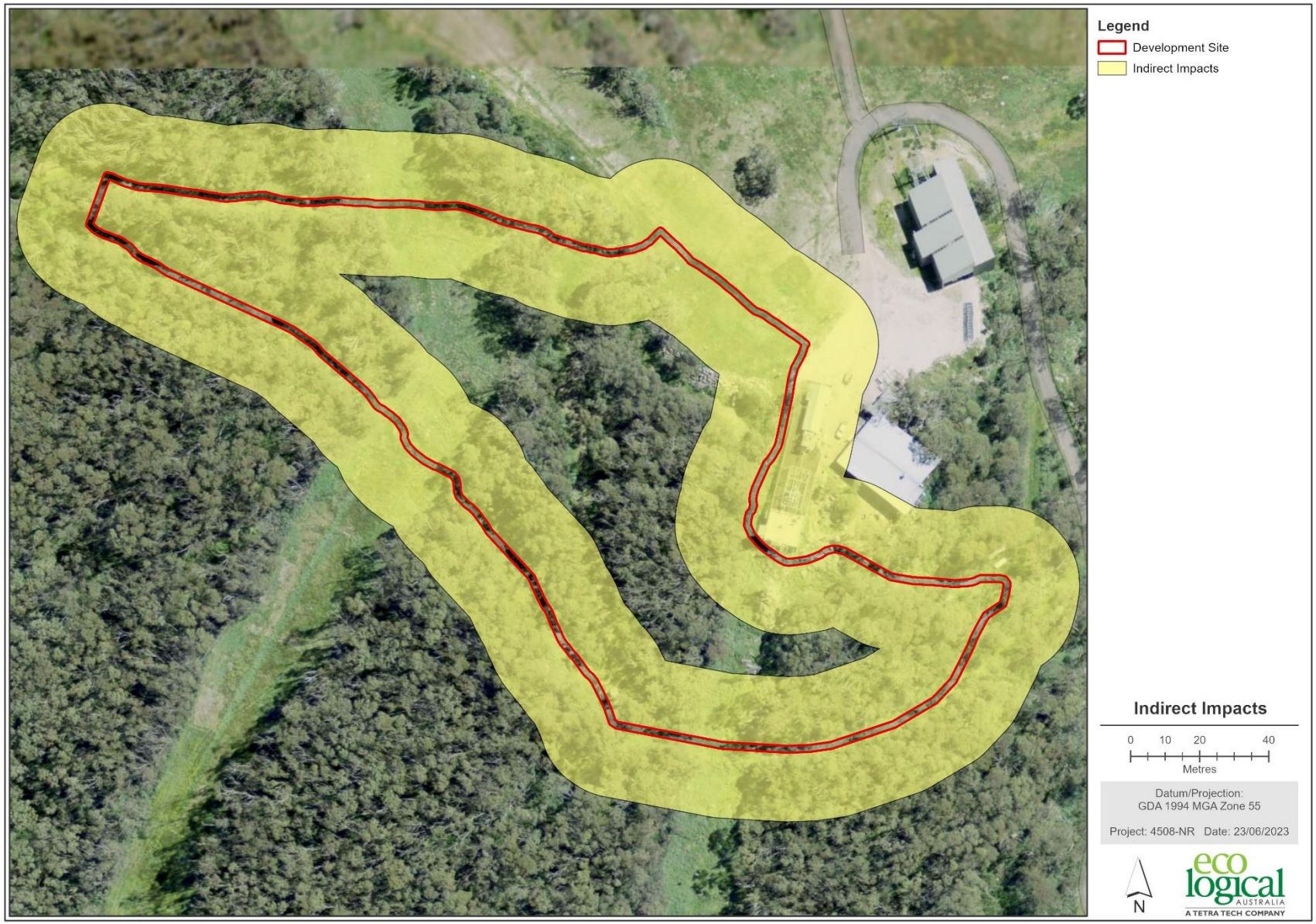

Figure 7: Indirect impact zones

Table 21: Indirect impacts

Indirect impact	Project phase	Nature	Extent	Frequency	Duration	Timing
Sedimentation and contaminated and/or nutrient rich run-off	Construction and post construction	Minor potential for sedimentation during and immediately post-construction. However, the proposed sediment control measures have been effective during the many other similar developments that have been undertaken within the alpine resorts in recent years.	Minor	During and after any heavy rainfall	12 month maximum	Intermittently during and post construction phase
Noise, dust or light spill	Construction	Minor during construction.	Minor	Intermittently during construction phase	During construction	Intermittently during construction phase
Inadvertent impacts on adjacent habitat or vegetation	Construction	Minor. The construction methods used at Thredbo have been effective at preventing impacts on adjacent vegetation during the many other similar developments that have been undertaken in recent years.	Minor	Not expected, but possible	During construction	Not expected
Transport of weeds and pathogens from the site to adjacent vegetation	Construction	Not expected. The development site includes and abuts areas that are already heavily modified and which support weeds which are common within the Thredbo Resort area and elsewhere within the NSW Alps. The proposal will include post construction rehabilitation and weed control.	Not expected	Not expected, but possible	Not expected	Not expected
Vehicle strike	Construction	Minor. It is considered unlikely that the proposal will include vehicle strike impacts. Any vehicles used during construction will be travelling at very slow speeds within the development site and the noise and vibration associated with vehicle movements is expected to deter any fauna within or adjoining the development site from the path of any vehicles.	Not expected	Not expected, but possible	During construction	Not expected
Trampling of threatened flora species	Construction	Minor. There are no threatened flora species within the development site.	Minor	Not expected	During construction	Not expected
Rubbish dumping	Construction	Not expected. Construction materials will be removed from the site regularly and no rubbish will be dumped or otherwise left to pollute the surrounding environment.	Not expected	Not expected	Not expected	Not expected
Wood collection	Construction	Not expected.	Not expected	Not expected	Not expected	Not expected

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

6.5. Mitigating and managing direct and indirect impacts

Measures proposed to mitigate and manage impacts at the development site before, during and after construction are outlined in Table 22.

6.6. Mitigating prescribed impacts

The development does not have any prescribed biodiversity impacts.

6.7. Adaptive management strategy

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

Table 22: Measures proposed to mitigate and manage impacts

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
Displacement of resident fauna	Medium	Low	If any active wombat burrows are detected in close proximity to the trail alignment during the construction phase, then the trail should be realigned to avoid the burrow	Fauna within the disturbance footprint should move and thus any injury to fauna species during construction should be avoided	During construction	Thredbo
Timing works to avoid critical life cycle events such as breeding or nursing	Low	Low	None proposed.	NA	NA	NA
Instigating clearing protocols including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecologist or licensed wildlife handler during clearing events	Low	Low	None proposed.	NA	NA	NA
Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed	Medium	Low	Identify with flagging tape the alignment of the stairs, where the trail encroaches upon relatively undisturbed native vegetation, prior to construction	Risk of disturbance beyond proposed disturbance corridor is reduced	Prior to construction	Thredbo
Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment	Medium	Low	Sediment control measures as necessary such as fencing and hay bales	Risk of sedimentation of water quality impacts substantially reduced	During and post-construction	Thredbo
Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise	Low	Low	Restrict work to daylight hours	Noise impacts mitigated	During construction	Thredbo
Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill	Low	Low	Restrict work to daylight hours	Light impacts mitigated	During construction	Thredbo
Adaptive dust monitoring programs to control air quality	Low	Low	None proposed	NA	NA	NA

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

7. Impact summary

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

7.1. Serious and Irreversible Impacts (SAII)

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

7.2. Impacts requiring offsets

The impacts of the development requiring offset for native vegetation are outlined in Table 23 and shown on Figure 8. The impacts of the development requiring offset for species credit species and their habitats are outlined in Table 24 and on Figure 8.

Table 23: Impacts to native vegetation that require offsets

Vegetation Zone	PCT ID	PCT Name	Vegetation Class	Vegetation Formation	Direct impact (ha)
1	644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Subalpine Woodlands	Grassy Woodlands	0.01
2	644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Subalpine Woodlands	Grassy Woodlands	0.04

Table 24: Impacts on threatened species and threatened species habitat that require offsets

Species	Common Name	Direct impact number of individuals / habitat (ha)	BC Act listing status	EPBC Act Listing status
Mastacomys fuscus	Broad-toothed Rat	0.01	Vulnerable	Vulnerable

7.3. Impacts not requiring offsets

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

7.4. Areas not requiring assessment

No parts of the proposed development do not require assessment.

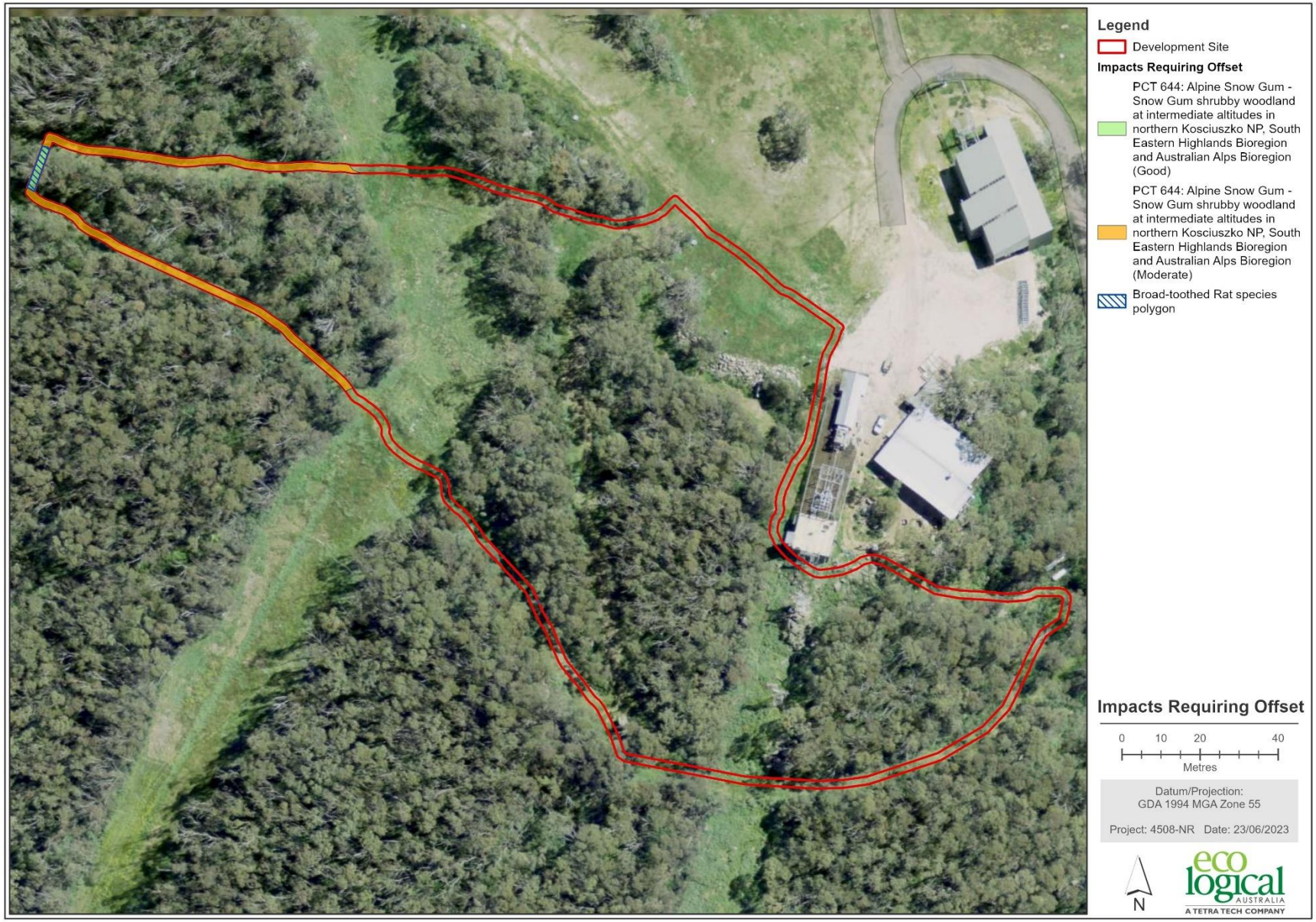

Figure 8: Impacts requiring offset

Figure 9: Impacts not requiring offset

7.5. Credit summary

The number of ecosystem credits required for the development are outlined in Table 25. Assuming the entire development footprint was PCT 644 in good condition resulted in one credit whereas creating two zones (moderate and good) resulted in a two credit obligation. That is, a greater impact resulted in a lower credit obligation, on the basis that there were two zones of very small size rather than one zone. This is regarded as a perverse outcome, given the very minor impacts of the proposed development, and the fact that 75% of the impacts on PCT 644 will comprise minor shrub removal and trimming. Under these circumstances, it was considered appropriate to run the BAMC assuming only one zone (Good) which produced the more appropriate one credit obligation.

The number of species credits required for the development are outlined in Table 26.

A biodiversity credit report is included in Appendix F.

Table 25: Ecosystem credits required

Vegetation Zone	PCT ID	PCT Name	Condition	Credit Class	Direct impact (ha)	Credits required
1&2	644	Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Good	Grassy Woodlands	0.05	1

Table 26: Species credit summary

Species	Common Name	Direct impact number of individuals / habitat (ha)	Credits required
Mastacomys fuscus	Broad-toothed Rat	0.01	1

8. Consistency with legislation and policy

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

An impact assessment under the EPBC Act was undertaken on MNES known to occur within the development footprint or immediate surrounds or with potential to occur there. These MNES were:

- Broad-toothed Rat

The outcome of this assessment was that it is highly unlikely that the development would significantly impact on the Broad-toothed Rat (Appendix D).

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

9. Recommendations

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

- The mitigation measures identified in Table 22 should be incorporated into the proposal.

10. Conclusion

Eco Logical Australia Pty Ltd was engaged by Kosciuszko Thredbo Pty Ltd to prepare a BDAR for the proposed construction of a new walking trail in the Cruiser ski area, within Thredbo Alpine Resort.

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

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

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

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

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Appendix A - Definitions

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

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

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

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

Appendix B - Vegetation Floristic Plot Data

Table 27: Species recorded in the plots and incidentally elsewhere within the development site or immediate surrounds.

Family	Species	Common Name	Listing Status	ROTAP	Exotic	High Threat Weed	Growth Form Group	Plot 1		
								Stratum	Cover	Abundance
Rosaceae	*Acaena* sp. Thredbo River Gorge (L.A.S.Johnson & E.F.Constable s.n., 19 Jan 1951)	-	,				Forb (FG)	g	0.2	5
Polygonaceae	*Acetosella vulgaris*	Sheep Sorrel	,		*	1		g	0.1	20
Poaceae	*Agrostis capillaris*	Browntop Bent	,		*	1		g	0.1	5
Fabaceae (Faboideae)	*Bossiaea foliosa*	Leafy Bossiaea	,				Shrub (SG)	m	25	50
Phormiaceae	*Dianella tasmanica*		,				Forb (FG)	g	0.1	1
Onagraceae	*Epilobium gunnianum*	Gunn's Willow-herb	,				Forb (FG)	g	0.3	20
Myrtaceae	*Eucalyptus niphophila*		,				Tree (TG)	u	30	20
Haloragaceae	*Gonocarpus montanus*		,				Forb (FG)	g	0.2	5
Asteraceae	*Olearia phlogopappa.*		,				Shrub (SG)	m	4	50
Fabaceae (Faboideae)	*Oxylobium ellipticum*	Common Shaggy Pea	,				Shrub (SG)	g	0.1	1
Asteraceae	*Ozothamnus secundiflorus*	Cascade Everlasting	,				Shrub (SG)	m	10	20
Thymelaeaceae	*Pimelea axiflora* subsp. *alpina*		,				Shrub (SG)	m	0.3	3
Poaceae	*Poa ensiformis*	Purple-sheathed Tussock-grass	,				Grass & grasslike (GG)	g	4	500
Poaceae	*Poa fawcettiae*	Smooth Blue Snowgrass	,				Grass & grasslike (GG)	g	75	2000
Dryopteridaceae	*Polystichum proliferum*	Mother Shield Fern	,				Fern (EG)	g	0.2	5
Asteraceae	*Senecio gunnii*		,				Forb (FG)	g	0.1	1
Caryophyllaceae	*Stellaria pungens*	Prickly Starwort	,				Forb (FG)	g	1	50
Winteraceae	*Tasmannia xerophila* subsp. *xerophila*	Alpine Pepperbush	,				Shrub (SG)	m	1	5

Appendix C - Vegetation Integrity Plot Data

Table 28: Plot location data

Plot no.	PCT	Condition	Easting	Northing	Bearing
1	644	Good	616933	5960781	270

Table 29: Vegetation integrity data (composition)

Composition (number of species)						
Plot	Tree	Shrub	Grass	Forb	Fern	Other
1	1	6	2	6	1	0

Table 30: Vegetation integrity data (Structure)

Structure (Total cover)						
Plot	Tree	Shrub	Grass	Forb	Fern	Other
1	0	0	49	30	1	1

Table 31: Vegetation integrity data (Function)

Function											
Plot	Large Trees	Hollow trees	Litter Cover	Length Fallen Logs	Tree Stem 5-9	Tree Stem 10-1 9	Tree Stem 20-29	Tree Stem 30-49	Tree Stem 50-79	Tree Regen	High Threat Weed Cover
1	0	0	49	30	1	1	1	1	0	1	0.2

Appendix D - EPBC Act Significant Impact Criteria

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

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

Specific 'Significant Impact Criteria' are provided for each matter of national environmental significance except for threatened species and ecological communities in which case separate criteria are provided for species listed as endangered and vulnerable under the EPBC Act.

The Commonwealth listed species which are known or considered to have the potential to occur within the study area are the:

- Broad-toothed Rat.

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

Matters to be considered	Impact
Any environmental impact on a World Heritage Property or National Heritage Places	No. The proposed action does not impact on a World Heritage Property or a National Heritage Place - (listed natural: Australian Alpine National Parks and Reserves; nominated historic: Snowy Mountains Scheme NSW).
Any environmental impact on Wetlands of International Importance	No. The proposal will not affect any part of a wetland of international importance.
Any impact on Commonwealth Listed Critically Endangered or Endangered Species;	No. The development footprint does not provide potential habitat for any Commonwealth listed endangered species.
Any impact on Commonwealth Listed Vulnerable Species;	Yes. The development footprint provides known habitat for one Commonwealth listed vulnerable species: the Broad-toothed Rat. The significant impact criteria in terms of the vulnerable species are discussed below: a. lead to a long-term decrease in the size of an important population of a species. Whilst the proposed action will affect some known Broad-toothed Rat habitat, it will affect only a very small amount (0.01 ha) of the potential habitat for the species in the immediate area. As such, the proposed works are unlikely to adversely affect a significant proportion of the home range of one or more Broad-toothed Rat individuals and will not result in habitat fragmentation which could isolate individuals or a population of the Broad-toothed Rat. The noise and vibration associated with the proposed works is likely to temporarily deter any Broad-toothed Rat individuals that may be near the affected areas. As such, it is unlikely that any individuals would be killed during the implementation of the proposed action.

Matters to be considered	Impact
	Under these circumstances the proposed action will not lead to a long-term decrease in the size of an important population of the Broad-toothed. b. reduce the area of occupancy of an important population It is highly likely that the Broad-toothed Rat will continue to occur within the development site after the implementation of the proposed action. The species continues to be locally common in the Thredbo Resort Area where there have been many similar and larger developments over many decades. As such, the proposed action is highly unlikely to reduce the area of occupancy of the Broad-toothed Rat. c. fragment an existing important population into two or more populations The proposed action will not fragment an existing important population of the Broad-toothed Rat into two or more populations. The species population extends beyond the development site and the Thredbo Resort Area. d. adversely affect habitat critical to the survival of a species No habitat within the development site is considered to be critical to the survival of the Broad-toothed Rat. e. disrupt the breeding cycle of an important population The proposed action and affected area is too small to disrupt the breeding cycle of a population of the Broad-toothed Rat. f. modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline The proposed action will not modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the Broad-toothed Rat is likely to decline as the habitat to be affected is very small in the context of the available habitat within the Thredbo Resort Area and the proposal will not cause any additional fragmentation of habitat or barriers to movement. g. result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat The proposed action will not result in invasive species that are harmful becoming established in habitat for the Broad-toothed Rat. Invasive species, including foxes and cats, are already present. h. introduce disease that may cause the species to decline The proposed action is unlikely to introduce disease that may cause the Broad-toothed Rat to decline. i. interferes substantially with the recovery of the species. Whilst there have been documented declines in some Broad-toothed Rat populations within the Snowy Mountains, these declines have been attributed to factors such as major bushfire events and early snow thaws, and not impacts of the nature of those proposed. The local population of the Broad-toothed Rat appears to continue to be relatively large on the basis of the abundance of the species scats throughout the Thredbo Resort Area- including within the village, and in areas that have been subject to the sorts of activities proposed. As such, it is considered highly unlikely that proposed action will substantially interfere with the recovery of the Broad-toothed Rat.
Any impact on a Commonwealth Endangered Ecological Community	No endangered ecological communities occur within the development site.
Any environmental impact on Commonwealth Listed Migratory Species;	No. The proposed action will not have any adverse impacts on any listed migratory species.
Does any part of the Proposal involve a Nuclear Action;	No. The project does not include a Nuclear Action.
Any environmental impact on a Commonwealth Marine Area;	No. There are no Commonwealth Marine Areas within the study area.

Matters to be considered	Impact
In addition- any direct or indirect impact on Commonwealth lands	No. The project does not directly or indirectly affect Commonwealth land.

Appendix E - Staff CVs

CURRICULUM VITAE

Ryan Smithers

SENIOR ECOLOGIST

QUALIFICATIONS

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

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

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

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

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

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

RELEVANT PROJECT EXPERIENCE

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

Appendix F - Biodiversity credit report

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00037803/BAAS17061/23/00037804

Proposal Name
Harusch Walking trail

BAM data last updated *
22/06/2023

Assessor Name
Ryan Smithers

Assessor Number
BAAS17061

BAM Data version *
61

Proponent Names

Report Created
07/07/2023

BAM Case Status
Finalised

Assessment Revision
7

Assessment Type
Part 4 Developments (Small Area)

Date Finalised
07/07/2023

BOS entry trigger
BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

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

Species
Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

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

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
644-Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	0.1	0	1	1

BAM Biodiversity Credit Report (Like for like)

644-Alpine Snow Gum - Snow Gum shrubby woodland at intermediate altitudes in northern Kosciuszko NP, South Eastern Highlands Bioregion and Australian Alps Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	644_Good	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Mastacomys fuscus / Broad-toothed Rat	**644_Good**	0.1	1.00

Credit Retirement Options

Like-for-like credit retirement options

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

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Appendix D Site Environmental Management Plan

Site Environmental Management Plan (SEMP)

Harusch Walking Track

Thredbo Alpine Resort
Kosciuszko National Park, NSW

July 2023

Document Control

Revision	Date	Revision Type	Author	Reviewed by
A	05.07.2023	Draft	C.Chalk	K.Delpit
0	13.07.2023	Final	C.Chalk	K.Delpit

Kosciuszko Thredbo Pty Ltd
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www.thredbo.com.au

Contents

Figures

Tables

1 Introduction

This Site Environmental Management Plan (SEMP) has been prepared for implementation by Kosciuszko Thredbo Pty Ltd (KT) (and its contractors) for the Harusch Walking Track (the Project).

KT requires a SEMP to support the Development Application (DA) for the Project, situated in Thredbo Alpine Resort (Thredbo), approximately 35 kilometres (km) south-west of Jindabyne, New South Wales.

1.1 Purpose

This SEMP has been developed to outline how construction activities for the Project are to be managed in order to maintain and protect the environmental values of the Project site and surrounds.

1.2 Objective

The objectives of this SEMP are to:

- Provide mitigation measures to minimise the potential for environmental harm and/or environmental nuisance.
- Provide guidance for the development of detailed construction environmental management plans.
- Ensure all Project Personnel understand individual roles and responsibilities.
- Provide corrective actions to be implemented in the event of environmental harm and/or environmental nuisance.
- Ensure Project personnel understand incident and emergency response procedures.

2 Reference Documentation

2.1 Applicable Legislation

The Project will be carried out in accordance with the applicable legislative requirements outlined in the following Acts and subordinate legislation:

- *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*
- *Biodiversity Conservation Act 2016*
- *Environmental Planning and Assessment Act 1979*
- *Environmentally Hazardous Chemicals Act 1985*
- *Heritage Act 1977*
- *National Parks and Wildlife Act 1974*
- *Protection of the Environment Operations Act 1997*
- *Waste Avoidance and Resource Recovery Act 2001*
- *Water Management Act 2000*
- *Work Health and Safety Act 2011.*

2.2 Approvals

The Project will be carried out in accordance with the Development Consent. No other approvals are required.

2.3 Supporting Documents

Document	Title	Prepared by	Document Reference
Approval	Development Consent	DPE	-
SEE	Statement of Environmental Effects – Harusch Walking Track	KT	Rev 0, 13 July 2023
BDAR	Proposed Harusch Walking Trail, Thredbo Alpine Resort – Biodiversity Development Assessment Report	Eco Logical Australia Pty Ltd	Version 2, 7 July 2023
Geotechnical Assessment	Harusch Walking Track, Thredbo NSW: Proposal for Geotechnical Assessment	AssetGeoEnviro	7227-R1, Rev 1, 13 July 2023
Procedure	Construction Site Incident and Emergency Procedures Thredbo Village	Kosciuszko Thredbo Pty Ltd	2021/22
Procedure	Emergency Response Spill Procedure	Kosciuszko Thredbo Pty Ltd	1
Procedure	Standard Operating Procedure: Use and Maintenance of Wash Down Bay (KT055)	Kosciuszko Thredbo Pty Ltd	March 2019

2.4 Guidelines

- Guideline for the Preparation of Environmental Management Plans (DIPNR 2004).
- Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition (Landcom 2004).
- Managing Urban Stormwater: Soils and Construction, Volume 2A, Installation of services (NSW DECC 2008).

3 Project Description

The walking track is a short loop (approx. 730 m) commencing and terminating at the top of Merritts Gondola. The track generally follows existing access tracks and other disturbed areas. A small section of the alignment will require the clearing of native vegetation. A copy of the Site Plan is provided in **Appendix A**.

4 Construction Management Details

4.1 Construction Site Access

The Development site is accessible via the Mountain summer access road. Access to the site will be via the existing access track and ski slopes.

4.2 Construction Activities

The proposed construction techniques will include (but not limited to):

- Site establishment, including installation of temporary signage, delineation of the construction corridor with flagging/fencing, as required.
- Marking of vegetation to be removed and no-go areas.
- Vegetation clearing and trimming. Trim overhanging tree limbs where required and brush cut either side of the track to ensure clear pathway.

- Installation of temporary erosion and sediment controls as required.
- Construction of track using techniques outlined in **Table 1**.
- Backfilling of open excavation on Dream Run ski slope using clean fill.
- Construction of stairway, including vegetation removal, pegging/flagging of footings, pouring of concrete footings and installation of pre-fabricated stairway.

Post-construction activities will include:

- Site stabilisation and rehabilitation in accordance with the Rehabilitation Plan.
- Removal of machinery and equipment.
- Removal of temporary erosion and sediment controls once site has been stabilised.
- Site clean-up.

Table 1: Construction Techniques

Technique / Method	Comment
Track surface	The Track alignment predominately follows an existing cleared access track which is grass-covered with some minor shrubs. The last section of the track currently comprises a gravel surface which was constructed as part of the recent Merritts Services upgrade works. Construction of the track surface will include: • Mark the alignment with flagging tape or similar, as required. Align the trail to avoid impacts to native vegetation where possible. • Clear the track alignment of ground covers/shrubs/roots with excavator. • Compact the subgrade with decomposed granite or road base, as required. Geotextile material can be installed between the soil and gravel to create a base layer and improve track stability.
Drainage	Appropriate drainage will be incorporated in the track to redirect water away from the track and to reduce erosion of the track surface, such as: • Rock drainage crossing / rock steps: Larger rocks to be placed across drainage lines that traverse the track to allow water to drain unimpeded through these areas. Ensure rocks are placed at either end of the drainage line crossing to help avoid erosion. • Water bars: Incorporate water bars at an angle across the track on slopes where required to manage surface run-off and reduce erosion impacts to the track. Water bars may be constructed as an open cross drain or constructed with rocks. Rocks to be set on a stable base of fine crushed rock and/or compacted sub-grade. Ensure water bars extend beyond the edge of the track on the downhill site to help disperse water. • Outsloping: Where required, outsloping of the track will be used to encourage water to sheet across and off the track. • Box/Grate Drains: Incorporate ready to install box drains on flatter sections of track to avoid any water pooling in track. Box drain are to be installed at appropriate angles for effective drainage.

Example of drainage line that will require rock drainage crossing

4.3 Vehicles, Machinery and Equipment

The Development will require (but not limited to) the following vehicles, machinery and equipment:

- Manitou/forklift;
- 4WD vehicles and utilities;
- Excavator;
- Plate compactor;
- Auger;
- Concrete mixer;
- Chainsaws; and
- Brush cutters.

4.4 Construction Corridor and Disturbance

The walking track alignment generally follows the former Harusch ski run, access tracks and other highly disturbed areas, except for the short section where a stairway is proposed.

The track will be 0.9 m wide on average. The expected average disturbance footprint during construction is 2 m in width. Where stairs are proposed, the disturbance footprint is expected to be up to 3 m wide.

4.5 Site Compound

Due to the nature and size of the Project no site compound is required within the construction corridor.

4.6 Stockpile Sites

Temporary stockpiles may be required within the construction corridor to effectively manage excavated materials, spoil, soil and vegetation during the works. Soil will be separated so that it can be used during rehabilitation works. The main stockpile sites are identified in **0**.

All stockpiles will be managed in accordance with the environmental controls in **Section 6.2.2.**

4.7 Material Storage Areas

Materials will be temporarily stored at the flat area outside of Merritts Mountain House (refer **0**) and transported to site as required.

4.8 Work Hours

The working hours for construction will be outlined in the Development Consent.

4.9 Adverse Weather Contingencies

Adverse weather events (e.g. high winds, thunderstorms, heavy rain, hail, snow, bushfire and high temperatures) have the potential to negatively impact upon construction activities. To ensure appropriate consideration of such events, the Construction Manager / Site Project Manager will monitor weather conditions throughout the construction period. The Bureau of Meteorology (BoM) Thredbo AWS station provides daily weather observation data for the resort. The NSW Rural Fire Service website 'Fires Near Me' includes information on current bush fires and other incidents, as well as warnings for fires which may affect your location.

If adverse weather events are anticipated and/or occur during construction, contingencies will be implemented and arrangements will be made to postpone construction activities.

The Construction Manager / Site Project Manager will be responsible for notifying construction staff of any impending adverse weather, and to implement appropriate controls onsite, such as:

- Erecting wind breaks or covering stockpiles to prevent materials being blown away.
- Evaluate temporary sediment and erosion controls to ensure they are adequately installed to withstand adverse weather events.
- Discontinue use of plant and machinery.
- Secure materials and equipment.
- Protect open excavations.

5 Environmental Management

5.1 Roles and Responsibilities

The Project team structure is provided in **Figure 1**.

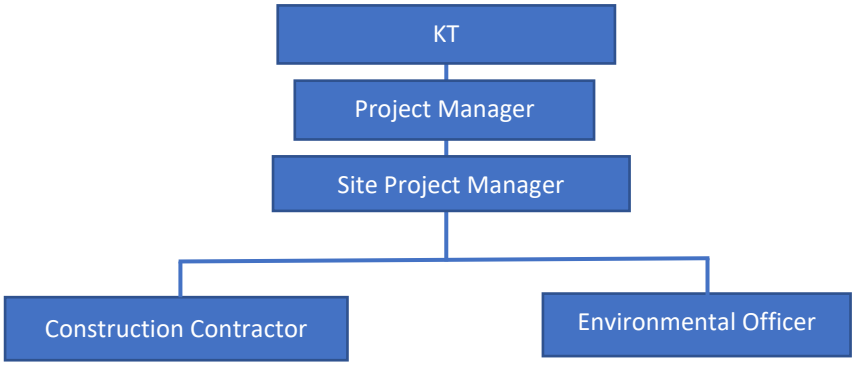


Figure 1: Project Team Structure

The roles and responsibilities are outlined below.

Role	Responsibilities
Project Manager	• Ensure the SEMP is made available, communicated, maintained and understood by all Project staff. • Responsible for the overall management of the construction and operation of the Project. • Ensure the SEMP is updated with applicable conditions of approval following the provision of Development Consent from Department of Planning and Environment (DPE). • Ensure that the requirements of the SEMP and sub-plans have been addressed in all contractor environmental management documentation. • Review of incidents, non-conformances and non-compliance. • Ensuring Project personnel and contractors are adequately trained and qualified to fulfil their roles.
Site Project Manager	• Implement and maintain the SEMP. • Ensure all Project personnel comply with the requirements of the SEMP. • Report any incidents, non-conformances to the Project Manager.
Environmental Officer	• Oversee all works which are part of the Project on behalf of KT. • Ensure compliance with all environmental protection measures detailed in the SEMP, supporting management plans and conditions of approval. • Ensure all environmental controls are in place and adequately functioning during construction. and • Conduct construction inspections and complete reporting requirements e.g. progress reports, environmental incidents, non-compliance, corrective action and auditing.
All Personnel	• Comply with requirements of this SEMP. • Report any actual or potential environmental incidents to the Construction Manager immediately. • Identify and report non-conforming or potentially hazardous work practices, equipment, machinery or products. • Only perform tasks for which they are trained and competent. • Assist with environmental incident investigations and applying corrective actions. • Ensure all machinery, plant and equipment are in good working order and condition prior to use.
Construction Contractor	• Comply with SEMP and legislative requirements. • Construction contractor to develop and implement management plans in accordance with this SEMP, conditions of approval and contractual obligations.

5.2 Communication and Consultation

5.2.1 Training and Awareness

All Project staff will be made aware of the site-specific environmental controls through a site induction, and pre-start meetings / toolbox talks prior to the commencement of construction.

The site induction will cover the following key aspects:

- Roles and responsibilities.
- Overview of environmental risks and specific locations of environmental and/or cultural heritage significance.
- The scope of legislative requirements and other licences and approvals.

- Communication and notification requirements e.g. procedures for notifying and reporting incidents and complaints.
- Environmental management and controls stipulated in this SEMP.
- Workplace health and safety issues.
- Emergency preparedness and response.
- Procedures for notifying and reporting incidents and complaints.

5.2.2 Key Contacts

Key contacts for the Project are provided in **Table 2**. Prior to commencement of works, contact details (name and contact number) will be provided for Project personnel.

Table 2: Key Project Personnel Contact Details

Company / Agency	Role / Reason	Contact
Government Agency Contacts		
Department of Planning and Environment (DPE) (Alpine Resorts Team)	Development approval and compliance	(02) 6456 1733
National Parks and Wildlife Service (NPWS)	Flora, fauna, archaeology	(02) 6450 5600
Environment Protection Agency (EPA)	Water, noise, air pollution and regulation	131 555
NSW Soil Conservation Service	Soil erosion and sediment control	02 9842 8300
Thredbo Village Services		
Thredbo Medical Centre	General medical attention	(02) 6457 6254
Fire and Rescue Thredbo, NSW	Incident / emergency	(02) 6457 6144
Emergency Contacts		
NSW Police	In case of fire, medical or police emergency	000
NSW Fire and Rescue		
NSW Ambulance		

5.2.3 Consultation

KT is committed to ensuring effective communication and consultation is undertaken to inform the development of this SEMP and ensure it is implemented on-site as per the Project roles and responsibilities in **Section 5.1.** Where required, communication with key external stakeholders such as DPE and NPWS will be undertaken. A summary of the key consultation activities is provided in **Table 3**.

Table 3: Summary of Consultation Activities

Consultation Activity	Communication Method	Frequency
Internal	Site inductions	Prior to commencement of works
	Pre-start meetings and toolbox talks	Daily
	Reports to Project Manager identifying project progress, any environmental incidents, and review of any complaints or enquiries	Weekly
External	Face-to-face meetings, phone and email correspondence with relevant Government Departments / Agencies	As required
	In-writing notifications to Government Departments / Agencies and relevant parties	As required

5.2.4 Notification Protocols

A summary of the key notification protocols is provided in **Table 4.** Notification requirements will be updated as required.

Table 4: Regulatory Agency Notification Protocols

Party to Notify	What to Notify	When to Notify	Responsibility to Notify Regulatory Agency
DPE	Commencement of construction	DPE will be notified in writing at least 48 hours prior to the commencement of construction.	Site Project Manager
NPWS	Details of any material suspected of being a European or Aboriginal culturally significant site, relic or artefact.	Immediately upon discovery of any archaeological/culturally significant site or relic that are encountered. NSW Police to also be notified immediately upon discovery of human remains.	Site Project Manager
NSW Environmental Protection Agency	Details of pollution incident – who, what, when, where, how, any other supporting information and evidence (e.g. photos)	Immediately upon identification of pollution incident causing or threatening material harm to the environment, in accordance with KT's *Construction site Incident and Emergency Procedures Thredbo Village 2021/2022*.	KT Environmental Manager

5.3 Environmental Incident and Emergency Response

All Project personnel are required to follow KT's *Construction site Incident and Emergency Procedures Thredbo Village 2021/2022*. The procedure will be available on-site and all Project staff will be trained on their implementation through the site induction. The procedure classifies examples of emergencies and incidents and provides specific procedures for response to such events, such as:

- Serious injuries requirement urgent medical help.
- There are threats to property or life.
- Criminal activity e.g. you have witnessed a serious crime or accident.
- Sewer or water service breaks.
- Bushfire, building fire, spot fire on-site.
- Electricity service faults.
- Leaking gas.
- Fires and explosions.
- Release of pollution e.g. release of sediment into watercourse, chemical spill.

The procedure also outlines general site management principles, incident reporting and notification requirements and provides an emergency contacts list.

In the event of an environmental incident, emergency or near-miss, the following steps should be taken:

1) **STOP** works in the area and if safe to do so ensure the safety of personnel within the vicinity.
2) **NOTIFY** relevant persons e.g. emergency services or Construction Manager.

3) **ISOLATE** the risk or hazard e.g. turn off machinery/plant, implement immediate site controls, set up exclusion zone. and
4) **REPORT** and notify relevant persons (e.g. Project Manager, regulatory agencies).

Environmental incident and near-miss reporting requirements are detailed in **Section 7.3**. Contact details for key Project personnel and emergency services are provided in **Table 2**.

External contractors are required to prepare and implement an emergency and incident response procedure. The contractor will be responsible for responding to any environmental emergency caused by any action (or inaction) of the contractor's staff, including notification requirements to external parties such as EPA and Fire, Fire and Rescue NSW.

6 Environmental Controls

6.1 General

- Ensure works are conducted by suitably qualified and trained personnel.
- Ensure all site environmental management controls relevant to that stage of work are implemented in accordance with the approved plans and conditions of consent.
- Provide approved plans and relevant documentation in the site office or other suitable location so that they are easily assessible by all construction staff.
- Brief all workers as to limit of disturbance footprint and other environmental safeguards (ELA 2023).

6.1.1 Site Establishment

- Establishment of site boundary with temporary fencing, rope or flagging to clearly delineate the construction corridor and "no-go" areas.
- Erection of site signage and pedestrian/traffic controls.
- Installation of erosion and sediment controls.

6.1.2 Machinery and Storage

- All equipment, machinery and vehicles used during construction of the Project must be cleaned prior to entry into the Park and prior to site mobilisation to ensure they are free of mud and vegetative propagules (ELA 2023).
- Equipment, machinery, and vehicles must be regularly maintained and manoeuvred to prevent the spread of exotic vegetation.
- Storage of equipment, machinery, vehicles and material is to be restricted to existing disturbed areas (i.e. at the stockpile, formed roads and within the construction corridors) and avoid undisturbed areas.
- All vehicles and machinery entering Thredbo must adhere to the *Standard Operating Procedure: Use and Maintenance of Wash Down Bay, March 2019 (KT055).*

6.2 Soil and Water Quality

6.2.1 Erosion and Sediment Controls

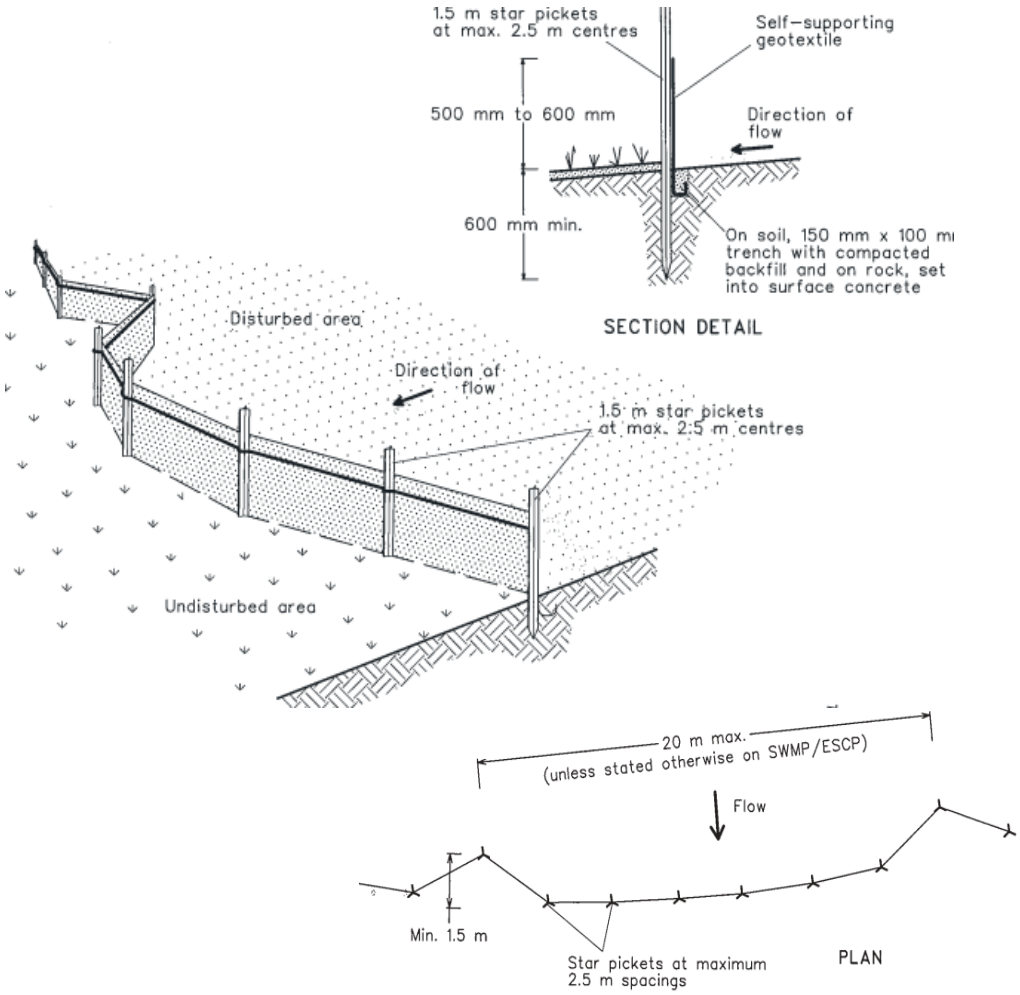
The following erosion and sediment controls are to be utilised during excavation works (down-slope and cross-slope) and stockpiling, as required. Controls are to be installed prior to works and retained in place until exposed areas of soil are stabilised.

6.2.1.1 Sediment Fences and Straw Bales

Sediment fences are to be installed to prevent sediment run-off from active work areas and stockpiling locations.

Construction notes:

1) Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns to limit the catchment area of any one section. **The catchment area should be small enough to limit water flow if concentrated at one point to 50 L/s in the design storm event, usually the 10-year event.*
2) Dig a 150 mm deep trench along upslope line of fence for the bottom of the fabric to be entrenched.
3) Install 1.5 m long star pickets into ground at 2.5 m intervals (max) on the downslope edge of the trench. **Fit star pickets with safety caps.*
4) Fix geotextile to the upslope side of the posts ensuring it goes to the base of the trench.



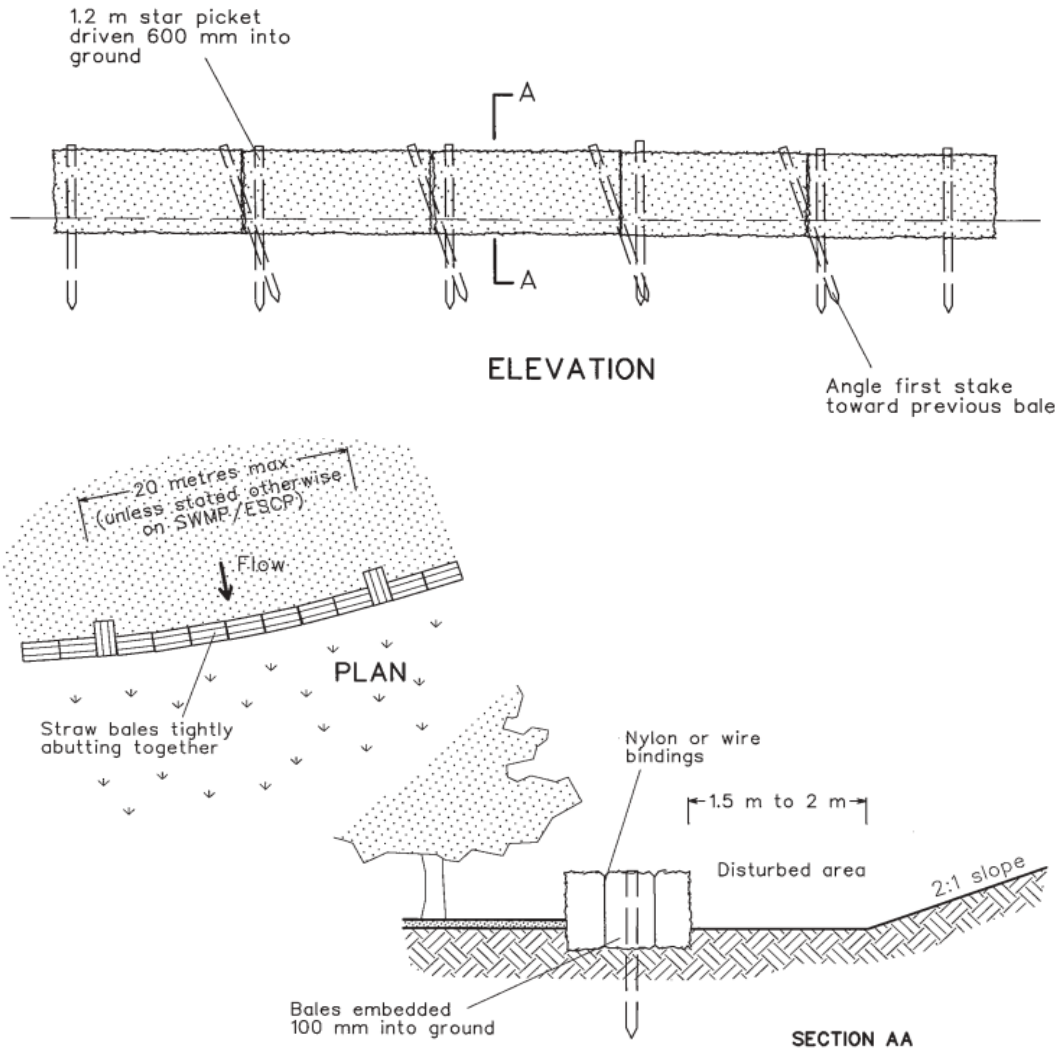
Standard Sediment Fence Installation (Source: Landcom 2004)

6.2.1.2 Straw Bales

Straw bales may be used to divert water around and away from disturbance areas during down-slope and cross-slope excavations.

Construction notes:

1) Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2) Place bales lengthwise in a row with ends tightly abutting (1 bale = max height of filter). Fill gaps between bales with straw and wrap with geofabric where necessary.
3) Embed each bale in the ground 75-100 mm and anchor with two 1.2 m stakes/star picket. Angle the first stake in each bale towards the previously laid bale. Stakes should be driven 600 mm into ground, sitting flush with top of bale (if possible). **If using star pickets which protrude above bales, fit with safety caps.*
4) Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1-2 m downslope from the toe.



Standard Straw Bale Filter Installation (Source: Landcom 2004)

6.2.1.3 Cross Drainage and Sediment Barriers

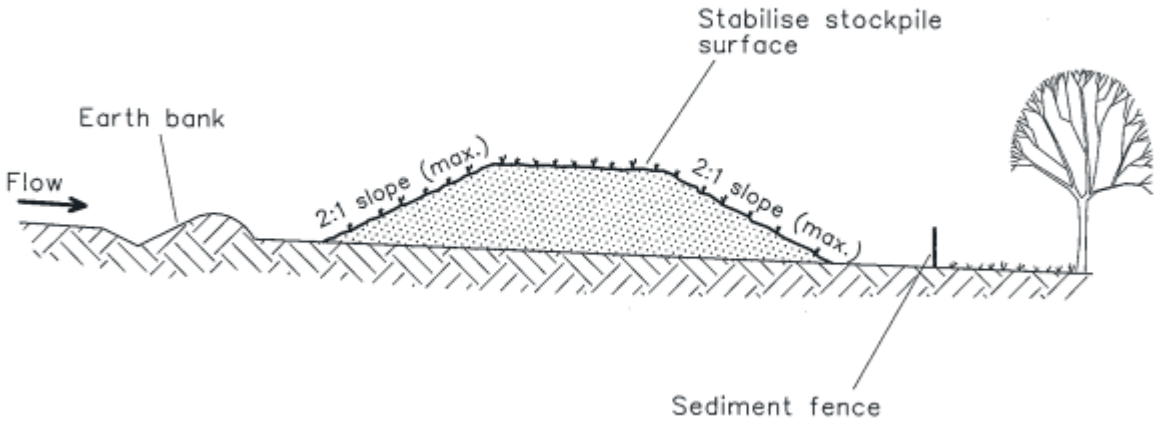
The recommended spacing for cross drainage and sediment barriers is provided below:

Slope Grade (%)	Cross Drain / Sediment Barrier (m)
5-10	15-20
10-15	10-15
15-25	8-10
>25	5-8

Source: NPWS 2007; Parr-Smith and Polley (1998)
Note: To calculate the grade of a slope: (rise/run) x 100 = slope grade

6.2.2 Soil and Stockpile Management

- All stockpiles will be constructed and managed in accordance with *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park* (OEH 2017).
- Temporary stockpile sites within the construction corridor should adhere to the following criteria (Landcom 2004; OEH 2007):
  - not exceed 2 m in height, have a slope <50% (26°)
  - be at least 2 m from vegetation, concentrated water flows, roads, publicly accessible areas or hazardous areas
  - avoid impacts to native vegetation and be located on disturbed areas
  - located directly adjacent to the works
  - located on relatively flat ground, where possible
  - in areas with sufficient room to accommodate the volume of material being stockpiled
  - be contained by appropriate erosion and sediment controls.
- Any excess excavated material will be removed from site and transported to the designated soil stockpiles sites in **0**.



Stockpile Management (Source: Landcom 2004)

6.2.3 Material Sourcing

Authorisation from NPWS is to be sought where imported gravel or fill material is required, unless the material is sourced from the following NPWS approved locations:

- McMahons Earthmoving quarry, located on Alpine Way, Crackenback NSW; or
- Kraft Earthmoving / Snowy Mountains Sand and Gravel quarry located on Kosciuszko Road, Jindabyne NSW.

6.3 Flora and Fauna

6.3.1 Vegetation and Habitat

Vegetation and Habitat Management		
Objective	To ensure compliance with legislative requirements and protect existing native vegetation. Minimise impacts to native vegetation.	
Mitigation Measures		**Timing**
	All clearing must only occur within approved development corridor. The construction corridor is to be clearly identified with flagging tape to mark no-go/no clearing zones prior to construction. Mature trees and rocks required to be removed are to be clearly identified. The trail alignment will be delineated with flagging tape where it encroaches upon relatively undisturbed native vegetation (ELA 2023).	Prior to construction, during construction
	Identify with flagging tape the alignment of the stairs, where the trail encroaches upon relatively undisturbed native vegetation, prior to construction (ELA 2023).	Prior to construction of stairs
	All vegetation must be checked for fauna habitats and fauna by the Environmental Officer immediately prior to felling/removal. Vegetation with active nests must not be removed until the young have left the nest. If fauna is present, then the NPWS must be contacted to assist with mitigation actions.	Vegetation clearing
	Clearing should remove habitats in stages to allow movement of fauna away from disturbed areas.	Vegetation clearing
	All disturbance should be kept to the minimum required to achieve the proposal.	Vegetation clearing, during construction
	All machinery to be used during the construction phase should be limited to the existing disturbed areas and access tracks.	Vegetation clearing, during construction
	Progressive rehabilitation is to be undertaken in accordance with the Rehabilitation and Monitoring Plan. All rehabilitation should be undertaken in accordance with the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (DECC 2007).	During construction, post-construction
Performance Criteria	No damage to site fencing. No damage to native vegetation (including vehicle tracks) associated with unauthorised access.	
Corrective Actions	Fencing to be repaired / reinstated by appointed contractor. Entry points for unauthorised access to be identified and access restricted through fencing or other appropriate barriers.	

6.3.2 Native Fauna

Native Fauna Management		
Objective	To minimise potential impacts to native fauna, their breeding places and habitat.	
Mitigation Measures		**Timing**
	If any active wombat burrows are detected in close proximity to the trail alignment during the construction phase, then the trail should be realigned to avoid the burrow (ELA 2023).	During construction
	Restrict work to daylight hours (ELA 2023)	During construction
	Reasonable and practicable native fauna management measures will be implemented to avoid environmental harm and nuisance to native fauna.	Vegetation clearing, during construction
	Maintain a clean and tidy work area to ensure animals are not attracted to the site, including provision of covered bins during proposed works.	During construction
Performance Criteria	No death or injury to fauna as a result of on-site activities. No disturbance outside the approval disturbance area.	
Corrective Actions	Review and implement suitable strategies to dissuade fauna from coming to site. Contact NPWS / LAOKO if injured fauna is identified as a result of site activities.	

6.3.3 Exotic Species

Exotic Species Management		
Objective	To reduce the risk of introducing invasive/pest species.	
Mitigation Measures		**Timing**
	All relevant weed species that occur within the construction corridor and associated staging and stockpile sites must be treated prior to works commencing to ensure these weeds are not spread further at the site or within KNP.	Prior to vegetation clearing, prior to construction
	If an area of vegetation proposed for removal includes any relevant weed species then the vegetation must be removed completely from site, not spread out within the existing vegetation or used in rehabilitation and stabilisation works.	Prior to vegetation clearing, prior to construction
	All machinery and equipment used during construction must be cleaned prior to entry into KNP and prior to site mobilisation to ensure the machinery is free of mud, vegetative propagules, and pathogens. This includes machinery that may have been working in an area of the resort that contains weeds and is preparing to be redeployed in the construction corridor and associated stockpile and staging areas.	During construction
	All vehicles and machinery entering Thredbo must adhere to the **Standard Operating Procedure: Use and Maintenance of Wash Down Bay, March 2019 (KT055)**. The wash down bay is located at the Thredbo Waste Transfer Station for use by KT staff and contractors.	During construction
	All machinery and equipment must be stored on existing disturbed areas (i.e. at the stockpile and staging areas proposed on the ski slopes) and should not be stored on native vegetation.	During construction
	All machinery to be regularly maintained and manoeuvred to prevent the spread of weeds and pathogens.	During construction
Performance Criteria	No introduction of invasive species as a result of construction activities.	
Corrective Actions	Review existing biosecurity procedures (e.g. clean down procedure) and implement additional controls if required.	

6.4 Air Quality

Air Quality Management		
Objective	To minimise potential impacts on sensitive receivers from dust and other air pollution from construction activities.	
Mitigation Measures		**Timing**
	Minimise the number and extent of disturbed areas at any given time. When there is a risk of works creating dust nuisance, dust suppression measures are to be implemented i.e. the site is to be watered.	Vegetation clearing; during construction
	Plant and equipment to be maintained and operated in an efficient manner to reduce air pollution.	During construction
	Vehicles are to adhere to speed limits to minimise dust general and potential spill of hauled materials.	During construction
	All vehicles carrying spoil or rubble to/from site should be covered to prevent the escape of dust or other material. Covers are to be adequately secured.	During construction
Performance Criteria	No complaints received in relation to air pollution.	
Corrective Actions	If complaints are received, the following steps should be taken: • Investigate specific cause of complaint. • Review site activities/processes and identify the source of air emissions. • Implement immediate corrective actions on-site e.g. water site, replace equipment deemed to be poorly maintained. • If required, implement administrative controls e.g. additional staff training, alter construction methods or timing for undertaking dust generating activities.	

6.5 Noise and Vibration

Noise and Vibration Management		
Objective	To ensure that noise and vibration from construction activities does not cause environmental nuisance in the locality.	
Mitigation Measures		**Timing**
	Selection of the most appropriate plant and equipment to minimise noise generation.	Prior to construction
	Construction works will be undertaken during standard work hours.	During construction
	Appropriate noise management strategies will be implemented for construction works and operation of plant and equipment in accordance with the Australian Standard AS 2436-2010 *Guide to noise and vibration control on construction, demolition and maintenance sites.*	During construction
	Regular checks are to be undertaken to ensure all equipment and vehicles are in good working order and are operated correctly.	During construction
	All machinery and equipment will be maintained in accordance with the manufacturer's requirements.	During construction
Performance Criteria	No construction related noise and vibration complaints received. No unreasonable noise or vibration.	
Corrective Actions	If complaints are received, the following steps should be taken: • Investigate specific cause of complaint. • Review site activities/processes and identify the source of the noise emissions. • Implement immediate corrective actions e.g. swap out noisy equipment. • If required, implement administrative controls e.g. additional staff training or change work hours to minimise noise.	

6.6 Fuels and Chemicals

Fuels and Chemicals Management		
Objective	Eliminate the potential for release of fuels, chemicals and hazardous substances to the environment.	
Mitigation Measures		**Timing**
	Spill kits will be available onsite and all site personnel will be made aware of their locations in the site induction.	During construction
	In the event on an on-site spill, construction staff will follow KT's **Construction Site Incident and Emergency Procedures Thredbo Village, 2021/2022**.	During construction
	Hazardous substances, toxic materials or dangerous goods must not be stored or processed on-site at any time without prior approval from the DPE Secretary or nominee.	During construction
	Fuel and chemicals will be appropriately stored and handled in accordance with relevant Australian Standards.	During construction
	Appropriate controls will be implemented when refuelling Project vehicles and machinery.	During construction
Performance Criteria	No fuel, chemical or hazardous substance spills.	
Corrective Actions	Corrective actions will be taken in accordance with the **Construction Site Incident and Emergency Procedures Thredbo Village, 2021/2022**, including: immediate spill response, implementation of any necessary control measures as directed by authorities. Where required, an investigation will be undertaken to determine the root cause.	

6.7 Traffic and Access

Traffic and Access Management		
Objective	Minimise potential impacts on existing road network	
Mitigation Measures		**Timing**
	Traffic and construction vehicle access will be managed as per regular daily operation in the resort.	During construction
	All Project vehicles and machinery to adhere to speed limits and signage and stay within construction corridor.	During construction
	Pedestrian and bikers within proximity of the site will be managed though the use of signage and fencing/flagging as required.	During construction
Performance Criteria	No significant impacts to existing road network or users. No complaints in relation to traffic or vehicle operators.	
Corrective Actions	If complaints are received, traffic management procedures will be reviewed and amended (if necessary).	

6.8 Waste

Incorporate the waste hierarchy to ensure the efficient use of resources (EPA 2017):

- **Avoidance** including action to reduce the amount of waste generated by the Development;
- **Resource recovery** including re-use, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources; and
- **Disposal** including management of all disposal options in the most environmentally responsible manner.

Waste generation from construction is expected to be minimal. The Development will generate the following waste:

- General solid waste (putrescible) – e.g. waste from litter bins, food waste.
- General solid waste (non-putrescible) – e.g. plastic, paper, carboard, demolition waste from the former operator's hut (e.g. timber frame and cladding, metal roof sheets) and construction waste.

The following will be provided for the storage and disposal of waste:

- General litter bins for waste such as food waste and non-recyclable plastic.
- Recycling bins for waste such as carboard packaging, paper, recyclable plastic.
- Covered ute for removal of demolition waste from operator's hut. Waste will be transported directly offsite.
- KT's waste transfer facility (materials to be segregated for re-use, recycling etc.).

All waste will be managed in accordance with KT's waste management procedures. All materials will be segregated and where possible reused and recycled within the resort. Materials being kept for re-use elsewhere in the resort will be loaded directly onto a truck to the Thredbo Waste Transfer Facility where they will be stored or taken to the workshop for preservation works prior to storage.

Any waste that cannot be re-used within the resort will be transported off-site by a licenced contractor and disposed of at an external waste facility such as Jindabyne Regional Waste Management Facility, or Cooma Landfill.

Waste Management		
Objective	Minimise construction waste as much as practicable. and Reduce the impact of waste on-site and beyond the site boundary.	
Mitigation Measures		**Timing**
	All waste will be managed and disposed of in accordance with the KT's waste management procedures.	During construction
	Where possible, construction materials will be salvaged for reuse to divert waste from landfill.	During construction
	All waste will be separated into waste streams and contained within appropriate receptacles and/or disposed of in accordance with the EPA guidelines.	During construction
	All receptacles will be in good condition.	During construction
	All waste transportation vehicles will be covered appropriately to ensure waste cannot spill, leak or escape onto the road or wash into stormwater drains.	During construction
Performance Criteria	No litter or waste material to be released from site in an uncontrolled manner.	
Corrective Actions	• Investigate cause of inappropriate waste disposal/management. • Review on-site waste handling facilities and implement corrective actions e.g. change in receptacle size and/or waste management signage. • If required, implement administrative controls e.g. additional waste management training for staff.	

6.9 Cultural Heritage

6.9.1 Unexpected Finds Procedure

Where unexpected items of potential archaeological, built or Aboriginal cultural heritage significance are discovered, Project personnel will follow the below procedure:

- **STOP:** Stop work and leave the site or item where it is.
- **NOTIFY:** Notify the Project Manager and NPWS to arrange for representatives to inspect the site. If human remains are found, the NSW Police must also be notified.
- **MANAGE:** Management may involve securing the find by erecting a no-go zone.
- **REPORT:** The Project Manager will complete any reporting requirements, as directed by NPWS.

7 Monitoring and Reporting

7.1 Environmental Monitoring

The Environmental Officer will conduct monitoring during all project phases (pre-construction, during construction and post-construction) to ensure compliance with this SEMP, associated management plans and conditions of approval.

The Environmental Officer will undertake weekly inspections utilising the ***Site Environmental Management Measures Report***. The report includes a checklist on the following matters:

- Administration (weekly site inspections, sub-contractor environmental management, environmental monitoring, environment incidents, complaints handling, reporting and record keeping)
- Biosecurity management
- Chemical spills / emergency response
- Vegetation management and rehabilitation
- Waste management
- Native fauna management
- Material storage and sourcing
- Water quality
- Erosion and sediment controls
- Stockpile management
- Air quality and noise and vibration
- Cultural heritage
- Safety.

7.2 Weekly Environmental Reporting

The Environmental Officer will provide copies of the ***Site Environmental Management Measures Report*** to the Project Manager on a weekly basis. All records will be stored within KT's files and distributed to relevant persons / regulatory authorities as required.

7.3 Environmental Incident Reporting

All incidents and near misses will be managed in accordance with KT's ***Construction site Incident and Emergency Procedures Thredbo Village 2021/2022***. The document provides procedures for

responding to incidents and emergences, reporting and notification requirements and emergency contacts.

The following information should be recorded:

- Time and date of the incident / near miss
- A description of the incident / near miss
- A sequence of events that led to the incident / near miss occurring
- Person/s involved in the incident / near miss (including witnesses)
- Written statements from person/s involved (as applicable)
- Details of corrective actions.

The ***Environmental Incident Report Form*** should be completed for all environmental incidents. All parts of the form must be completed in accordance with KT's incident procedure and following the instructions within the form. The form must be signed by the person making the report and the Project Manager/person in charge of the site/activity.

7.4 Non-conformance

A non-conformance is the failure to comply with the requirements of this SEMP and supporting management plans. Non-conformances identified via site inspection or during day to day activities will be documented on the ***Site Environmental Management Measures Report*** (or similar contractor's form) and closed out in subsequent inspections. The Environmental Officer is responsible for investigation and managing corrective and preventative actions in the event of non-conformance or a situation likely to cause environmental harm.

7.5 Corrective Actions

Corrective actions should be prioritised on the following hierarchy of controls:

1. **Elimination** – can activities and processes be eliminated to reduce the risk of reoccurrence?
2. **Substitution** – can activities be substituted with another activity of lesser risk?
3. **Isolation** – can you isolate the hazard from any person exposed to it?
4. **Engineering controls** – can you reduce the risk of reoccurrence through engineering changes?
5. **Administrative controls** – can a change in work practices, additional training or additional checks reduce the risk?
6. **Personal Protective Equipment (PPE)** – can PPE be worn to protect personnel from harm?

The Construction Manager will be responsible for managing the implementation of corrective actions on-site.

7.6 Complaints Management

Should complaints be received from the public in relation to the Project they will be recorded using the ***Complaints Form*** (or similar contractor's form). The Project Manager will be responsible for investigating, recording and closing out any complaints received. All records will be stored within KT's files and distributed to relevant persons / regulatory authorities as required.

8 Record Keeping and Review

8.1 Document Control

All Project related documentation will be maintained within KT's Project file. Documents stored within the file include (but not limited to) the following:

- Copies of relevant planning approvals and documents, licences and permits.
- All completed induction forms and visitor sign-on register.
- Records of routine environmental inspections.
- Records of any environmental incidents, complaints, non-conformances and no-compliances.

8.2 SEMP Review

This SEMP is a live document and will undergo reviews and amendments as necessary. Reviews will generally be undertaken –

- If there is a change in the scope of the Project.
- Prior to commencement of construction to ensure any relevant conditions of consent and/or other approval, licence or permit requirements are incorporated.
- If there is a need to improve environmental controls to protect environmental values.
- If there is an increase or introduction of a new environmental risk or impacts.
- At the end of a Project to allow for improvements in subsequent Projects.

9 References

AssetGeoEnviro (2023), Harusch Walking Track, Thredbo NSW: Proposal for Geotechnical Assessment.

Department of Environment and Climate Change (DECC) 2007, Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park, NSW Government.

Department of Environment and Climate Change (DECC) 2009, Interim Construction Noise Guideline, July 2009, https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/09265cng.pdf?la=en&hash=EF4576FD79DBB25D5AC22DFA1A883A2BADA1F77B

Department of Infrastructure, Planning and Natural Resources (DIPNR) 2004*, Guideline for the Preparation of Environmental Management Plans*, https://www.planning.nsw.gov.au/~/media/Files/DPE/Guidelines/guideline-for-the-preparation-of-environmental-management-plans-2004.ashx?la=en

Department of Planning & Environment (DPE) (2017) *What to include with your development application*, version January 2017, https://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/65E2BA89886F426991525FF25707A9A9.ashx

Eco Logical Australia Pty Ltd (ELA) 2023, Proposed Harusch Walking Trail, Thredbo Alpine Resort – Biodiversity Development Assessment Report. Prepare for Kosciuszko Thredbo Pty Ltd.

Office of Environment and Heritage (OEH) 2017, *Soil Stockpile Guidelines for the Resort Areas of Kosciuszko National Park, version 1.0, October 2017*, NSW National Parks and Wildlife Service.

10 Appendices

Appendix A Plans

Scale: 1:1,228

0 5 10 20 30 40

Meters

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

N

THREDBO

SITE PLAN

Project: Proposed Harusch Walking Track

Revision: 1

Date: 29/05/2023

Produced By: BB

Stockpile and Material Storage Areas

Temporary material storage area (flat area outside Merritts Mountain House)

Appendix B Environmental Schedules

THREDBO ENVIRONMENTAL SERVICES

Record of complaint

Sheet _____of_____

Project: _____ Date / Time: _____

Received by: _____ Reference Number: _____

Complainant details:	Witness details:

Nature of complaint:

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..... Complainant sign:

Action taken:

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Kosciuszko Thredbo Pty Ltd

Environmental Incident Reporting Form

Confidential document after first entry

The purpose of this form is to report any incident that may have resulted in Environmental harm on Kosciuszko Thredbo Pty Ltd premises. Remember to be succinct, stick to the facts and do not make assumptions. Only record information you know to be correct.

The only persons authorised to contact external agencies eg EPA in relation to environmental incidents are the Kosciuszko Thredbo General Manager and Environmental Services Manager or their approved delegates.

Return completed form to the Environmental Services Manager as soon as practicle, on completion of the Environmental incident. It is important to capture photos at the time of the incident as part of this investigation.

Date of Incident:	**Time of incident:**
Reported by:	**Department:**

Location of Incident

EXACT location of the incident (include landmarks and features, nearest cross street etc to make it easier to identify later)		
Site:	Building:	Room:

Description of incident

Provide description and extent of incident: ……... ……... ……... ……... ……...
Have relevant photos been taken and attached? Yes □ No □
If 'No', provide sketch and attach to the rear of this document.
What was the estimated duration of the incident?

Type of incident

□ Spill (including fuel,oil,waste material or other polluting substance)	□ Erosion and sedimentation incident	□ Contaminated water discharge
□ Noise emission/complaint	□ Unauthorised/accidental damage to heritage item	□ Unauthorised/accidental vegetation removal or harm
□ Air Emission	□ Wildlife habitat/nesting area disturbed	□ Other (specify)

Environmental Incident Reporting Form

Level of incident

Level	Example
□ Minor	eg. No material has escaped the site or caused material harm to the environment – it is easy to clean up without additional assistance.
□ Major	eg. Material has escaped the site causing pollution downhill/downstream areas, which will require clean up involving other agencies and/or additional resources not available to local site management. Damage has occurred or is likely to occur to the environment.

Hazardous Material Spilt

□ Petroleum based products/ Hydrocarbons	□ Chemicals domestic or industrial grade
□ Biological waste / Clinical and related waste	□ PCB insulating liquids
□ CFC containing equipment	□ Paints or paint products
□ Radioactive waste	□ Other (specify)
Detail type/ingredient spilt: (UN, MSDS details)	
Detail concentration of material spilt:	
Detail quantity of material spilt:	

Type of Spill

□ Spilt onto ground	□ Spilt into stormwater drain
□ Spilt into waterway	□ Poured down sink
□ Poured down sewer	□ Released into atmosphere
□ Caused odour	□ Caused fire/explosion
□ Caused infectious contamination	□ Other (specify)

Immediate Actions

Was spill contained? Yes □ No □
Detail immediate actions/controls measures taken to rectify or contain the incident …… …… …… …… …… …… …… ……

Environmental Incident Reporting Form

Corrective Actions

Detail corrective clean up action taken

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Disposal

Detail disposal method/plans and location

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Recommended follow up and preventative actions

Detail recommendations

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Persons present at Incident

Were there any witnesses to the accident? Yes ☐ No ☐ If 'Yes', please provide names

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Spill Kit stock used – for restock purposes

Name Spill Kit(s) used: e.g. *'Waste Transfer Station 80Litre Spill Kit'*

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Environmental Incident Reporting Form

Spill Kit Product	Quantity used
Enviropeat Oil Absorbent Material – 25L bag	
1.2m Absorbent sock	
3m Absorbent sock	
Absorbent pads	
Chemical resistant disposable gloves	
Disposable face masks	
Roll of plastic bin bags	
Cable ties	

Declaration

The information and answers given above are true in every detail and no information has been withheld.

Departmental Supervisors Name:	
Departmental Supervisors signature:	*Date:*

Departmental Managers Name:	
Departmental Managers signature:	*Date:*

Spill Kit Replenished

Staff Members Name and Role:	
Staff Members signature:	*Date:*

Created By: Paul Corcoran on 24 Mar 2009
Review Date: 16 Jan 2019