



NSW Alpine Region
Draft
Development
Control Plan
2023



Department of Planning and
Environment

DRAFT



The Department of Planning and Environment pay respect to the Traditional Custodians and First Peoples of NSW, and acknowledge their continued connection to their country and culture.

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1.0 Introduction and administration

1.1 Background

The Alpine Region is located within the unique and environmentally significant setting of Kosciuszko National Park (KNP). KNP encompasses 673,542 hectares, making it the largest national park in NSW and one of the largest conservation reserves in Australia. The park contains the highest mountains in Australia and exhibits a suite of glacial landforms with exceptional diversity of alpine plant communities and species that provide habitats for a number of rare and unusual animal species. The park contains significant karst systems, deep river valleys, frost hollows, and vegetation communities ranging from snow gum woodlands and sub-alpine grasslands to extensive eucalypt forests, pockets of cool temperate rainforest, box woodlands and stands of native cypress pines.

KNP is ascribed a range of values by the Australian community including intrinsic, ecological, scientific and aesthetic, cultural, recreational, economic and utilitarian values. It is an area which needs to be carefully managed by preserving its natural, cultural and heritage values, but also providing for the increasing number of visitors coming to experience this unique landscape.

The values of KNP are of global and national significance. Many people and communities have deep and enduring personal connections to the park. The Traditional Custodians of the region are the Monero Ngarigo people whose lands stretch from the western slopes of the coastal ranges to the eastern side of the Kosciuszko plateau and include the peak of Mount Kosciuszko and the Snowy Ranges. A key objective is to recognise the living culture of the Monero Ngarigo people, and their connection to Country that goes back 20,000 years.

This DCP pertains to the Alpine Region and the KNP. The Alpine Sub-regions are located within the Alpine Region and are of State importance, contributing economically and socially to the surrounding region, and more broadly to the NSW economy. The Alpine Sub-regions provide for snow-based recreational activities during the winter with significant numbers of day and overnight visitors arriving between June and October each year. They also provide for recreational pursuits such as hiking, mountain-bike riding and fishing during the warmer summer months.



1.2 Name of this Plan and commencement

This plan is called the *Alpine Region Development Control Plan 2023* (this DCP). This DCP has been prepared in accordance with section 3.43 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and must be read in conjunction with the provisions of Chapter 4 Kosciuszko Alpine Region of State *Environmental Planning Policy (Precincts – Regional) 2021* (Precincts-Regional SEPP).

This DCP was adopted by the Minister, or their delegate on [INSERT DATE] and came into effect on [INSERT DATE].

1.2.1 Review and amendment of the DCP

The Department of Planning and Environment (DPE) will ensure the provisions of this DCP are reviewed:

1. As soon as is reasonably practicable after the second anniversary of the commencement of the DCP to:
 - a. assess the effectiveness of the DCP provisions in achieving its purpose, aims and objectives,
 - b. identify the need for changes to the DCP provisions to better achieve its purpose, aims and objectives, and
 - c. ensure the DCP provisions remain relevant to the types of development occurring in the Alpine Sub-regions.
2. At the end of each five-year period following the completion of the first review of this DCP, or at the same time as any review of the Snowy Mountains Special Activation Precinct Master Plan (Master Plan) and/or the Chapter 4 Precincts-Regional SEPP provisions and related Schedules, whichever is earlier.

1.3 Purpose of this DCP

This DCP supports the statutory planning framework of the Alpine Region including Precincts-Regional SEPP and the Master Plan..

It provides detailed provisions to guide development to achieve the aims and objectives of Precincts-Regional SEPP. This DCP includes detailed objectives and controls for ensuring well designed, quality land use and development within the Alpine Sub-regions of KNP.

Secondly, and in combination with related framework of the *Kosciuszko National Park Plan of Management 2006* (KNP PoM), the carrying capacity provisions of this DCP (Chapter 5) aim to facilitate a safe and sustainable increase in the amount and range of year-round recreation and accommodation offerings. This is in anticipation of a future decline in snow-based recreation due to climate change, and to address a sharply seasonal visitation profile that many of the Alpine Sub-regions currently experience.

This DCP provides guidance for appropriate land use and development within the Alpine Sub-regions of KNP. Each development application (DA) will be assessed having regard to the Precincts-Regional SEPP, this DCP, other matters listed in section 4.15 of the EP&A Act, and any other relevant policies or guidelines adopted by [INSERT].

Decisions about the release of additional accommodation capacity in the Alpine Sub-regions under the KNP PoM will consider the carrying capacity provisions of this DCP (refer to [Chapter 5](#)).



1.4 Aims and objectives

The aims and objectives of this DCP are:

1. To protect and enhance the Alpine Region by ensuring development is managed with regard to the principles of ecologically sustainable development, including the conservation and restoration of ecological processes, natural systems and biodiversity.
2. To encourage development that supports year-round sustainable tourism and recreation in the Alpine Region consistent with the NSW **Connecting with Country** framework, biodiversity and managing cumulative impacts.
3. To establish planning controls that:
 - a. facilitate the carrying out of ecologically sustainable and climate resilient development in the Alpine Region,
 - b. recognise the context of climate change, warming temperatures and decreased precipitation,
 - c. minimise the impact of new development by redeveloping existing buildings and previously disturbed areas,
 - d. ensure development is consistent with the unique built form, landscape, heritage and design character of individual Alpine Sub-regions, and
 - e. incorporate universal design in the delivery of infrastructure, communications and services.
4. To reduce the impacts of natural events such as fire, drought and flooding through sustainable land and water use practices.
5. To outline the planning, design and environmental objectives and controls against which DAs' will be assessed.
6. To provide guidance for the staged release of additional accommodation capacity in the Alpine Sub-regions to assist decision-making under the KNP PoM.



1.5 Land to which this DCP applies and consent authority

This DCP applies to all land, identified in **Figure 1**, to which Chapter 4 of the Precincts-Regional SEPP applies.

Unless otherwise stated, the consent authority for development under Part 4 of the EP&A Act, consistent this DCP, is the Minister for Planning or delegate.

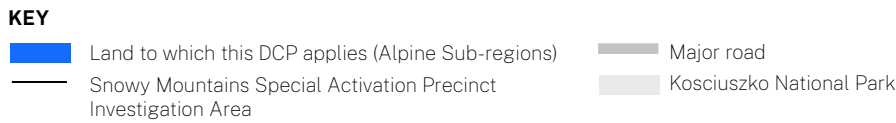
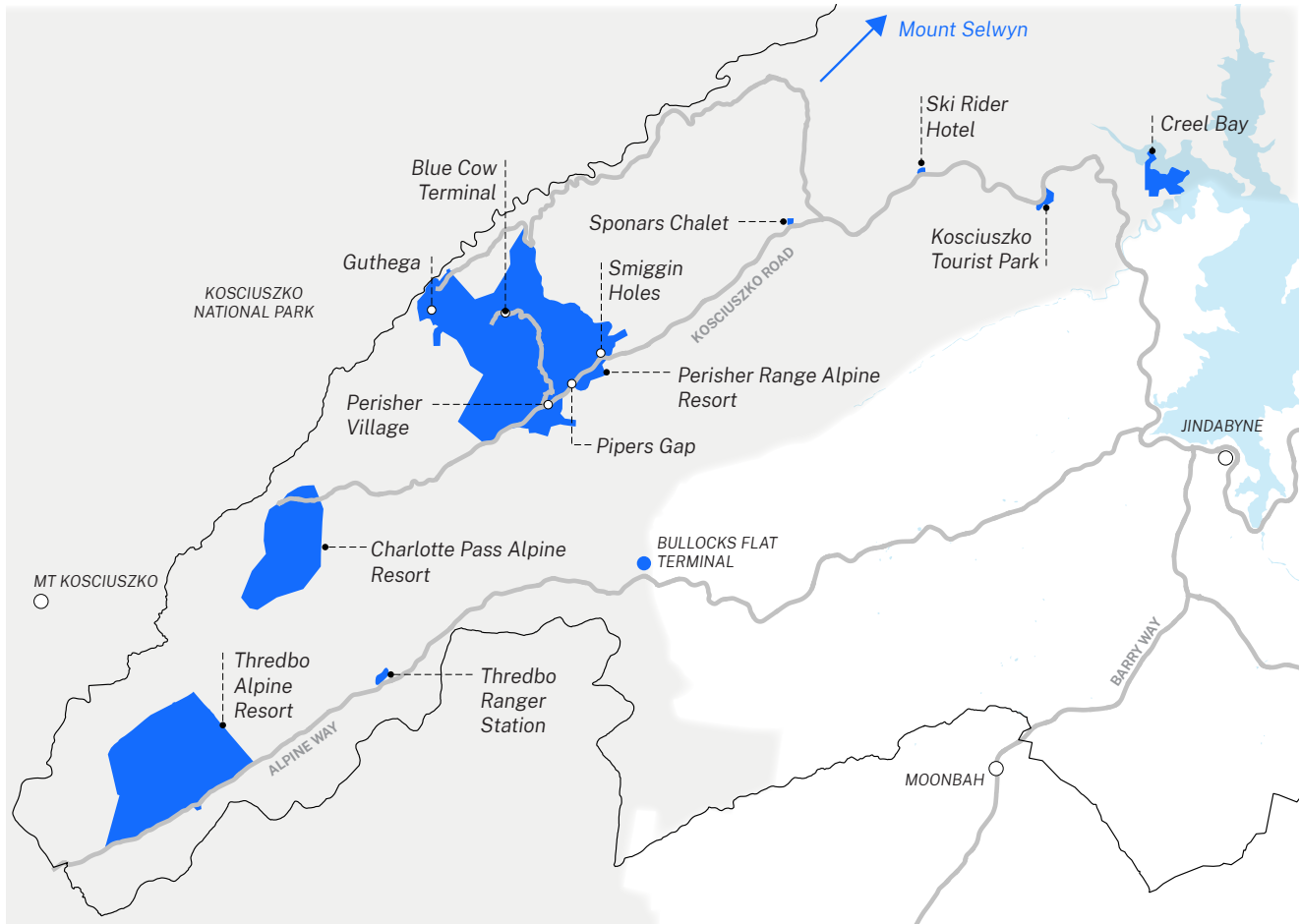


Figure 1. Alpine Region – Land to which this DCP applies



Carrying Capacity Framework

General Planning

Alpine Sub-Regions

Alpine Resorts

Introduction

1.6 Relationship to other plans, standards and codes

This DCP is part of a broader planning framework that is used to manage development in the Alpine area. This includes:

- strategic plans, including region plans and district plans,
- environmental planning instruments, including State environmental planning policies (SEPPs), and
- other adopted strategies, plans and policies.

A provision of a DCP (whenever made) has no effect to the extent that:

- it is the same or substantially the same as a provision of an environmental planning instrument, applying to the same land, or
- it is inconsistent or incompatible with a provision of any such instrument.

This DCP to be read in conjunction with the environmental planning instruments and policies, namely:

- *Environmental Planning and Assessment Act 1979*,
- *Environmental Planning and Assessment Regulation 2021*,
- *Biodiversity Conservation Act 2016*,
- *Protection of the Environment Operations Act 1997*,
- relevant regional and local strategic planning statements, as identified from time to time,
- any relevant SEPP,
- any relevant Land and Environment Court Planning Principle,
- National Construction Code and Building Code of Australia,
- any relevant Australian Standard (identified or not in this Alpine DCP), and
- any applicable policy or guideline.

It is the responsibility of the applicant to identify all relevant legislative requirements. The NSW Legislation website should be regularly checked for the most up-to-date version of all legislation.

In the event of an inconsistency between this DCP and any other environmental planning instrument applying to the same land, the provisions of the other environmental planning instrument will prevail to the extent of the identified inconsistency.

1.7 Savings and transitional provisions

If a development application has been made before the commencement of this DCP in relation to land to which this DCP applies and the application has not been finally determined before that commencement, the application must be determined as if this DCP had not commenced.

1.8 Interpretation

Terms in this DCP generally have the meaning ascribed to them in the Dictionary in Chapter 4 Precincts-Regional SEPP, the *Standard Instrument – Principal Local Environmental Plan* or the EP&A Act. A reference in this DCP to any Australian Standard or legislation includes a reference to any amendment or replacement as made.

Any DA will also be assessed having regard to the matters listed in this DCP, Chapter 4 Precincts-Regional SEPP, section 4.15 of the EP&A Act, the Master Plan, and any other policies adopted by the consent authority.



1.9 Structure and application of the DCP

The structure and format of this DCP has been structured to enable the reader to easily find relevant information for the preparation and assessment of a DA. It provides a range of chapters that apply to development dependant on location and context, with general controls applying to all development and specific controls relevant to individual Alpine Sub-regions.

This DCP has been divided into five Chapters (1-5), plus appendices as set out in **Figure 2**.

Development must address the objectives principles and controls in either [Chapter 2](#) or [Chapter 3](#) and any relevant objectives principles and controls in [Chapter 4](#) of this DCP. Where there is an inconsistency, Chapter 2 and 3 will prevail.

1.10 Consistency with development controls

The Minister for Planning or delegate may approve a DA that does not meet all of the provisions and development controls in this DCP where it can be demonstrated that due to specific site conditions, or where the relevant objectives have been satisfied, variation to the requirements will demonstrate a better or comparable planning outcome for the site.

Written justification is required for any proposed departure from the controls in the DCP. A merit based approach will be taken to DAs' which ensures that development appropriately responds to the opportunities and sensitive constraints of the Alpine Sub-regions.



1.0 Introduction and administration

Sets out the format and legal framework for the DCP and includes the purpose of the DCP, its aims and objectives, land to which it applies and savings and transitional provisions.

2.0 Alpine Resort Sub-regions

Perisher Range Alpine Resort Sub-region

Perisher Valley | Smiggin Holes | Pipers Gap | Guthega | Blue Cow Terminal

Thredbo Alpine Resort Sub-region

Charlotte Pass Alpine Resort Sub-region

Mount Selwyn Alpine Resort Sub-region

APPLIES TO ALPINE RESORTS ONLY

*prevails over Chapter 4

3.0 Alpine Accommodation and secondary Alpine Sub-regions

Bullocks Flat Terminal

Creel Bay Alpine Accommodation Sub-region

Kosciuszko Tourist Park Alpine Accommodation Sub-region

Ski Rider Alpine Accommodation Sub-region

Sponars Chalet Alpine Accommodation Sub-region

Thredbo Ranger Station Alpine Accommodation Sub-region

APPLIES TO ALPINE ACCOMMODATION ONLY

*prevails over Chapter 4

4.0 General planning considerations

Built form and design

Amenity

Transport, car parking and access

Aboriginal cultural heritage

Historic heritage

Landscaping

Biodiversity and natural water systems

Climate and ecologically sustainable development

Stormwater management

Flooding

Bushfire prone land

Waste management and recycling

Geotechnical and contamination

Universal design and accessibility

On-mountain development and infrastructure

APPLIES TO ALL SUB-REGIONS

5.0 Alpine Carrying Capacity Framework

Application of the CCF

Operational and tenure requirements

Planning requirements

Development requirements

Appendices

A DA is required to demonstrate consistency with:

- the specific objectives and controls for the relevant Alpine Sub-region(s) in Chapters 2 and 3, and
- the general objectives and controls in Chapter 4.

A DA that seeks an increase in accommodation capacity or that may impact on the capacity of utilities and infrastructure within the Alpine Region must demonstrate consistency with the principles and infrastructure requirements of the Carrying Capacity Framework in Chapter 5.

Figure 2. Structure and application of the DCP



Carrying Capacity Framework

General Planning

Alpine Sub-Regions

Alpine Resorts

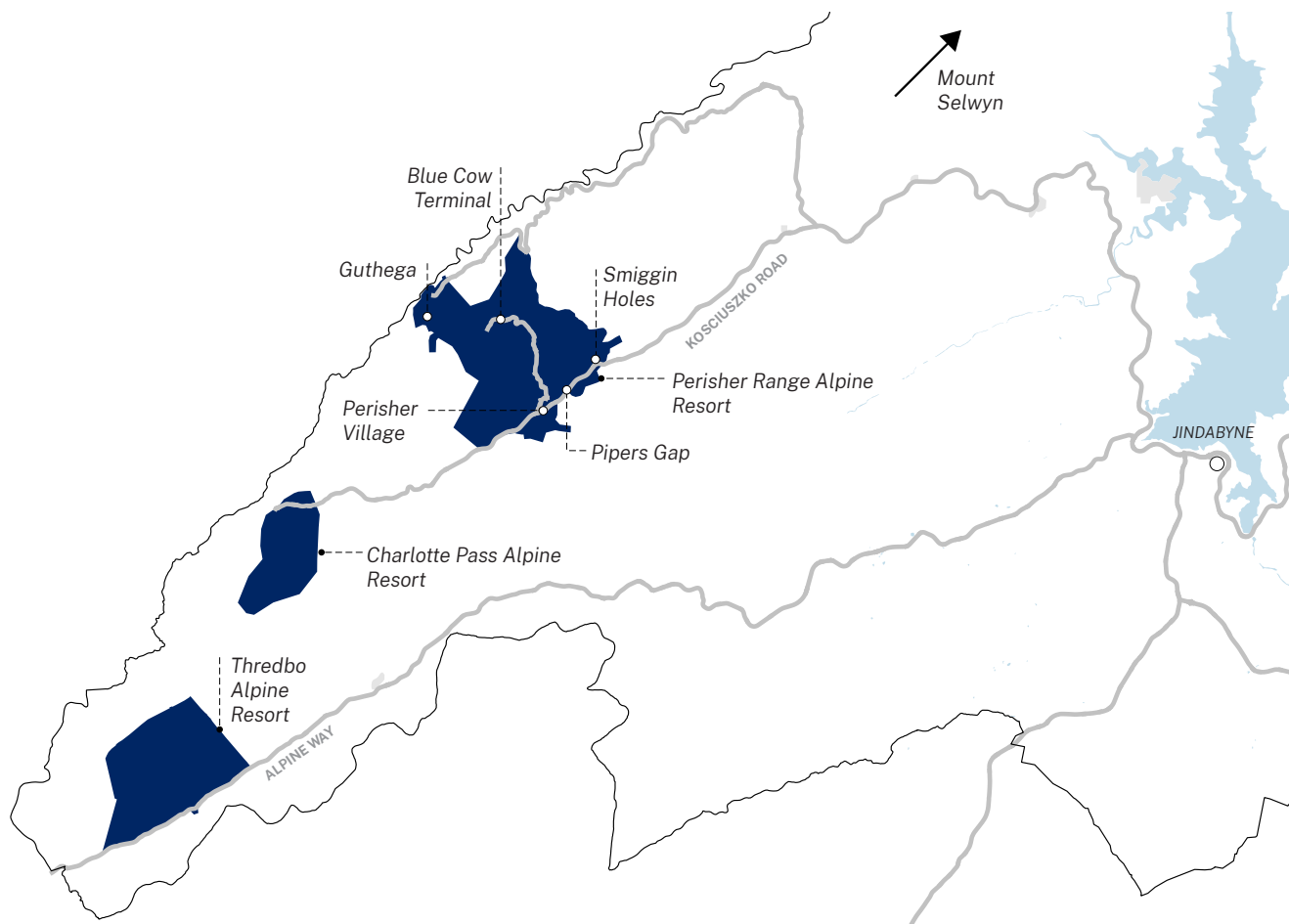
Introduction



2.0 Alpine Resort Sub-regions

This Chapter provides design guidance for the Alpine Resort Sub-regions (as shown in **Figure 3**), including:

- Perisher Range Alpine Resort Sub-region
 - Perisher Valley
 - Smiggin Holes
 - Pipers Gap
 - Guthega
 - Blue Cow Terminal
- Thredbo Alpine Resort Sub-region
- Charlotte Pass Alpine Resort Sub-region
- Mount Selwyn Alpine Resort Sub-region



KEY

- | | |
|---|--|
| Alpine Resort Sub-regions | Major road |
| Snowy Mountains Special Activation Precincts Investigation Area | Lake Jindabyne |

Figure 3. Alpine Region – Land to which this DCP applies

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Figure 4. Location of Perisher Range Alpine Resort Sub Region

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2.1 Perisher Range Alpine Resort Sub-region

Perisher Range Alpine Resort is the largest alpine ski resort within KNP (and the Southern Hemisphere) in terms of skiable terrain and number of lifts. The licensed ski area is approximately 1,245 hectares. It is broadly bound by the Snowy River to the north, Spencers Creek and The Paralyser to the west, the Smiggin Holes to Guthega Link Road to the east and Wragges Creek and Rams Head Range to the south.

The Perisher Range Alpine Resort is an assemblage of four distinctly different ski fields, that collectively provide a wide diversity of land uses, landscape settings and terrain. The Perisher Range Alpine Resort comprises the sub-regions of Perisher Valley (with Perisher Village as its focal point), Smiggin Holes, Guthega and Blue Cow as shown in **Figure 4**.

Perisher Range Alpine Resort is principally a winter snowsports sub-region providing accommodation for nearly 5,000 persons and ski slope infrastructure and cross-country ski trails for both day-trippers and overnight visitors.

Two terminals part of the 'Ski Tube Alpine Railway' (Ski Tube) are located within the Alpine Sub-Region at Perisher Valley and Blue Cow, which provide rail access to Bullocks Flat Terminal. The Ski Tube only operates in the snow season. Outside the snow season, hikers can access the walking trails that traverse the Alpine Sub-region and link to other Sub-regions, including trails which are part of the Snowies Alpine Walk. Whilst Bullocks Flat Terminal forms part of the Perisher Ski Resort, it is addressed in Section 3 as a separate Alpine Sub-region.

There are around 2,300 car parking spaces across the Perisher Range Alpine Resort that also support other alpine sub-regions such as Charlotte Pass Alpine Resort. There is limited overnight parking so the majority of spaces are for day parking only. This means that overnight visitors to both the Perisher Range Alpine Resort and the Charlotte Pass Alpine Resort rely on the Ski Tube for transport from the overnight parking at Bullocks Flat Terminal to Perisher Valley (with Charlotte Pass guests then traveling onwards to that alpine sub-region by oversnow transport). Accordingly, the Ski Tube terminal at Perisher Valley is an important transportation hub for visitors, staff and freight into the Perisher Range Alpine Resort and onwards to Charlotte Pass Alpine Resort.

How to read and apply this Chapter:

Chapter 2.1 - Perisher Range Alpine Resort sub-region (this Chapter)

Chapter 2.1.1-Perisher Valley

2.1.1.1 Overarching principles for Perisher Valley

2.1.1.2 Perisher Village

2.1.1.3 Perisher Village - Priority Infill Area

Chapter 2.1.2 - Smiggin Holes

Chapter 2.1.3 - Pipers Gap

Chapter 2.1.4 - Guthega

Chapter 2.1.5 - Blue Cow Terminal



Chapter 4 - General Planning Provisions



Chapter 5 - Alpine Carrying Capacity Framework



This Chapter details the existing character, desired future character and planning provisions for each of the character areas within the Perisher Range Alpine Resort.

2.1.1 Perisher Valley

Perisher Valley is the entry point for most visitors into the Perisher Range Alpine Resort Sub-region. Perisher Valley is defined by three character areas as identified in Figure 5:

- Perisher Village (refer [Chapter 2.1.1.2](#) for specific design and development guidelines), and
- Outer Perisher Valley and Perisher Valley – Priority Infill Area (refer [Chapter 2.1.1.3](#) for specific design and development guidelines).

Overarching principles for all character areas in provided in [Chapter 2.1.1.1](#).

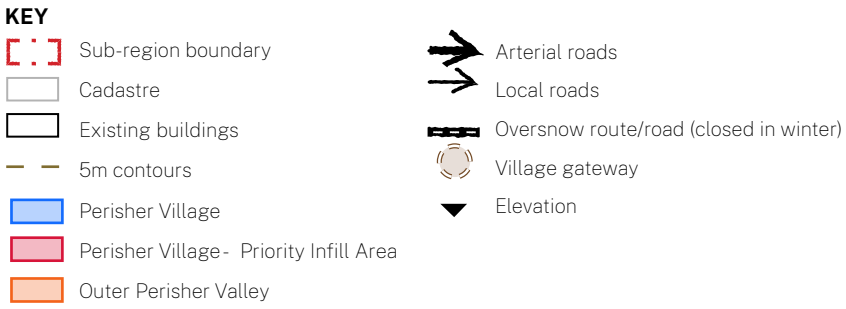
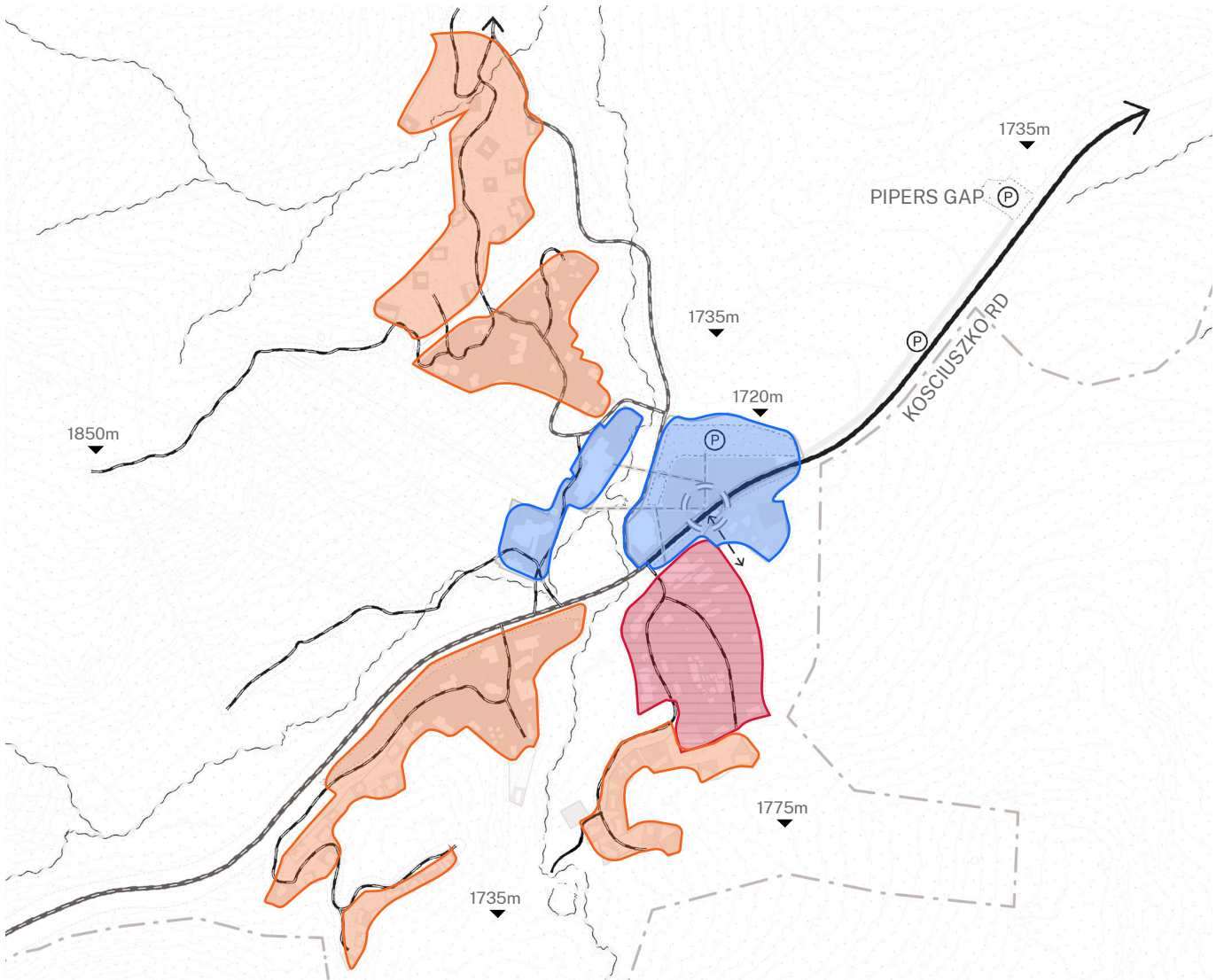


Figure 5. Character areas within Perisher Valley



KEY PLAN

Introduction
Alpine Resorts
Alpine Sub-Regions
General Planning
Carrying Capacity Framework

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2.1.1.1 Overarching principles for Perisher Valley

Information in this Chapter sets the scene and provides overarching guidance for Perisher Valley that covers the character areas of Perisher Village, Perisher Valley - Priority Infill Area and Outer Perisher Valley (as defined in Figure 5). Further detail for each character areas is provided in subsequent Chapters.

2.1.1.1-1 Existing character and built form within Perisher Valley

The Perisher Valley presents a bowl-like landscape, with much of the development located on the flatter portion of the valley, overlooked by the ski fields. Perisher Valley currently lacks a cohesive character and presence, both in built form expression and the sparse layout of buildings and location of uses. The arrangement and siting of buildings within the village is irregular, partly in response to natural creeklines that traverse the valley. Existing buildings are predominantly two to four storeys in height and accessed via Kosciuszko Road, or one of the roads that branch from Kosciuszko Road.

There is currently no standard approach to setbacks or building separation, and materials and colour selection is diverse, although colour generally adopts tones present in the landscape. The style of built form generally does not easily identify function or use, which makes wayfinding difficult. The precinct lacks any landmark built form that marks the gateway and entry to Perisher Valley.

Perisher Valley accommodates an extensive network of ski fields and supporting infrastructure. The significant alpine and sub-alpine vegetation communities throughout the Perisher Range Alpine Resort provide important habitat for rare fauna species and endangered ecological communities. Rock Creek and Perisher Creek run through the valley. Figure 6 to Figure 9 provide a selection of photographs that demonstrate the character and built form style that currently exists at Perisher Village.



Figure 6. Perisher Centre and creek



Figure 7. Perisher Manor



Figure 8. Ski Tube Terminal



Figure 9. Car parking area at arrival



2.1.1.1-2 Views and vistas

The approach to Perisher Valley from the north (along Kosciuszko Road) presents an open vista of the valley, defined by the peaks of Mount Perisher and Back Perisher Mountain to the west. Existing development appreciates long views in multiple directions from various locations within the valley. From the Village, views of the ski slopes and surrounding areas are significant.

2.1.1.1-3 Desired future character for Perisher Valley

The desired future character for Perisher Valley is as a village hub that revitalises the offer of the Perisher Range Alpine Resort and contributes to the evolution of the wider Snowy Mountains as a world class destination year round.

Development of a vibrant, mixed use core at Perisher Village is the cornerstone in achieving the desired future character, providing new accommodation, entertainment and retail, supported by the key arrival node at the Ski Tube Terminal and village services such as waste and freight transfer, medical services and emergency services.

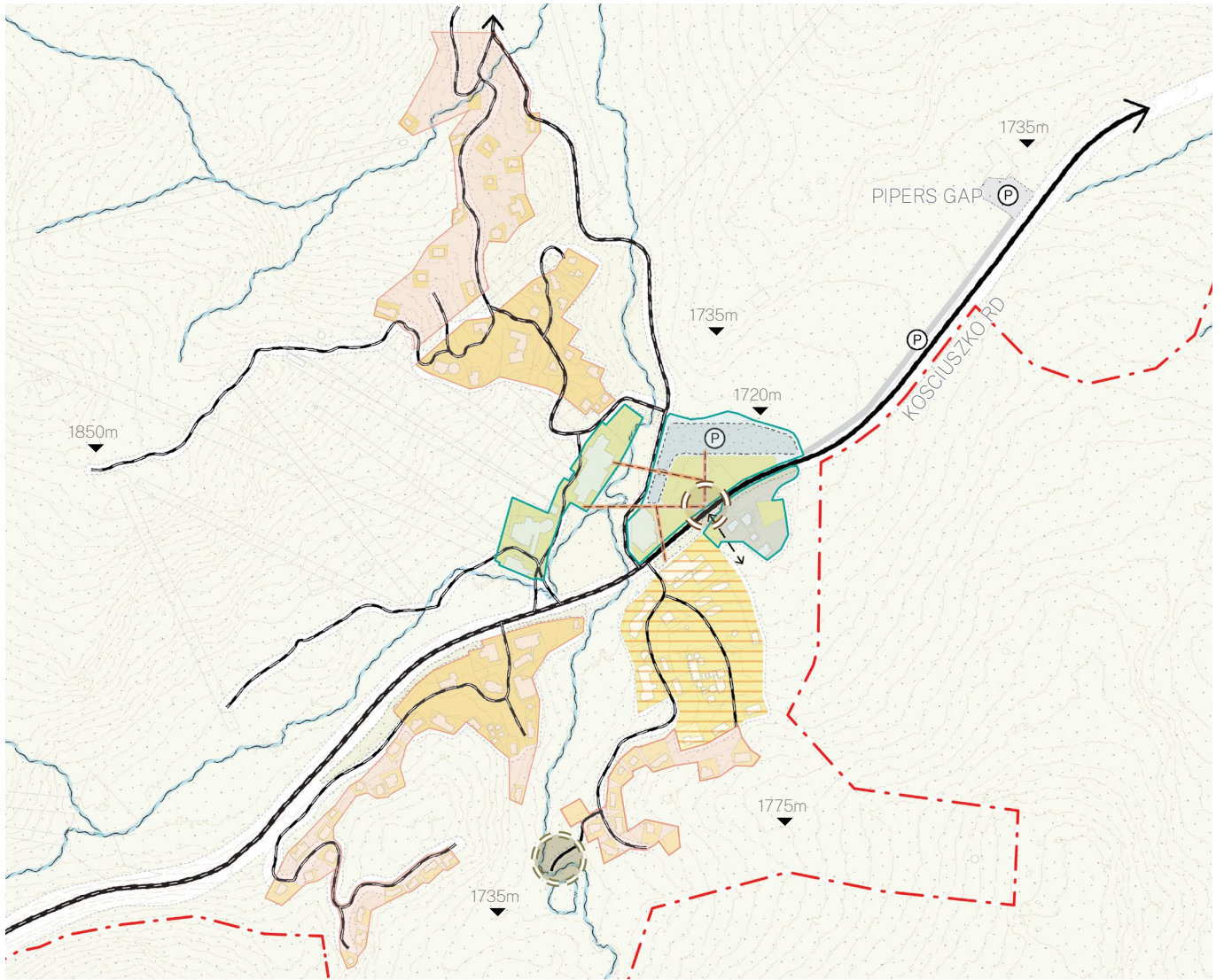
Outer Perisher Valley and Perisher Valley – Priority Infill Area will support the main village, providing a variety of accommodation options, retail and dining opportunities.

The open amphitheatre landscape of the valley will contribute positively to existing land use and character of built form. New development will be focused in areas of disturbed land between existing buildings, or the redevelopment of existing building stock. The low-density landscaped character of the Outer Perisher Valley will be retained with redevelopment designed to respond to the natural environment.

Figure 10 provides an indicative layout plan for redevelopment of Perisher Valley. The following Chapters provide more detailed plans for each character area, as well as objectives and controls to guide development.

For further detail on each of the character areas within Perisher Valley, refer to the following:
[Chapter 2.1.1.2 Perisher Village](#)
[Chapter 2.1.1.3 Outer Perisher Valley and Perisher Valley – Priority Infill Area](#)





KEY

- | | |
|---------------------------------------|---|
| Sub-region boundary | Emergency services precinct |
| Cadastre | Arterial roads |
| Existing buildings | Local roads |
| 5m contours | Oversnow route/road (closed in winter) |
| Development area | Active link |
| Parking | Village gateway |
| Buffer | Creeks |
| Green space | Elevation |
| Perisher village | Upgraded trail head-improvement in access and amenity |
| Perisher village-priority infill area | |
| Outer perisher valley | |

Figure 10. Perisher Valley Indicative Layout Plan

2.1.1.2 Perisher Village

2.1.1.2-1 Existing character and built form within Perisher Village

Perisher Village is the key arrival node and visitor destination for Perisher Valley and the wider Perisher Range Alpine Resort. It anchors the surrounding villages and ski fields and forms an important transport hub for outlying lodges and the Charlotte Pass Alpine Resort.

Existing land use and activity within Perisher Village include accommodation options, tourist facilities, the Perisher Ski Tube Terminal and support infrastructure, including a range of retail, entertainment and food and drink offerings to meet the convenience and entertainment needs of visitors to the wider Perisher Range Alpine Resort in the snow season.

Emergency services including Perisher Valley Fire Station and Ambulance Station are clustered in the emergency services precinct along Kosciuszko Road, while the Perisher Police Station is located within the Ski Tube Terminal. The National Parks and Wildlife Service (NPWS) information centre and depot fronts the northern side of Kosciuszko Road, alongside the Ski Tube Terminal.

Arrival by car at Perisher Village is marked by an expanse of at-grade car parking on the northern side of Kosciuszko Road. Arrival via Ski Tube is at the terminal at the centre of Perisher Valley, which presents limited space, functionality and activity as a key arrival node and freight hub.

A selection of photos that indicate the existing character within Perisher Village is provided at Figure 11 to Figure 14.

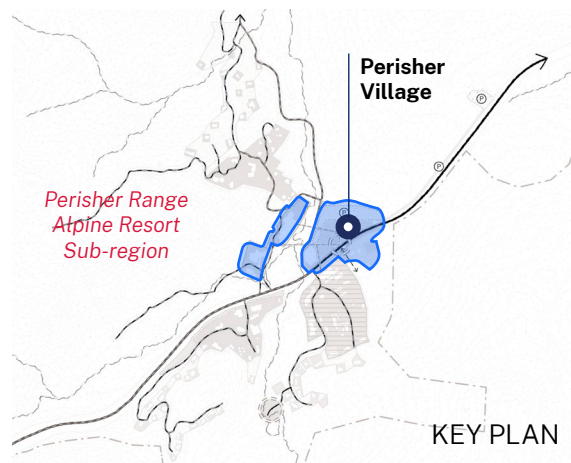


Figure 11. View along Kosciuszko Road (looking south-west)



Figure 12. Fire and rescue buildings



Figure 13. Walkway to Perisher Centre from the Ski Tube Terminal



Figure 14. Perisher Manor

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2.1.1.2-2 Desired future character for Perisher Village

The desired future character of Perisher Village is as a vibrant village centre that supports winter activities and encourages summer activation. Redevelopment will revitalise the heart of Perisher Range Alpine Resort and enhance the desirability of Perisher as a world class destination.

A diverse range of accommodation will be provided, including staff, family and lower cost options, supported by co-located commercial and leisure opportunities. Significant expansion is proposed to deliver a landmark gateway to Perisher Village that instills a ‘village feel’ with the activation of streets, plazas and public spaces that create a sense of community and connection. Retail and commercial uses, including dining opportunities, will activate the ground floor along key public spaces, providing places for visitors to enjoy the village atmosphere day and night.

The open amphitheatre landscape of the valley presents opportunities for buildings typically up to five storeys in height with potential key markers or buildings up to seven storeys where appropriate (refer to **Figure 20**), that may capture desirable views of the mountains surrounding, while also considering the potential impact on key views and vistas throughout the valley.

The layout of new development is to consider the unique alpine and sub-alpine climatic conditions, including snow deposition and prevailing winds, and ongoing management measures such as snow clearing operations in its design.

The location of the Village in the valley presents the opportunity to create a welcoming entry into the Perisher Range Alpine Resort and as such, requires a high-quality architectural response. Kosciuszko Road will be a key focus as the ‘main street’ for new development as activity as the interface between Perisher Valley Priority Infill Area and the new Perisher Village.

Built form will define the Kosciuszko Road frontage and provide recognisable landmarks, particularly for those arriving at Perisher Valley via Kosciuszko Road from the north-east.

The alignment of new streets and public spaces will capture views to the ski slopes and mountains, enhancing the connection with the landscape. A clear movement network will organise the space and ensure wayfinding is easy in all weather conditions. Connection with the key point of arrival at the Ski Tube Terminal will improve wayfinding and create a new and improved pedestrian experience for visitors, with a renewed Ski Tube Terminal sleeved by retail and commercial activation.

In support of the uplift in accommodation and visitation appeal, on-site carparking may be explored as a multi-deck solution, integrated within the wider redevelopment proposal and sleeved from key viewpoints. It is important to maintain and enhance the freight and oversnow hub at the south-western edge of the Village, and facilitate a shuttle bus loop.

Figure 20 demonstrates an appropriate land use planning option for future development, noting other options may also be developed during the design iteration process.

2.1.1.2-3 Land use and activities

Objectives

01. Create an attractive and diverse mixed-use village centre that reinforces Perisher Valley’s role as the main hub of the Perisher Range Alpine Resort.
02. Consolidate the bulk of development activity within the developable area as defined in the ILP to create a ‘village atmosphere’ and that minimises impact on existing creek lines and vegetation.
03. Encourage a mix of uses including accommodation, commercial, community, recreation, entertainment, and essential service uses to provide year-round activation
04. Enable expansion of tourist and staff accommodation and other tourism-based activities in the precinct.
05. Provide uses that support resort operations including day-use facilities, food and drink premises, medical facilities, administrative, operations and servicing including workshops and storage, and freight and waste transfer.
06. Promote redevelopment of the existing Ski Tube Terminal building to improve the arrival experience for public transport users, and the interaction between guests and servicing facilities.



Figure 15 to Figure 19 are examples of alpine resorts across the world that present as appropriate references for design and character for redevelopment of Perisher Village.



Figure 15. Elevated public plaza with active frontages. Falls Creek, Victoria

Source: <https://www.timeout.com/melbourne/travel/weekend-getaways-falls-creek>



Figure 16. Alpine retail street. Sunpeaks, British Columbia

Source: <https://www.sunpeaksresort.com/media/editorial-coverage>



Figure 17. Gateway Treatment signals entry from car park. Big Sky, Montana

Source: McGregor Coxall



Figure 18. Public space allows for events in summer. Falls Creek, Victoria

Source: <https://www.falls-creek.com.au/celebrating-the-inaugural-festival-falls-creek/>



Figure 19. Lower scale buildings in the round preserve key views. Big Sky, Montana

Source: McGregor Coxall



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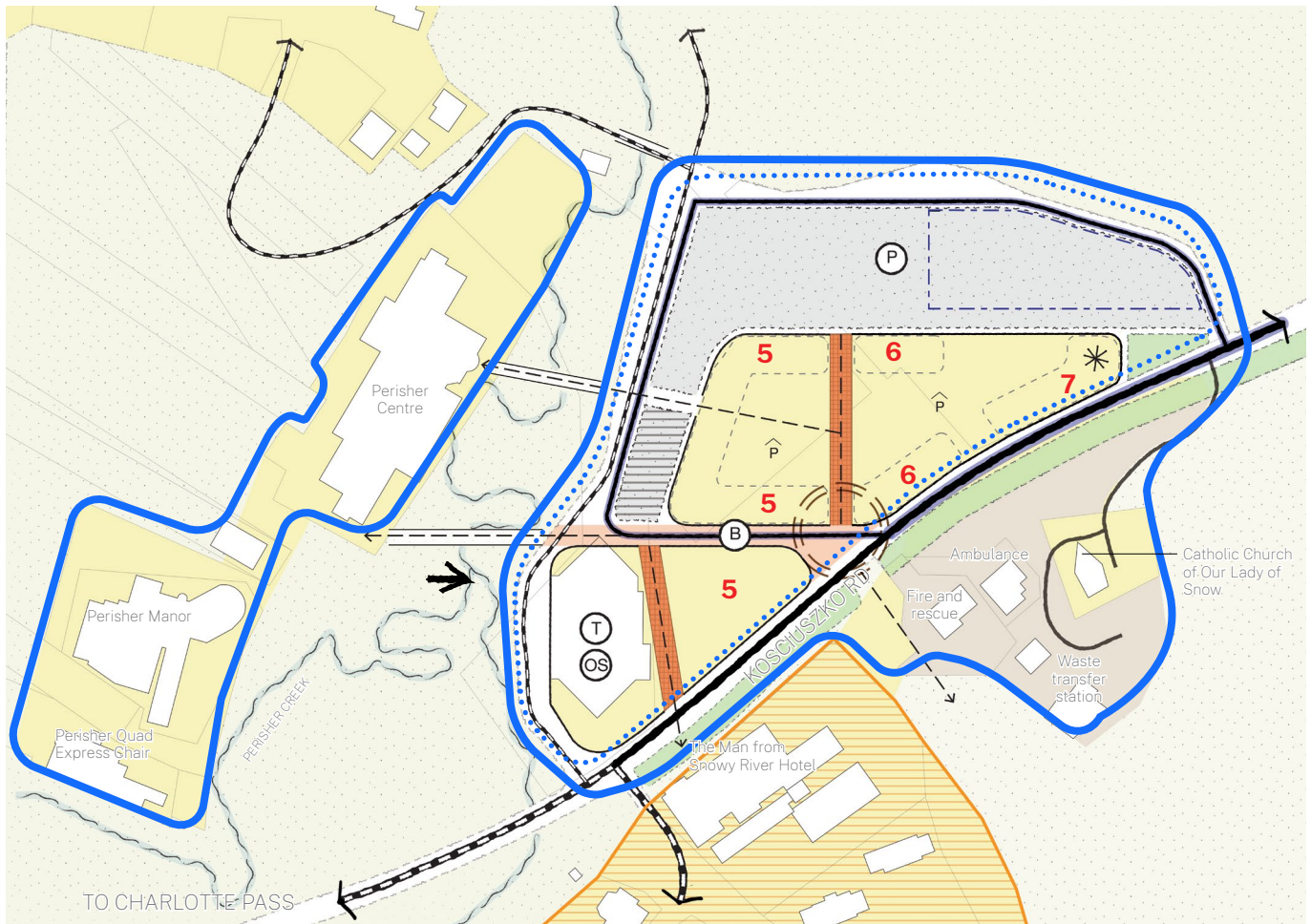
Controls

- C1. New development should cater for diversity in new accommodation including apartment-style tourism accommodation, ski lodge accommodation, and staff accommodation.
- C2. Commercial and retail facilities are to provide essential services such as post office, banking, supermarket, health services, pharmacies, food and drink premises, ski clothing and equipment hire and other visitor services.
- C3. Concentrate commercial and retail uses along key public spaces and roads, that lead to and from the Ski Tube.
- C4. Developable areas must appropriately respond to flood prone including design led solutions to the flood prone nature of the site. Further detail is provided in [Chapter 4](#) and **Appendix F**.

2.1.1.2-4 Building setbacks and separation

Objectives

- O1. Define the proportion and scale of the road or public domain and contribute towards a compact and distinctive village character.
- O2. Provide a well defined engagement within the road and public domain areas, that defines the road edge, whilst creating a clear threshold and transition from public to private space.



KEY

Perisher Village	Key public space	Oversnow hub
Developable area	At-grade parking	Ski tube
Key development site	Parking investigation area	Key pedestrian link
Existing buildings	Parking within built form	Gateway
Indicative built form	Temporary activation area/parking	Creeks
Priority infill area	Bus stop and loop	Gateway treatment (built form)
Emergency services precinct	Existing roads (year round access)	Green space
Public realm (pedestrian priority)	Oversnow route (road closed in winter)	7 Indicative number of storeys

Figure 20. Perisher Village Indicative Layout Plan

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Source: <https://www.arch2o.com/wp-content/uploads/2017/11/Arch20-cop-perhill-mountain-lodge-bohlin-cywinski-jackson-12-1072x1600.jpg>



Source: <https://www.vallat-immobilier.com/en/programs/guernes-exclusive-lodge-grimentz-20>



Source: <https://www.pinterest.com.au/pin/515873332325234042/>



Source: <https://www.arch2o.com/wp-content/uploads/2017/11/Arch20-cop-perhill-mountain-lodge-bohlin-cywinski-jackson-12-1072x1600.jpg>



Source: https://www.archdaily.com/359723/myrkdalen-hotel-jva/5169ba27b-3fc4bc7f9000052-myrkdalen-hotel-jva-photo?next_project=no



Source: https://www.peterbennetts.com/library/project/1252912573_image_lg_05061907_hr.jpg

Figure 21. Examples of architectural style that may be suitable for development of Perisher Village and gateway built form



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Controls

- C1. Buildings are to be designed with zero setback to main streets and public spaces for the lower three levels to the frontage of the public domain and upper level setback of three metres for levels four and above.

2.1.1.2-5 Building form

Figure 21 provides a range of example built form styles that may be suitable to consider for development of Perisher Village.

Objectives

- O1. Ensure the Village Centre is active throughout the year during the day and night, whilst still maintaining appropriate amenity for existing and new development.
- O2. Accommodation supports diverse needs reflective of seasonal patterns and demographic needs.
- O3. New development creates opportunities to renew key infrastructure including the Ski Tube Terminal building and presentation to the public domain.
- O4. Multi storey car parking structures are designed to contribute to the future desired character of the village.
- O5. Development is designed appropriately for the alpine and sub-alpine climatic conditions.
- O6. Create finely detailed buildings and places through high quality design.
- O7. Ensure Perisher Village is attractive during all seasons such that construction activity does not adversely impact on its visual amenity and operation.

Controls

- C1. Provide an active ground floor plane and podium form with increased pedestrian amenity through suitable cover such as awnings, arbours and colonnades.
- C2. Design and depth of pedestrian cover is to consider snow loading. Where provided in front of retail and commercial uses, the awning cover is to be a minimum three metres deep.
- C3. Where an above ground parking structure is proposed it must be designed with consideration of the following:
 - a. incorporated screening from prominent public domain areas and from the snow fields. Screening can be achieved through sleeved uses, or façade elements such as screening that allows for natural ventilation, and
 - b. alpine climate conditions including the prevailing winds, snow deposition, and the operational requirements with regard to the management of snow.
- C4. Development must be supported by an analysis of predicted wind and snow deposition patterns, demonstrating how the development has been designed to mitigate adverse impact on safety and amenity of the area.
- C5. Redevelopment of Perisher Village is to demonstrate provision for the clearance, removal or storage of snow accumulation in public spaces, without undue conflict with the intended function of the spaces.
- C6. The height and scale of buildings fronting public spaces are designed to ensure these spaces are human scale, comfortable and create an attractive village character.

2.1.1.2-6 Building height

Objectives

- O1. Ensure that the height, bulk and scale of development is consistent with the desired future character of the area.
- O2. Maintain key view corridors and vistas from public spaces and vantage points.
- O3. Development is designed in a manner sympathetic to the natural landform, vegetation, and other features of the landscape.



Controls

- C1. Development is to demonstrate consistency in design intent with the height of buildings in storeys as shown at **Figure 20**.
- C2. Development does not adversely overshadow key public spaces.

2.1.1.2-7 Building materials and colour palette

Objectives

- O1. Development is sympathetic to and enhances the landscape character of the Perisher Range Alpine Resort Sub-region in its' use of materials and colours.
- O2. Encourage contemporary building materials that complement and enhance the alpine character of the Alpine Sub-region.

Controls

- C1. Natural stonework, such as granite or similar, should be incorporated into the ground floor facade, particularly in areas readily viewed from the public domain.
- C2. Building facade does not incorporate large expanses of glass.
- C3. Ensure chosen materials are hard wearing and long lasting to withstand the Alpine environment.



Figure 22. Artists impression : View south along Kosciuszko Road towards ski tube

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- C4. Sun-angle diagrams are to demonstrate that glare and/or reflections will not present a hazard or impact on natural areas of the KNP.
- C5. Colours for large expanses of external wall must be recessive and sympathetic to the landscape character in the Alpine Sub-region.

2.1.1.2-8 Public realm

Objectives

- O1. Create a network of clearly defined attractive, safe and useable public roads and public spaces.
- O2. Create public spaces that are comfortable and amenable year-round, with the inclusion of equitable and accessible public seating and areas of shelter and shading (as appropriate for summer and winter sea-sons).
- O3. Establish a central point of arrival as a gateway to Perisher Village as demonstrated in **Figure 20**.
- O4. Deliver a ‘village feel’ with the activation of roads, plazas and public spaces.
- O5. Provide flexible spaces for temporary activation whilst ensuring these spaces are functional, for day-to-day life when temporary events are not occurring.

Controls

- C1. Provide public spaces in accordance with **Figure 20**.
- C2. Public spaces are orientated to optimise solar access and to be sheltered from prevailing winds, particularly in winter, to avoid snow deposition and allow for snow clearing operations.
- C3. Where appropriate, public spaces are designed and orientated to capture views of the surrounding landscape.

2.1.1.2-9 Views and vistas

Objectives

- O1. Maintain a strong relationship between Perisher Village and its landscape context, including views to adjacent snow fields and surrounding hills and ridge lines.
- O2. Respond to key gateway views from Kosciuszko Road to facilitate a pleasant arrival experience.
- O3. Key views and vistas to be protected and enhanced include:
 - a. gateway views to the Perisher Village from Kosciuszko Road at Pipers Gap, and from the direction of Charlotte Pass Alpine Resort at Perisher Gap,
 - b. direct east-west visual linkage between the Roman Catholic Church and Front Valley,
 - c. visual connections (east-west) between arrival points/parking areas and Front Valley, and
 - d. opportunities for vistas along valleys and creek corridors, including along the Perisher Creek and Rock Creek corridors.

Controls

- C1. Distribute building heights consistent with the Perisher Village ILP to retain views across Perisher Village to the ski slopes and landscape features.

2.1.1.2-10 Connectivity, street network and active transport

Objectives

- O1. Reinforce active transport links to other parts of Perisher Valley for walking, hiking and cycling.
- O2. Enhance connections through the Village Centre to outer areas of Perisher Valley for pedestrians and cyclists.



Controls

- C1. Ensure pedestrian footpaths are provided along all new roads.
- C2. New and upgraded road must be of a sealed construction.
- C3. Integrate public transport stops within Perisher Village to create safe, comfortable waiting areas for public transport users.
- C4. Improve existing over snow routes and an over snow interchange on the south-western edge of Perisher Village that is appropriate for the expected growth in visitation.
- C5. Provide end-of-trip facilities for public transport users within the Ski Tube Terminal.
- C6. Provide upgraded crossings at Kosciuszko Road to improve pedestrian safety, particularly in winter.
- C7. Within Perisher Village, ensure publicly accessible pathways and connections are provided between the buildings in order to provide safe and secure connections in accordance with the Indicative Layout Plan at **Figure 20**.
- C8. Ensure pedestrian footpaths and covered walkways are provided along all new roads within the key development site.
- C9. Footpaths along key pedestrian links will provide continuous shelter from adverse weather in the form of projecting roofs, colonnades, and other measures. Careful consideration must be given to snow deposition on these structures and adverse alpine wind conditions.
- C10. Prioritise the continuity of the pedestrian footpaths when crossing oversnow and shuttle bus routes or vehicle driveways within Perisher Village.

2.1.1.2-11 Parking

Objectives

- O1. Allow screened parking within podium levels of new development for visitors, where appropriate.
- O2. Minimise environmental impact of development through a consolidated multi-deck car park.
- O3. Reduce the amount of at-grade car parking as Perisher Village is developed.

Controls

- C1. Provide car-parking in reference to the ILP provided at **Figure 20**, including:
 - a. consolidated at-grade car parking at Perisher Village and Pipers Gap for day visitation,
 - b. parking within podium levels of new buildings, and
 - c. parking structure at Perisher Village.
- C2. The redevelopment of Perisher Village must offset the existing day car parking spaces in a staged manner. The construction of parking along the northern side of Kosciuszko Road should be undertaken early in developing phasing to improve pedestrian safety.
- C3. At-grade car parking must not be the dominant element from gateway views and should be integrated into the overall building design and screened.
- C4. There will be no net increase in day parking spaces within Perisher Village.
- C5. The siting and design of car parking must minimise disturbance to sensitive vegetation and creek lines. All new parking spaces (for overnight and day visitors) contained within a building or parking structure have the electric circuitry (cabling, distribution board and power supply for 'Level 2' electric vehicle charging points.
- C6. All parking areas in Perisher Village with over 20 spaces must provide one car parking space or 5% of all car parking spaces with a 'Level 2' electric vehicle charging point installed. These charging points should be provided in undercover structures or otherwise sheltered to prevent snow and ice build-up on the equipment.

Refer to [Chapter 4](#) for parking rates and [Chapter 5](#) for requirements of the Alpine Carrying Capacity Framework.

2.1.1.3 Outer Perisher Valley and Perisher Valley Priority Infill Area

Outer Perisher Valley and Perisher Valley Priority Infill Area perform a support function for the key activity hub of Perisher Village. Outer Perisher Valley will continue to serve a similar function in the future, whilst the Perisher Priority Infill Area will provide additional accommodation options.

2.1.1.3-1 Existing character and built form

Outer Perisher Valley provides a range of accommodation options predominantly in the form of one to two storey lodges and alpine clubs. The Sundeck Hotel is a popular destination for accommodation and dining located along Burramys Road near the Alpine Church and Perisher Ski Patrol Headquarters.

A selection of photos that indicate the existing character within Outer Perisher Valley is provided at Figure 23 to Figure 24.

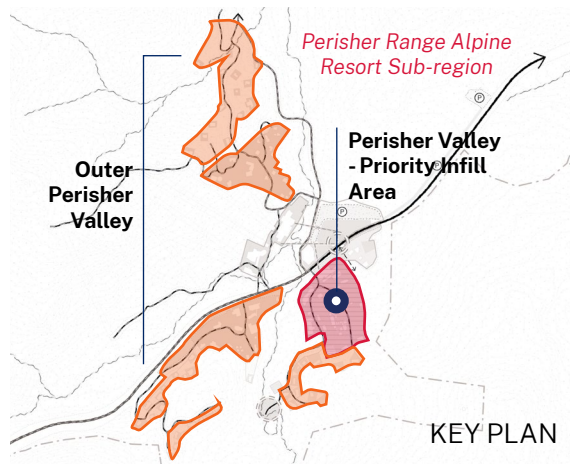


Figure 23. The Alpine Church and Perisher Ski Patrol HQ (Perisher Creek in the foreground)



Figure 24. Corroboree Ski Lodge

The **Perisher Valley Priority Infill Area** is currently home to The Man from Snowy River Hotel and a range of other accommodation options including apartments, chalets and lodges. Buildings are spread out and scattered across the undulating landscape, interspersed by landscape features including creeklines, rocks, shrubs and stands of trees. Access is provided via Porcupine Road from Kosciuszko Road.

There is currently no consistency in the design of built form or material choice as evident in the photos at Figure 25 to Figure 26.



Figure 25. The Man from Snowy River Hotel



Figure 26. Marritz Hotel



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2.1.1.3-2 *Desired future character*

Outer Perisher Valley will continue to support the main village providing a variety of accommodation options, retail and dining opportunities.

The **Perisher Valley Priority Infill Area** has been identified as an appropriate area for additional/new built form due to its close proximity and support role in the establishment of the Perisher Village as the gateway to the Perisher Range Alpine Resort. The precinct is predominantly disturbed land (due to previous development), presents limited environmental constraints and has an existing road network that may provide suitable access for new development.

The Perisher Valley Priority Infill Area will support the hub of Perisher Village with varied accommodation options, retail, entertainment and food and beverage outlets. The density of built form and activity generated by increased accommodation will establish a unique character for the area.

The lower scale of development and dominant accommodation landuse is conducive to amenity such as restaurants and bars that are internalised with minimal noise and light emission.

The Priority Infill Area will provide a more relaxed experience to that of the buzz and excitement provided within Perisher Village, with a focus on providing family friendly activities such as areas for snow play between buildings and along street frontages. Soft, warm lighting along streets and public spaces will create an inviting night time atmosphere that encourages activity and movement between key destinations.



Figure 27. Precedent image: Adelboden, Switzerland
Source: <https://www.pinterest.com.au/pin/305470787249378294/>

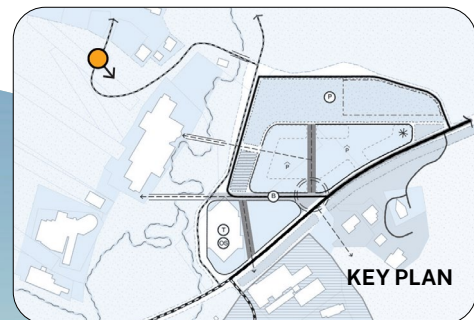


Figure 28. Artists impression : View of Perisher Valley Priority Infill Area from Kosciuszko Road

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2.1.1.3-3 Land use and activities

Objectives

01. Land uses will complement the role of the expanded Perisher Village whilst increasing choice for visitors by providing a different experience.
02. Prioritise expansion of tourist and seasonal worker accommodation, food and drink premises and other tourism-based activities within identified development areas.
03. Ensure accommodation infill supports diverse accommodation and reflects seasonal patterns and demographic requirements.
04. Support improved trail heads for walking and hiking, including through additional amenities, small scale commercial opportunities and car parking.

Within the **Perisher Valley Priority Infill Area:**

05. Contribute to expanding the short-term and staff accommodation offer within Perisher Valley.
06. Redevelopment is to represent an efficient use of existing disturbed areas.
07. Provide a more compact engagement within Kosciuszko Road that defines the road edge.

Controls

- C1. Development provides for a diversity of accommodation typologies including lodge style and staff accommodation.

Within the **Perisher Valley Priority Infill Area:**

- C2. The environmental impact of redevelopment must be limited by focusing on already disturbed land in the infill area.

2.1.1.3-4 Building setbacks and separation

Objectives

01. Retain and enhance the low-density landscaped character of outer visitor accommodation precincts.
02. Protect the existing amenity and function of streets and public spaces by providing appropriate amenity on site.
03. Ensure privacy for occupants and limit overlooking of habitable rooms between accommodation buildings.
04. Maintain the current 'building within landscape' approach and connection with nature in between buildings to provide casual outdoor break out spaces for visitor enjoyment, in close proximity to accommodation.

Controls

- C1. Building setbacks from the main street frontage are to be complimentary to existing surrounding development.
- C2. The front setback should include sufficient off-street allowance of space vehicles to drop off / pick up passengers and deliver goods. Where lot are irregular or do not directly front a street, development should ensure there is ample area between the street and the lease boundary for the drop off and pick up of customers and goods.
- C3. Building alterations and extensions should be set back from any creek or wetland/bog in order to provide for an appropriate buffer/transition zone. This is to also address the requirements of [Chapter 4](#).
- C4. A minimum building separation of 12m is to be employed to ensure privacy between habitable rooms and maintain a connection with the landscape by opening up view corridors to the landscape beyond.
- C5. Areas between buildings should be considered for casual 'break out' space (snow play and the like).



2.1.1.3-5 Building form

Objectives

- O1. Development supports the desired future character of Perisher Valley and facilitates business, tourism activities and supporting land uses.
- O2. Buildings are designed to contribute and enhance the desired future character of Perisher Valley.

Controls

- C1. The bulk and scale of any development is designed sympathetic to the natural environment and does not dominate the landscape.
- C2. Alterations and additions to existing buildings should be sympathetic to the existing architecture.
- C3. Redevelopment of existing accommodation buildings avoids adverse impacts on native vegetation. Where impacts cannot be avoided, it must be demonstrated that significant natural features and habitat linkages are not adversely affected.

Within the **Perisher Valley Priority Infill Area:**

- a. buildings are to be designed to clearly define Kosciuszko Road in their shape and orientation, as well as providing passive surveillance over the roadway by incorporating windows and entry points at the road side.
- b. buildings are to be setback from Kosciuszko Road sufficient to allow for its safe ongoing operation, including for snow clearing, and
- c. where buildings accommodate car parking it is to be integrated into the building design and contributes towards high quality architecture.

2.1.1.3-6 Building height

Objectives

- O1. Ensure that the height, bulk and scale of development is consistent with the desired future character of the area.
- O2. Maintain key view corridors and vistas from public spaces and vantage points.
- O3. Development is designed in a manner sympathetic to the natural landform, vegetation, and other features of the landscape.

Controls

- C1. Development is primarily to be two storeys and where appropriate, stepped to the terrain.
- C2. A maximum building height of three storeys may be permitted where development demonstrates that the additional storey is stepping with steep sites and does not result in visually bulky buildings or development which dominates views to and from the surrounding areas.

Within the **Perisher Valley Priority Infill Area:**

- C3. A maximum building height of four storeys is permitted where development demonstrates that it does not result in visually bulky buildings or development which dominates views to and from the surrounding areas.



2.1.1.3-7 Building materials and colour palette

Objectives

- O1. Ensure that buildings appropriately respond to the alpine setting of Perisher Valley.
- O2. Select building materials and colours that blend development with the natural summer environment.

Controls

- C1. Natural stonework, such as granite or similar, should be incorporated into the ground floor facade, particularly in areas readily viewed from the public domain.
- C2. Building facade does not incorporate large expanses of glass.
- C3. Ensure chosen materials are hard wearing and long lasting to withstand the Alpine environment.
- C4. Sun-angle diagrams are to demonstrate that glare and/or reflections will not present a hazard in the Alpine Sub-region or impact on natural areas of the KNP.
- C5. Colours for large expanses of external wall must be recessive and sympathetic to the landscape character in the Alpine Sub-region.

2.1.1.3-8 Views and vistas

Objectives

- O1. Maintain a strong relationship between Perisher Valley and its landscape context, including views to adjacent snow fields and surrounding hills and ridge lines.
 - O2. Respond to key gateway views from Kosciuszko Road to facilitate an improved arrival experience.
- C1. Key views and vistas to be protected and enhanced include:
 - a. gateway views to the Perisher Village from Kosciuszko Road at Pipers Gap, and from the direction of Charlotte Pass at Perisher Gap,
 - b. direct east-west visual linkage between the Roman Catholic Church and Front Valley,
 - c. visual connections (east-west) between arrival points/parking areas and Front Valley, and
 - d. opportunities for vistas along valleys and creek corridors, including along the Perisher Creek and Rock Creek corridors.

Controls

- C1. Distribute building heights to retain views across Perisher Village to the ski slopes and landscape features.
- C2. Built form at landmark locations must respond to its prominent location.

2.1.1.3-9 Connectivity, street network and active transport

Objectives

- O1. Reinforce active transport links to other parts of Perisher Valley and the KNP more broadly for walking, hiking and cycling.

Controls

- C1. Pedestrian footpaths should be incorporated into new and upgraded streets to provide connectivity with the pedestrian network.
- C2. A three metre wide shared path will be provided along the northern side of Kosciuszko Road providing access between Perisher Village and the Pipers Gap carpark. The path will facilitate the safe passing of pedestrians and cyclists, and space required for people carrying skis and snowboards during winter. The materials and design of the path should minimise impact on the surrounding sensitive environment.



2.1.1.3-10 Parking

Objectives

- O1. Provide appropriate parking for summer visitors, noting that parking may not be accessed in winter.

Controls

- C1. At-grade car parking must not be the dominant element from gateway views and must be integrated into the overall building design and screened.

Refer to [Chapter 4](#) for parking rates and [Chapter 5](#) for requirements of the Alpine Carrying Capacity Framework.



2.1.2 Smiggin Holes

2.1.2.1 Existing character and built form within Smiggin Holes

Smiggin Holes village is located to the north of Perisher Valley within a small valley located off Kosciuszko Road. The compact village setting presents a range of building typologies, located within the undulating landform and/or along the main access roads.

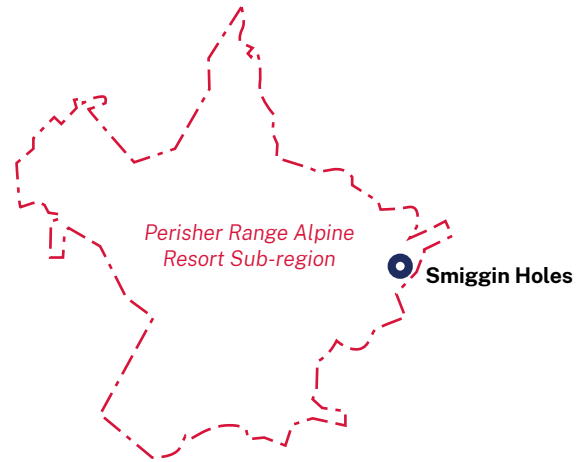
Key buildings and uses include the Smiggin Hotel and Arcade, the at-grade day car park and the accommodation buildings to the east and west. Club and commercial lodges are the dominant types of accommodation at Smiggin Holes. Shops and services at Smiggin Holes are generally limited to retail/hire ski supplies and gift stores.

The entry to the precinct is marked by the maintenance workshop used to house machinery and equipment which is located between the two access roads, Link Road and Corroboree Road.

Buildings are predominantly 3 storeys in height, dispersed across the sub-precinct. Whilst there is no uniformity in the approach to setbacks and separation, existing built form is sited relatively close together which contributes to the compact nature of the accommodation precincts within the village. The accommodation buildings within the eastern part of the village are interspersed with heath and woodland. The accommodation buildings within the western part of the village sit within disturbed vegetation, which adjoins dense alpine heath with eucalypts to the south.

An expanse of carparking forms the central focus of the precinct, located between accommodation in the east and the ski fields in the west.

Figure 29 to Figure 31 provide a selection of photos that demonstrate the existing character of Smiggin Holes.



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Figure 29. Gunama Lodge



Figure 30. View northwest from Gunama Lodge



Figure 31. View south along Link Road

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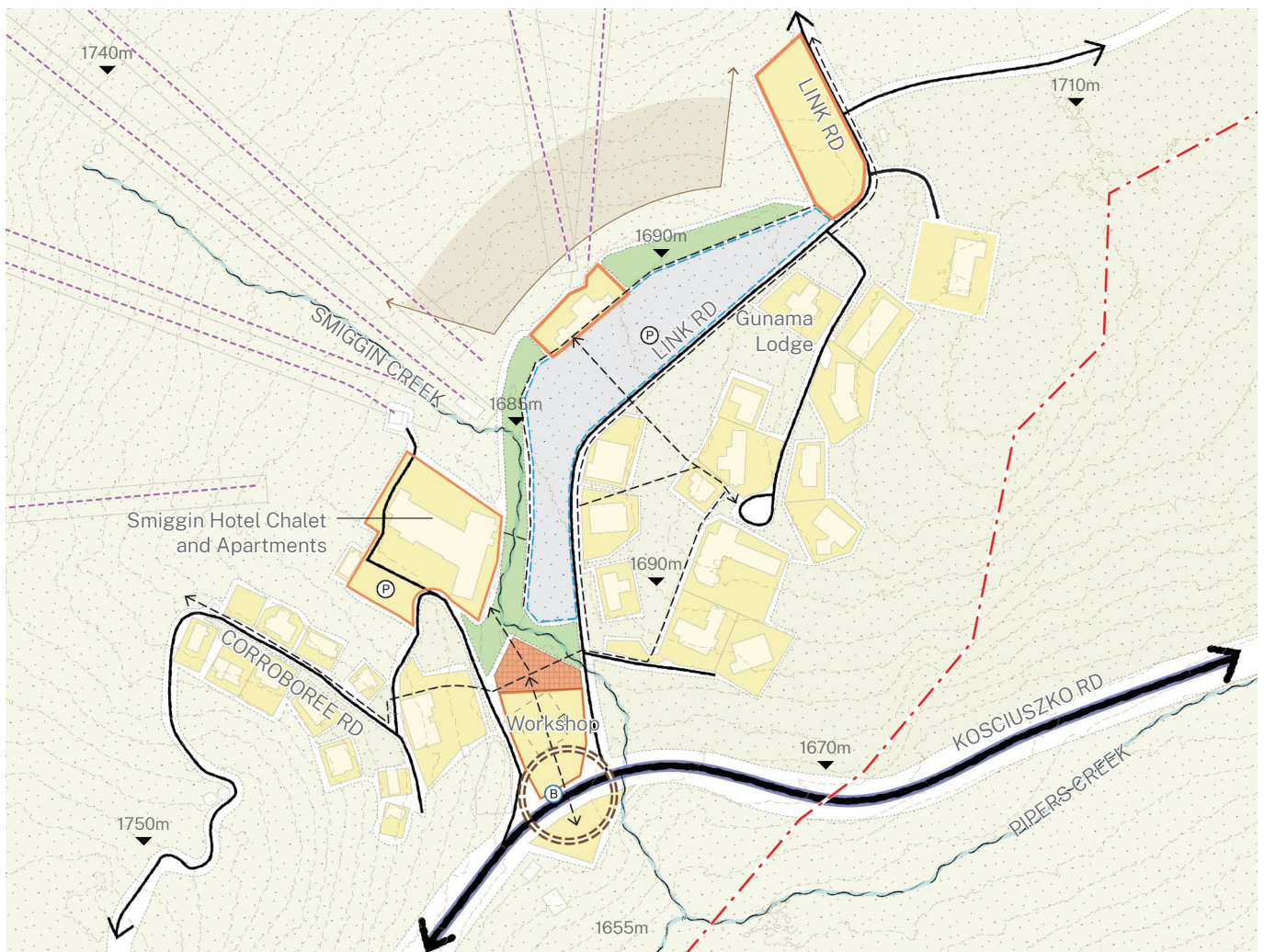


2.1.2.2 Desired future character for Smiggin Holes

Smiggin Holes will maintain its low-density village character and family friendly atmosphere. While the site will not undergo significant growth, sensitively designed redevelopment opportunities exist to enhance accommodation and commercial offerings while retaining the sub-precinct's valley views and woodland setting.

Expansion and/or refurbishment of existing development is the preferred growth model for Smiggin Holes. The Smiggin Hotel and Chalet Apartments have been identified as a key development site given the large sized parcel of disturbed land. Furthermore, key development sites comprising the former concrete batching plant site on the northern edge and Wattle Lodge at the foot of the ski slope both provide opportunity for redevelopment leveraging their strategic location.

A key opportunity may exist in the repurposing of the existing workshop located adjacent to the site's entrance from Kosciuszko Road. Redevelopment of this site may provide a new tourist node, car parking and gateway entry to the resort. A suitable alternative location for the workshop will be required should this development occur.



KEY	Sub-precinct boundary	Subject to further investigation	Open green space	Shared/active link
Cadastre	Key development site	Key public space	Buffer zone	Cableways
Existing buildings	Parking	Parking within built form	Gateway	View protection
5m contours	Arterial roads	Local roads	Creeks	Elevation
Development area	Bus stop and route			

Figure 32. Smiggin Holes ILP

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2.1.2.3 Objectives and controls for Smiggin Holes

For objectives and controls that apply across all alpine Sub-regions, refer to [Chapter 4](#).

Objectives

- O1. Maintain the role of Smiggin Holes as a small-scale village.
- O2. Enable expansion of Smiggin Holes focussed within identified key development sites to minimise impact on sensitive alpine vegetation and habitats.
- O3. Provide for functions that support resort operations including servicing, workshops and storage, whilst screening them from key gateway locations where possible.
- O4. Strengthen the existing village character and family-friendly appeal through complementary uses.
- O5. Maintain a strong relationship between Smiggin Holes and its landscape context, including views to adjacent snow fields and surrounding hills and ridge lines.
- O6. Improve public transport access to Smiggin Holes from Jindabyne and other alpine villages.
- O7. Prioritise development within key development sites in accordance with the ILP at **Figure 32**, including:
 - a. current workshop site along Kosciuszko Road -to include accommodation, visitor information, administration and or parking, as well as landscaping treatment to Kosciuszko Road. This may require relocation of the existing workshop,
 - b. Smiggin Hotel and Chalet Apartments,
 - c. former batching plant site -parking and/or tourist and visitor accommodation that takes advantage of its location adjacent to ski slopes providing ski-in / ski-out opportunities, and
 - d. Wattle Lodge -opportunity to expand on the range of accommodation and uses at a strategic location at the base of the ski slope. Significant redevelopment is to consider the views of nearby development to the main slope.

Controls

- C1. Key development sites should include a mix of accommodation, visitor and commercial or day-uses as appropriate.
- C2. The bulk, mass and scale of the replacement or significant alterations and additions will sit beneath the tree canopy; be designed to blend in with the natural environment; and not dominate the landscape.
- C3. Ensure that development in disturbed areas or areas of low environment constraint is prioritised.
- C4. Building height is to be stepped consistent with the terrain (where possible) and must be no greater than three storeys.
- C5. Provide new public spaces in accordance with the ILP at **Figure 32**.
- C6. Parking is to be provided for new development and should be provided within established lease areas.
- C7. Buildings are to be designed and orientated to respond to snow deposition patterns and ensure that the development can continue to operate in a safe and comfortable manner.

Refer to [Chapter 4](#) for parking rates and [Chapter 5](#) for requirements of the Alpine Carrying Capacity Framework.



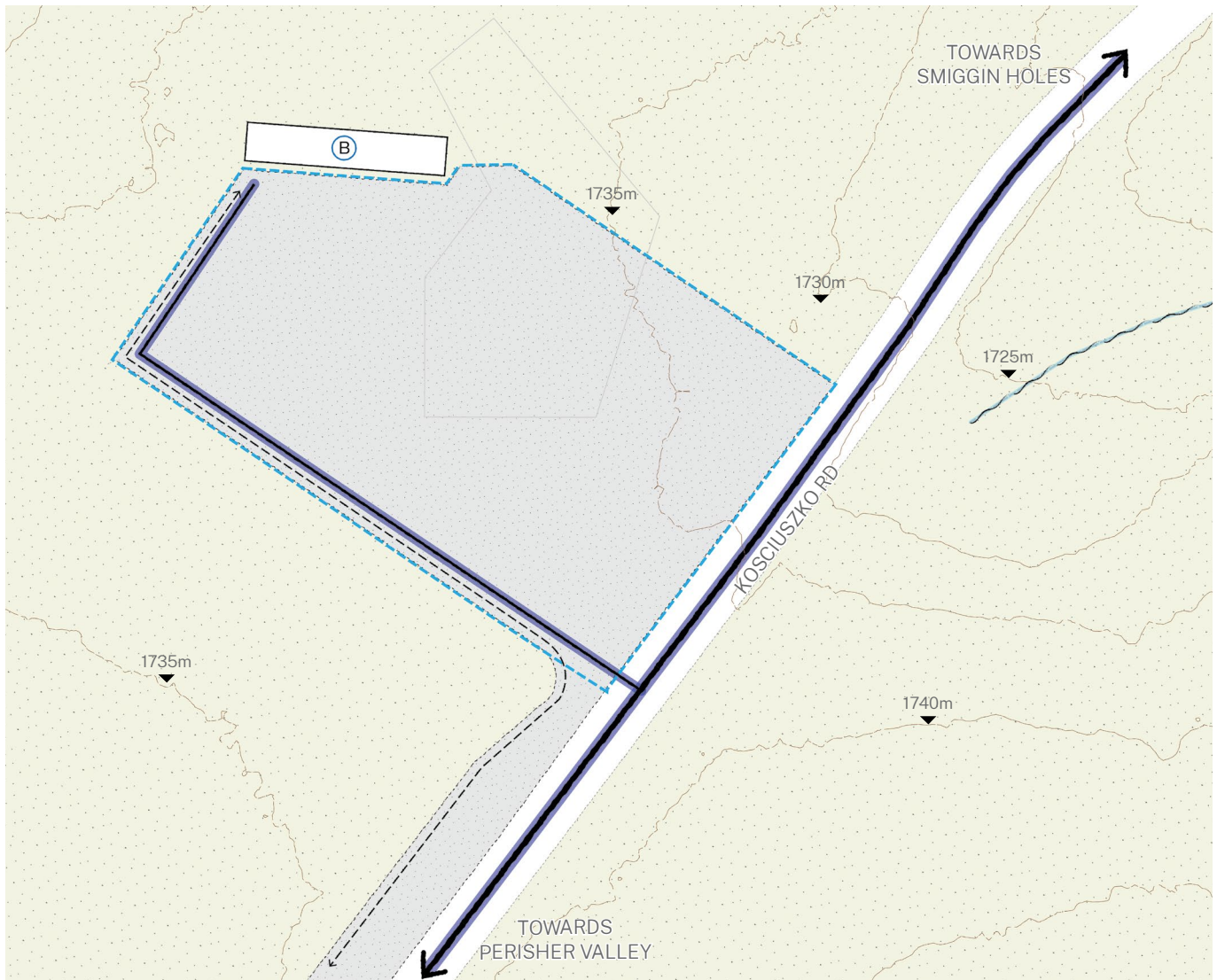
2.1.3 Pipers Gap

2.1.3.1 Desired future character for Pipers Gap

Pipers Gap, located between Perisher Valley and Smiggin Holes off Kosciuszko Road is proposed to accommodate a multi-use hub comprising the following features and facilities:

- car parking for day visitors in winter and summer,
- Park and Ride Shuttle terminus,
- shelters and transit amenities,
- dedicated recreational snow play area in winter, and
- provision for small scale retail and/or food and beverage offering.

The extent of land required for development at Pipers Gap will be determined alongside plans for carparking provision within Perisher Valley. The ILP at **Figure 33** indicates an area for further investigation which presents the least environmentally sensitive location for development.



KEY

Sub-region boundary	Bus route	Shared/active link
Cadastre	Parking	Creeks
5m contours	Open green space	Elevation
Park and ride shuttle terminal	Roads	Final extent of car park subject to further investigation

Figure 33. Pipers Gap ILP

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2.1.3.2 Objectives and controls for Pipers Gap

For objectives and controls that apply across all Alpine Sub-regions, refer to [Chapter 4](#).

Objectives

- O1. Encourage uses that provide year-round activation and enable flexibility across summer and winter seasons.
- O2. Explore options to reduce the footprint of the Pipers Gap car park and minimise environmental impacts, in consideration of the total parking requirements of Perisher Range Alpine Resort.

Controls

- C1. Accommodate a multi-use hub on the north-western edge incorporating a park and ride shuttle terminus, shelters and transit amenities and provision for small scale retail and/or food and beverage offering. The siting of the hub will assist with snow deposition.
- C2. Provide car parking for day visitors.
- C3. Provide dedicated recreational snow play in winter with access infrastructure to and from the snow play area which avoids trampling of vegetation.
- C4. Provide sufficient waste receptacles and signage which encourages responsible waste disposal.
- C5. Provide a separated active transport link along Kosciuszko Road between Pipers Gap and the Perisher Village.

2.1.4 Guthega

2.1.4.1 Existing and desired future character of Guthega

Guthega is the most remote of the Alpine Sub-regions, occupying the north-western corner of the Perisher Range Alpine Resort Sub-region, adjoining the Snowy River and Guthega Pondage.

The Guthega Ski Centre marks the entry to the village, with day parking located adjacent. Car parking provides 60 spaces for day visitors and 50 spaces for overnight visitors.

Accommodation is the key land use within the Sub-region providing for circa 240 guests, with club lodges being the dominant form of accommodation. Other uses within the village comprise a limited range of food and drink premises and a ski hire equipment store and backcountry guiding service located at Guthega Ski Centre.

Built form comprises a small number of two to three storey buildings, predominantly lodges and chalets, nestled amongst the landscape in a linear alignment perpendicular to Guthega Road and Mount Tate Road. Lower levels generally comprise a basement / mud room or limited habitable space.

Many of the buildings along Mount Tate Road offer uninterrupted views across Snowy River towards the Main Range Management Unit. Whilst the built form material palette differs from building to building, the colours and materials chosen blend with the surrounding landscape.

Future development will largely be limited to upgrades and expansions to the existing chalets and lodges focused around existing disturbed areas as demonstrated in the ILP at [Figure 37](#).

[Figure 34](#) to [Figure 36](#) provide a selection of photographs that demonstrate the existing character of Guthega.



2.1.4.2 Objectives and controls for Guthega

For objectives and controls that apply across all Alpine Sub-regions, refer to [Chapter 4](#).

Objectives

- O1. Retain and enhance the isolated, landscaped character of Guthega Sub-region.
- O2. Protect and enhance existing view corridors to the Guthega Pondage, Snowy River and Main Range Management Unit.
- O3. Maintain a strong relationship between Guthega Sub-region and its landscape context, including views to the Guthega Pondage, Snowy River and surrounding hills and ridge lines of the Main Range Management Unit.
- O4. Establish Guthega Sub-region as a back-country activity destination and staging point.

Controls

- C1. The bulk, mass and scale of any replacement, extension or refurbishment will be designed to blend in with the natural environment and not dominate the landscape.
- C2. Building alterations and additions need to be designed and orientated to respond to snow deposition patterns so that the development can continue to operate in a safe and comfortable manner.
- C3. Buildings are to be a maximum height of three storeys, stepped to the terrain where possible.
- C4. Improve safe and comfortable pedestrian access to walking tracks including the Illawong Walk (part of the Snowies Alpine Walk) from car parks and trail heads.
- C5. Create safe pedestrian connections to the ski-slopes and to backcountry access trailheads.
- C6. Provide future connections in accordance with the ILP at **Figure 37**.
- C7. Retain the at-grade car park at the Gateway to Guthega Sub-region.
- C8. Provide additional parking in association with the trail-head upgrade to the Illawong Walk.

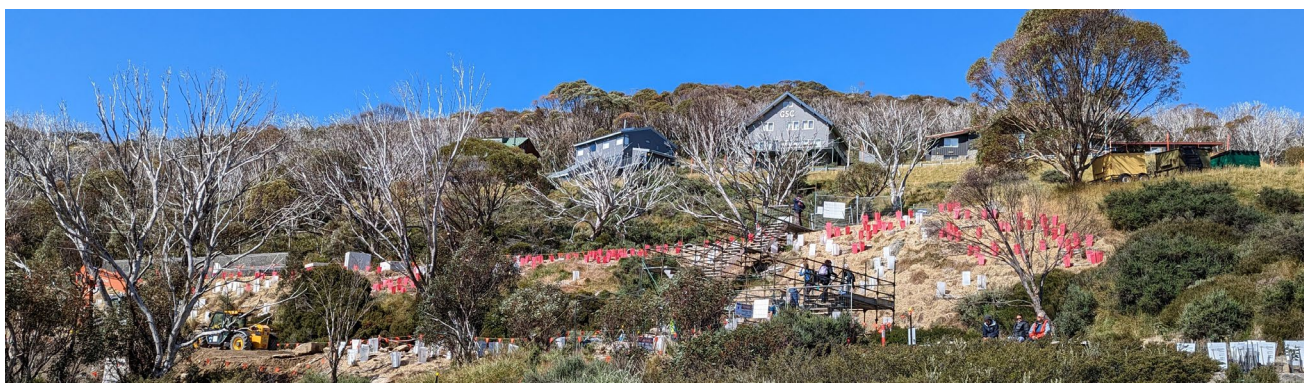


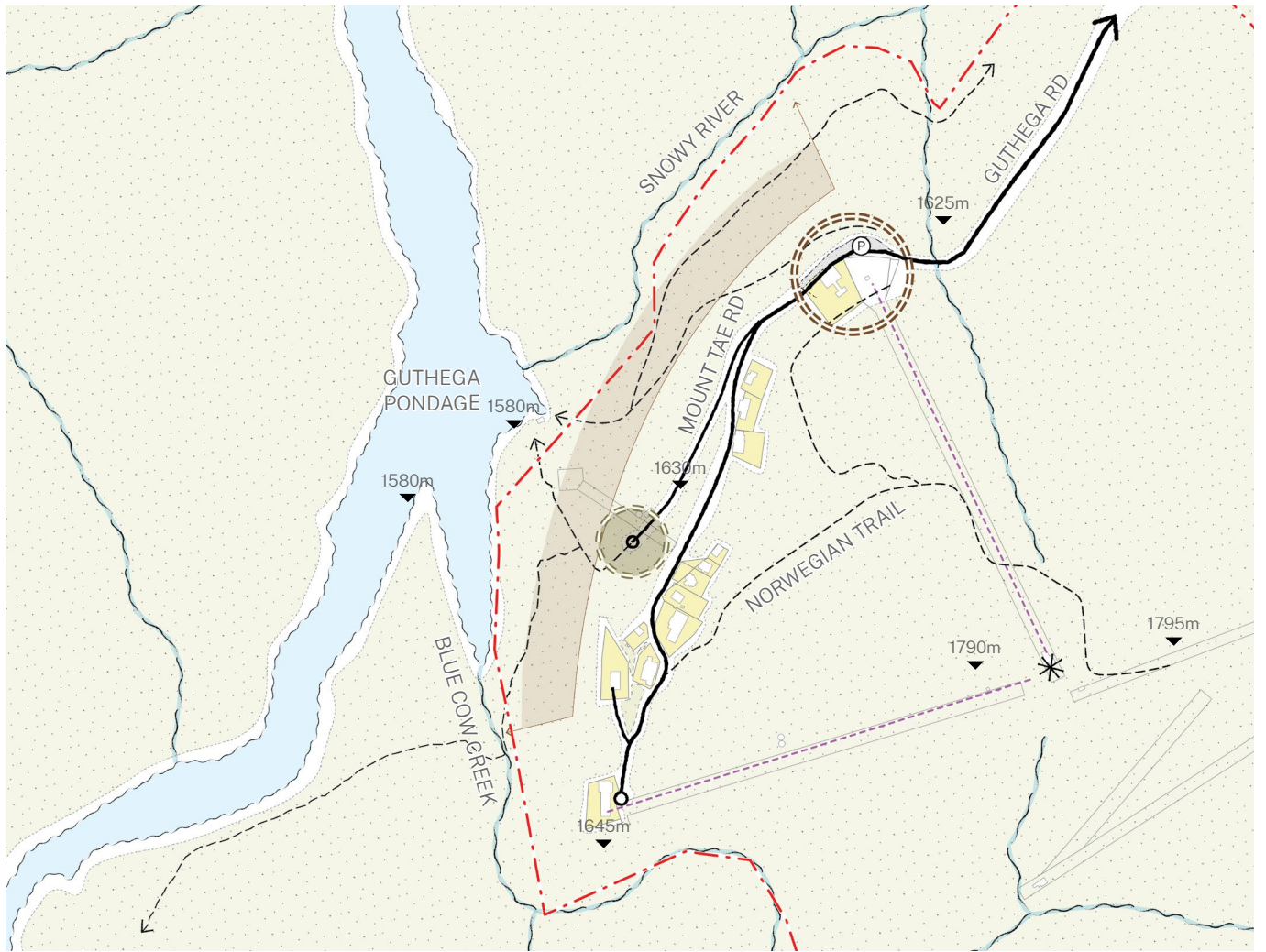
Figure 34. Lodges and ski clubs along Farm Creek Place



Figure 35. Guthega Centre



Figure 36. Brindabella Ski Club from Mount Tate Road – Tiobunga Lodge



KEY

- | | | | |
|---------------------|------------------|---------------------|--------------------|
| Sub-region boundary | Development area | Gateway | Shared/active link |
| Cadastre | Parking | Upgraded trail head | Cableways |
| Existing buildings | Buffer zone | Arterial roads | Views |
| 5m contours | Open green space | Local roads | Creeks |
| | | | Elevation |

Figure 37. Guthega ILP

2.1.5 Blue Cow Terminal

2.1.5.1 Existing and desired future character of Blue Cow Terminal

Blue Cow Terminal Sub-region is located east of Guthega Sub-region and encompasses the Blue Cow Ski Tube Terminal. The Ski Tube is the only public access to the Sub-region for non-skiers and provides access to a middle station at Perisher Valley and base station at Bullocks Flat. Restaurants, cafes and take-away food shops are located at the terminal. Downward slopes and ski lifts are located to the east and north-east of the terminal. This provides access to the ski-lifts and slopes of Blue Cow Mountain, located further north-east of the terminal. There is no accommodation at Blue Cow Terminal Sub-region, with the exception of staff accommodation.

Future changes to this Sub-region are expected to be limited to improvements on the existing train station and day lodge facility – such as enclosing deck areas.

No changes are proposed to the existing land uses and activities at the Sub-region, with the potential for some modest additional staff accommodation, and improvements to the existing on-mountain infrastructure and associated retail and amenities.

The Blue Cow Ski Tube Terminal is the only building at Blue Cow. It is three storeys in height with a large building footprint that follows the topography of the land so that the south side of the building presents as two storeys (see **Figure 38** south elevation).

The principal elevation of the terminal building is northward towards Blue Cow Mountain and nearby ski slopes. A larger outdoor seating area is located on the upper deck, which is orientated south over the Perisher Valley. The building incorporates a series of low pitched, stepped roof forms, which assists in minimising the overall bulk.



Figure 38. Blue Cow Terminal (south elevation)



2.1.5.2 Objectives and controls for Blue Cow Terminal

For objectives and controls that apply across all Alpine Sub-regions, refer to [Chapter 4](#).

Objectives

- O1. Encourage opportunities for continued winter activation of Blue Cow Terminal Sub-region as a key resort day lodge, skier transport and services hub.
- O2. Conserve views and vista from the key gathering areas and from other public places within the Blue Cow Terminal Sub-region.
- O3. Minimise new building structures on the slopes and trails surrounding the Blue Cow Ski Tube Terminal.

Controls

- C1. New development must be consistent with the existing and desired future character statement outlined in Chapter 2.1.5 of this DCP.
- C2. Any additions to the Blue Cow Ski Terminal must protect views from the Main Range Management Unit, particularly as it relates to communication towers and reflective surfaces.
- C3. Retain visual links from key view corridors through new development to the ski slopes and significant topographic features including the Main Range Management Unit.
- C4. Additions to the existing structures are to ensure that the entire cluster of buildings presents as a consistent built form and appropriately considers views to from and across the building.



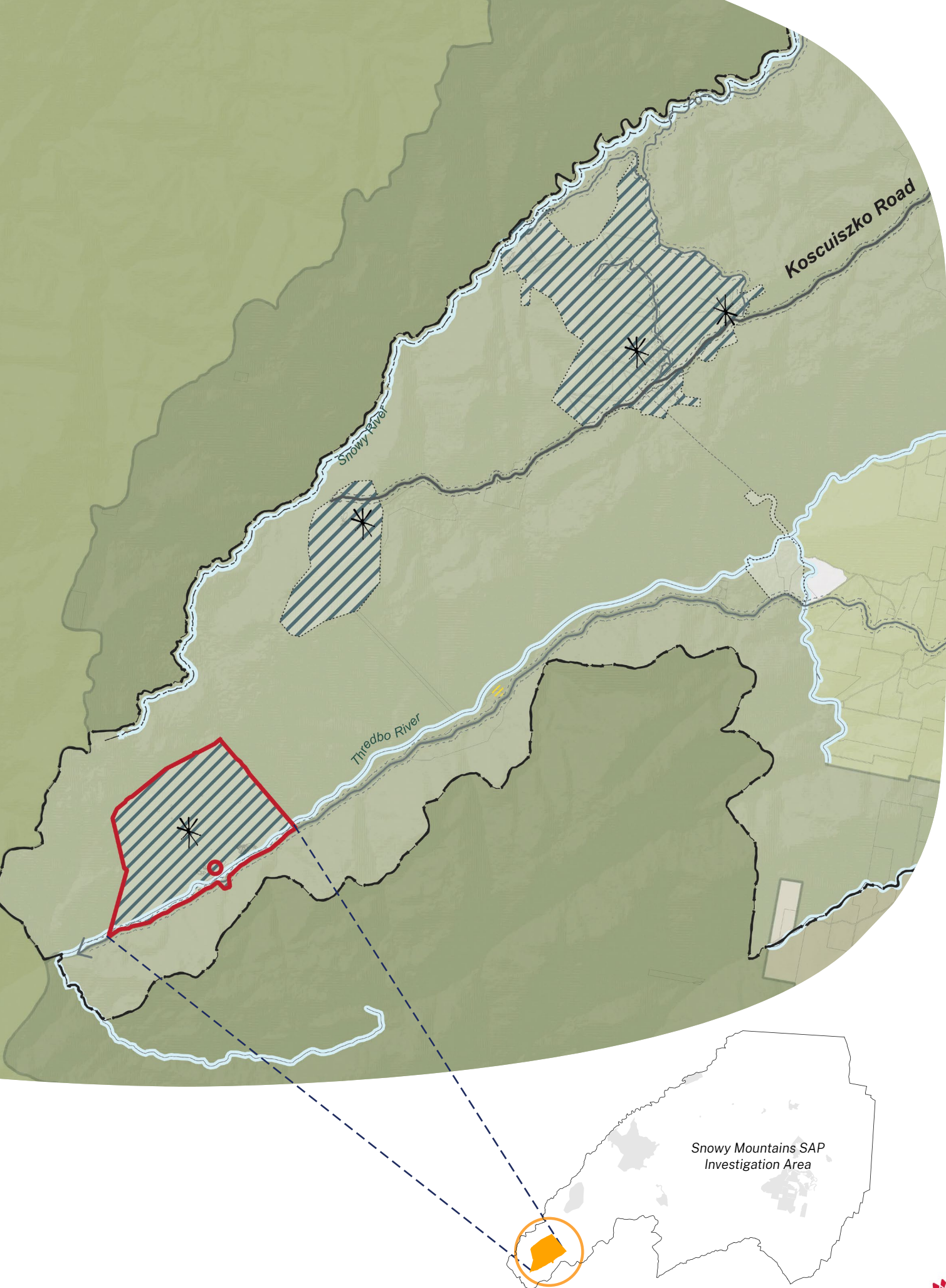


Figure 39. Location of Thredbo Alpine Resort Sub-region

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2.2 Thredbo Alpine Resort Sub-region

2.2.1 Sub-region existing character

The Thredbo Alpine Resort Sub-region presents a strong alpine village form created by its natural setting within a vegetated valley with built form set into the steep slopes. It operates as a year-round alpine resort provides visitors with a range of recreational activities across the winter and summer seasons with the chairlift operating all year round.

Entry into the village is principally via Friday Drive which winds down to the village floor first passing municipal services comprising the sewer treatment plant, waste transfer facility and workshops.

Buildings step up the slopes and are accessed via a narrow winding road network. Built form and scale is concentrated in the village centre with buildings reducing in scale particularly towards the western fringe and has set a benchmark for Australian Alpine style.. A distinct and consistent alpine architecture is found with key features comprising pitched roofs, stone bases, residential scale windows, articulated roof lines and wooden (or wood-like) cladding.

Thredbo River runs through the village dividing the ski fields and supporting infrastructure on the northern slope from the commercial centre and primary accommodation areas. The village is located on the southern side of the Thredbo River with most areas within walking distance.

Figure 39 illustrates the location of the Thredbo Alpine Report Sub-section.

Thredbo Alpine Resort Sub-region character objectives:

01. Maintain and enhance Thredbo as a year-round destination.
02. Deliver new development within existing identified and disturbed sites.
03. Provide tourist accommodation that caters for a variety of different users.
04. Maintain and enhance the character of the village, built form and landscape settings that are distinctive to the Thredbo Sub-region whilst allowing for innovation in the alpine architecture and style.
05. Maintain and enhance the intimate alpine village character of Thredbo Sub-region across all character areas.

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).

How to read and apply this Chapter:

Chapter 2.2 - Thredbo Alpine Resort Sub-region (this Chapter)

Chapter 2.2.2 – Character areas
Provisions for individual character areas within the Thredbo Sub-region
**prevailing provisions*



Chapter 2.2.3 – Overarching provisions for the Thredbo Sub-region



Chapter 4 – General Planning Provisions



Chapter 5 – Alpine Carrying Capacity Framework

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Figure 40 to Figure 47 provide a selection of images that indicate the character of the Thredbo Alpine Resort Sub-region.



Figure 40. Thredbo Alpine Apartments



Figure 41. Thredbo Alpine Hotel



Figure 42. Example built form within Thredbo Alpine Sub-region



Figure 43. Retail at entry to ski field



Figure 44. Example built form within Thredbo Alpine Sub-region



Figure 45. Example built form within Thredbo Alpine Sub-region



Figure 46. Bakery and other retail within the Village Centre



Figure 47. Example built form within Thredbo Alpine Sub-region



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2.2.2 Character area objectives and controls

The Thredbo Alpine Resort Sub-region is defined by distinct accommodation areas that are characterised by their different built and natural environments as well as slope, orientation and surroundings. A place-based approach has been taken for the development controls to capture the existing character and inform the future desired character of each character area.

The character areas are identified in **Figure 48** and are based on the key characteristics of each area, including built form, topography, and landscape setting.

Development within the Thredbo Alpine Sub-Region is to refer to the ILP provide at **Figure 49**.

This chapter contains statements that outline the existing and desired future character of each character area. The statements draw on the distinctive qualities of each character area and provide a framework for the development controls to ensure that new development has regard to the values of the surrounds.

Each character area has a set of more place specific planning controls.

In the event of an inconsistency with the general provisions of this DCP in [Chapter 4](#), and the overarching provisions within Chapter 2.2.2, the provisions of this section (Chapter 2.2.2) would take precedence.

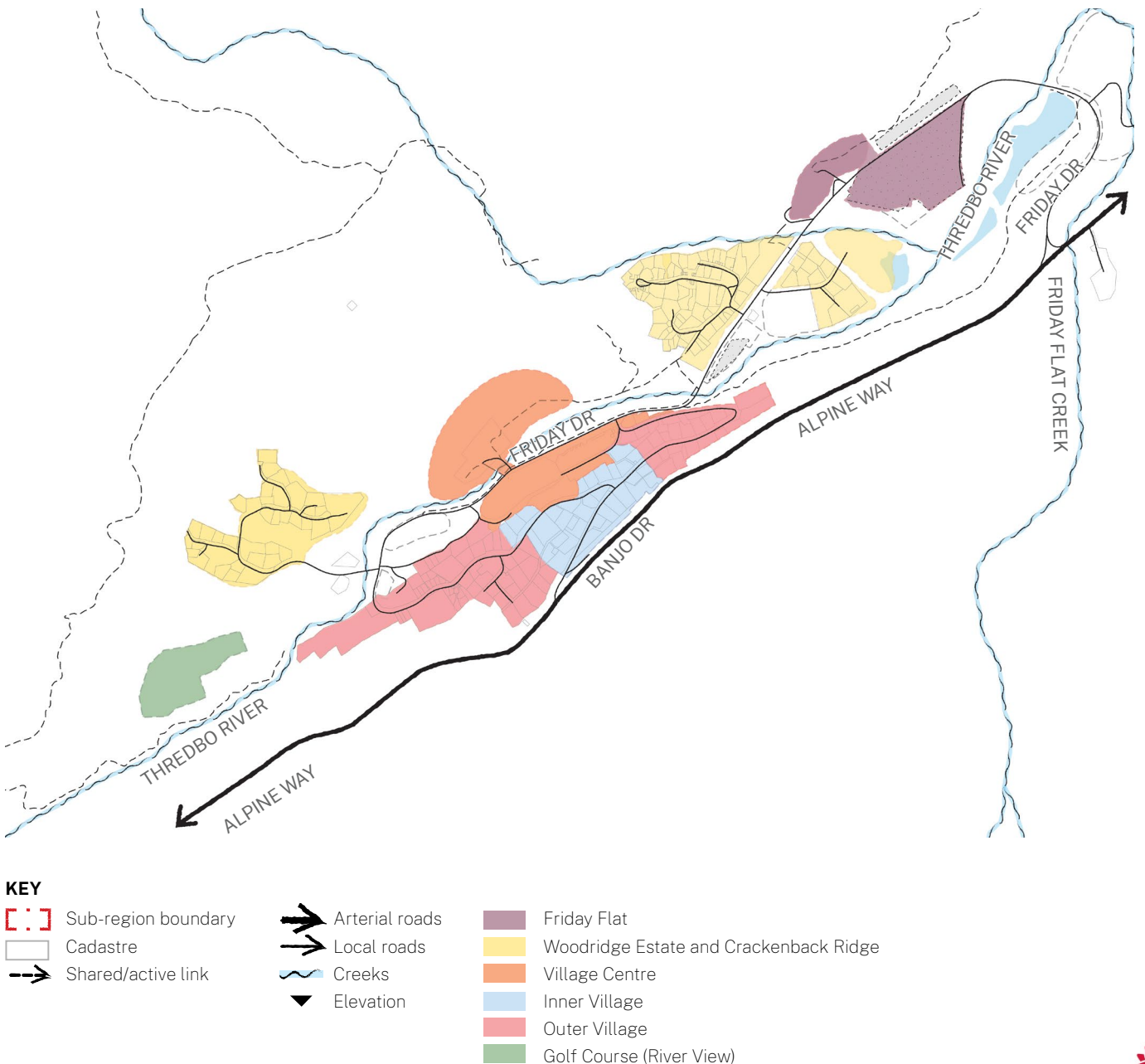
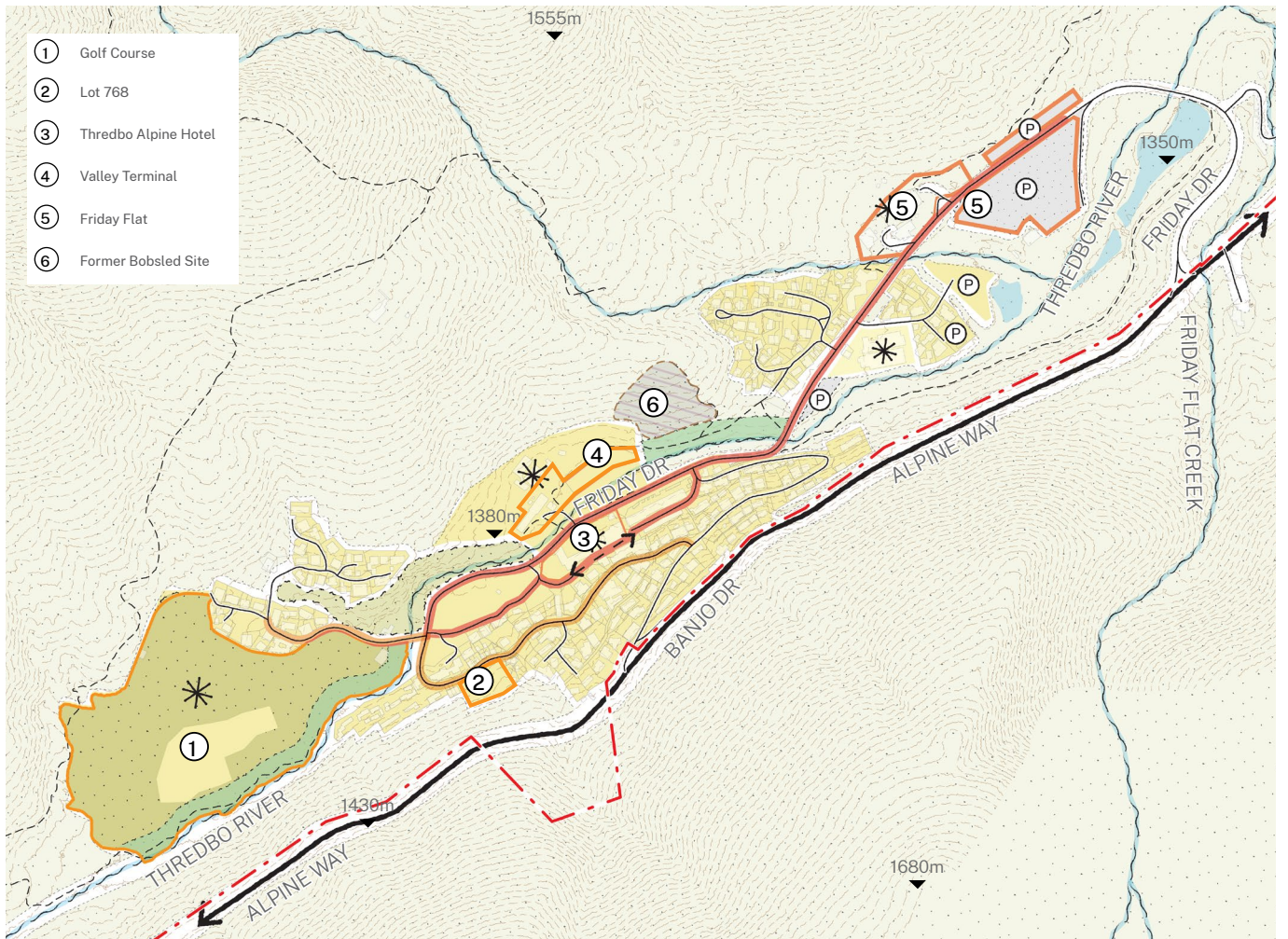


Figure 48. Thredbo Alpine Resort Sub-region character areas

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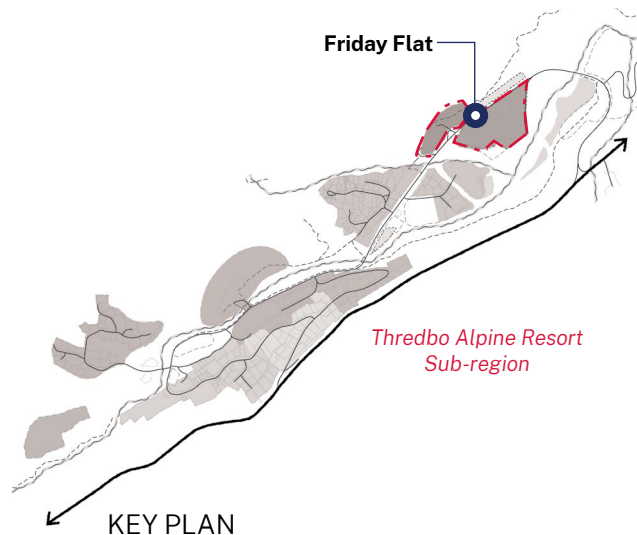
- | | | | |
|---------------------|--------------------|--|--------------------------------|
| Sub-region boundary | Parking | Arterial roads | Desired pedestrian access road |
| Cadastre | Buffer zone | Local roads | Creeks |
| Existing buildings | Green space | Oversnow route/road (closed in winter) | Elevation |
| 5m contours | Key site | Priority pedestrian access road | Gateway treatment (built form) |
| Development area | Investigation area | | |

Figure 49. Thredbo Alpine Resort ILP

2.2.2.1 Friday Flat

2.2.2.1-1 Existing character

As visitors arrive into the valley and cross the Thredbo River they are greeted by the vegetated slopes of the Lower Crackenback Range. Friday Flat functions as the winter base for day visitation with 'Thredbo land' ski school and supporting commercial uses on the northern side of Friday Drive. Also on the northern side is the trailhead of the Thredbo Valley Track, a popular multi-use track which descends along the Thredbo River towards Jindabyne. On the southern side of Friday Drive is the main car park for day visitation with car parks located on both side of Friday Drive.



2.2.2.1-2 Desired future character

Friday Flat will be the arrival point in winter to Thredbo with the gateway located within the Village Centre. The at grade car park will transform into commercial and accommodation uses (seasonal workers, and residential apartments), with a multi deck car park sensitively incorporated into the development. Friday Flat will continue to be the winter day user hub with additional parking and expansion into summer related uses. Pedestrian connectivity with the village will be improved. The existing base station will continue to play a key role supporting day visitation, complementing the redevelopment at Friday Flat.

2.2.2.1-3 Objectives and controls

The following objectives and controls apply to the Friday Flat character area **only**.

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).

Objectives

01. Ensure that the height, bulk and scale of development is consistent with the desired built form future character of the area
02. Heighten the traveller's first perception of approach and arrival in order to enhance recognition of Friday Flats as the arrival gateway to Thredbo and key winter day user node.
03. Maintain key view corridors and vistas.
04. Development is designed in a manner sympathetic to the natural landform, vegetation, and other features of the landscape.
05. Development achieves a high standard of architectural design, materials and detailing.
06. Consider the inclusion of retail services in the form of a small grocery store, café and/or restaurant with active frontages along the ground floor.

Controls

Friday Flat Car Park Key Site

- C1. Development is to include an integrated public car park and ensure no net loss of day car parking spaces
- C2. A maximum building height of five storeys above natural ground level is appropriate, including elevated parking structures, unless appropriate merit-based circumstances enable taller buildings.



- C3. Multi-storey parking structures are to be visually screened as viewed from Friday Drive and along the south-eastern facade through sleeved building forms and / or façade treatment and landscaping. Consideration should also be given to an appropriate facade treatment as viewed from Pipeline Track and Alpine Way.
- C4. Windows of buildings are to be separated by a minimum of 12 metres between buildings. Where a separation of 12 metres cannot be achieved, windows and other openings are to be off-set through screening and other appropriate measures to ensure visual and acoustic privacy is retained.
- C5. Ensure parking structures are screened from view from the prominent public domain areas or from the snow fields. Screening can be through sleeved functional uses, or façade elements that allow for natural ventilation to the car park or through vegetated screening.
- C6. Development is to retain the tree lined corridor along Friday Drive, including screening of the municipal services depot (sewerage treatment plant, waste transfer and workshops).



Figure 50 Artists impression : Example development of Friday Flat key site, Thredbo

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2.2.2.2 Woodridge Estate and Crackenback Ridge

2.2.2.2-1 Existing character

These areas are typified by low scale accommodation buildings within a bushland setting. Ample separation distances are achieved.

Woodridge Estate is located on generally flatter land at the village entrance with buildings predominately two to three storeys in height plus mezzanine levels. The architecture is varied with more bespoke building design and a greater use of timber. Internal roads are heavily vegetated with buildings well setback from the road edge. Roads are rural in nature with limited kerb and gutter.

More contemporary accommodation is located on the southern side of Friday Drive towards Thredbo River and is more landscaped with limited vegetation.

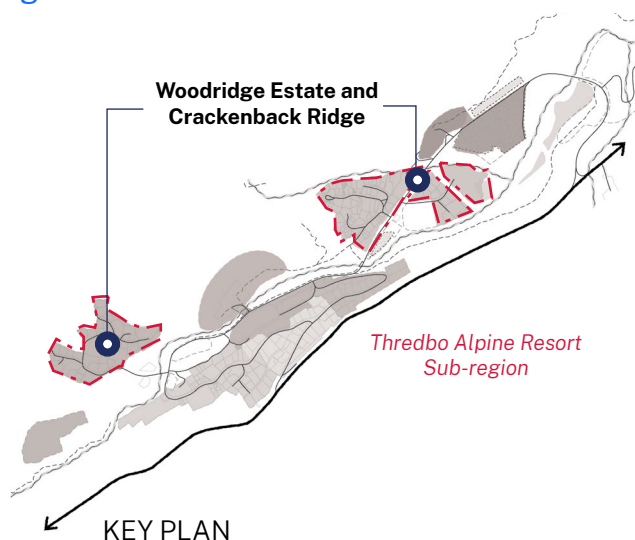
Crackenback Ridge is located on steeper topography on the western edge of the village with buildings predominately two to three storeys in height plus mezzanine levels. The buildings are more substantial and typically have lesser setbacks from adjoining buildings and the internal road network. The architecture is quite consistent with stone integrated into the ground floor levels and lightweight cladding for the upper levels. This applies also to the ancillary structures such as bin enclosures. Buildings are well articulated with a mixture of projections and recessions which contribute towards visual interest.

2.2.2.2-2 Desired future character

For Woodridge Estate there will be opportunity for renewal and expansion of existing buildings while maintaining the low scale accommodation with substantive setbacks and separation from both the internal road network and adjoining buildings. The landscaped setting will be retained where possible while meeting current bushfire requirements. Modern building materials will be utilised which improve bushfire safety outcomes.

At grade car parks will be redeveloped where appropriate parking and parking offsets can be achieved, acknowledging the focus on removing cars from crowded street frontages to assist with winter snow clearing.

For Crackenback Ridge there will be some opportunity for renewal of existing buildings. Redevelopment will continue the consistent architectural themes including the use of stone facades at the ground floor and more lightweight materials on the upper levels. Buildings will be well articulated with the darker and natural colour themes continued.



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2.2.2.2-3 Objectives and controls

The following objectives and controls apply to the Woodridge Estate and Crackenback Ridge character area **only**.

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).

Building setbacks and separation

Controls

- C1. Development achieves the following minimum building setback and separation requirements:
- minimum 15 metre setback as measured from the centreline of Friday Drive to any part of the building,
 - minimum three metre setback from all lease boundaries including to waterways (note riparian corridors may require larger setbacks),
 - minimum six metre separation between buildings, and
 - provide a buffer along Ramshead Creek.

Building height

Controls

- C1. Maximum building height of 11 metres above natural ground level.
- C2. Maximum of two storeys plus a mezzanine or loft area above natural ground level, excluding undercroft, storage and mud rooms on the ground floor or below.

Roof design

Controls

- C1. Development achieves a predominant roof pitch of between 10–30 degrees.

Site coverage

Controls

- C1. Development must not exceed a site coverage of 35% of the lease area.

Soft landscaping

Controls

- C1. Soft landscaping is incorporated into development in accordance with the following:
- minimum 35% of the lease area must provide for soft landscaping, and
 - landscaping must be provided that contributes towards the tree canopy.



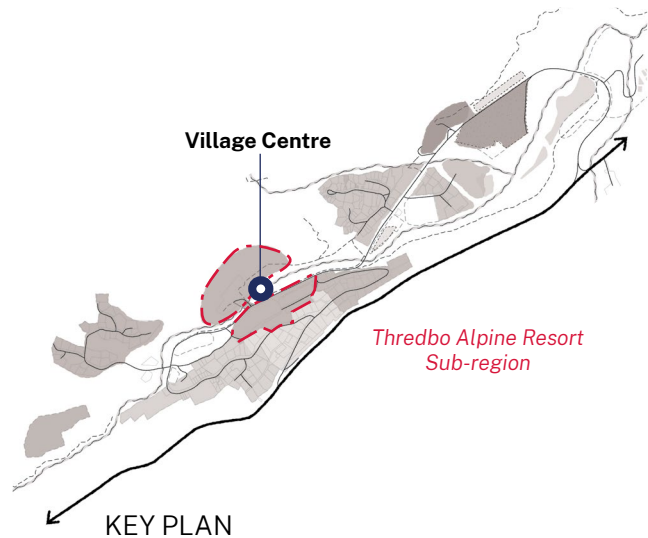
2.2.2.3 Village Centre

2.2.2.3-1 Existing character

The Village Centre is the social and community hub for Thredbo. Four storey apartment style accommodation lines Friday Drive with substantial setbacks from the road edge. At grade car parking and some landscaping can be found within the setback. Thredbo Alpine Hotel is a focal point for the village and is a listed heritage item. It is effectively separated from the road through a change in grade and is screened by the tree lined street.

A central plaza known as Mowamba Place is situated to the rear of the Thredbo Alpine Hotel. This forms the commercial core, dining centre and hub of the village.

The skier/mountain bike/ walker base station and recreational facilities known as Valley Terminal are located on the northern side of the Thredbo River providing access to the main ski lifts and the Mount Kosciuszko trail head.



2.2.2.3-2 Desired future character

Maintain, reinforce and re-invigorate the role of the Village Centre as the main activity hub. A range of uses will support the village as a year-round destination. Commercial hotels and lodges will continue to be concentrated within the Village Centre.

Key sites offer opportunities for more substantial redevelopment, including the incorporation of additional building height to create a focal point for future development. The Thredbo Alpine Hotel will be renewed and expanded in a manner which is sympathetic to its heritage and respects its location at the heart of the village.

The Valley Terminal and associated disturbed areas will be redeveloped to support the on-mountain activities. Building height and scale will be appropriate for the location at the valley floor maintaining the vistas and views towards the ski slope.

2.2.2.3-3 Objectives and controls

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).

Building setbacks and separation

Controls

- C1. Development achieves the following minimum building setback and separation requirements:
- minimum 15 metre setback as measured from the centreline of Friday Drive to any part of the building,
 - minimum three metre setback from all lease boundaries, and
 - minimum six metre separation between buildings.

Thredbo Valley Terminal Key Site

- C2. A maximum building height of three storeys above natural ground level is appropriate, exclusive of ground floor non-habitable uses.
- C3. Building design is to consider the significance of the adjoining built form with respect to architectural detail and roof design.

Building materials and colours

Controls

Thredbo Valley Terminal Key Site

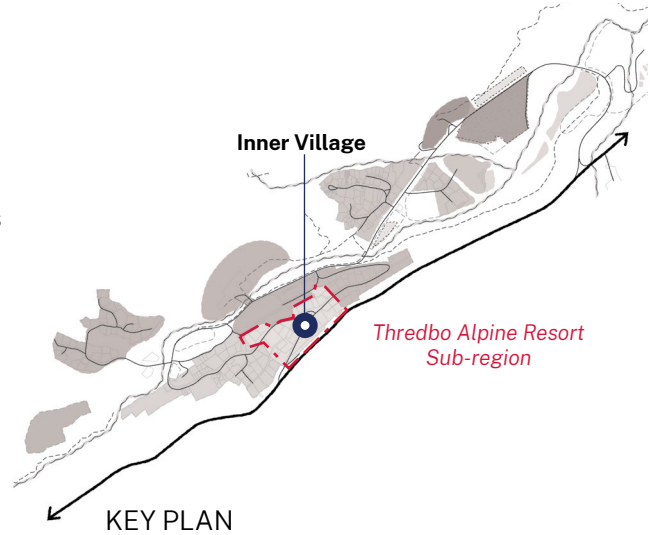
- C1. Where development occurs to the Thredbo Valley Terminal site, the materials and colours are to be of a natural palate and may accommodate sensitive contemporary design.

2.2.2.4 Inner Village

2.2.2.4-1 Existing character

Higher density development responds to the steep topography of the valley. Buildings viewed from the high side of the road network present typically as two storeys in height increasing significantly on the downslope owing to the steepness of the topography, presenting in some circumstances as four storeys in height. There is a mixture of both lodge and apartment typologies with limited commercial offerings.

Trees and vegetation are interspersed amongst the built form with mid-block pedestrian connections providing access to the Village Centre. As development steps up the valley the views of the ski slopes become more prominent.



2.2.2.4-2 Desired future character

The Inner Village will continue to play a key role in the provision of accommodation with opportunity for renewal of existing sites and development of already disturbed areas and appropriate infill areas. Greater commercial offerings will support the role of the inner village with opportunity for food and drink premises, recreation and health and wellbeing uses. Building heights and scale appropriately respond to both the landscape and built form character of the village particularly when viewed from the ski slopes and key public viewpoints.

2.2.2.4-3 Objectives and controls

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).

Building setbacks and separation

Controls

- C1. Development achieves the following minimum building setback and separation requirements:
- minimum three metre setback from side and rear boundaries for new development, and
 - front setbacks are to respond to predominant or established adjoining setbacks to ensure consistency from the street frontage.

Building height

Controls

- C1. The following maximum building heights apply:
- maximum building height of 15 metres above the natural ground level,
 - maximum of four storeys above the natural ground level that steps with the slope of the land (where possible), and
 - ensure that key views and solar access from surrounding up hill developments are considered.

2.2.2.5 Outer Village

2.2.2.5-1 Existing character

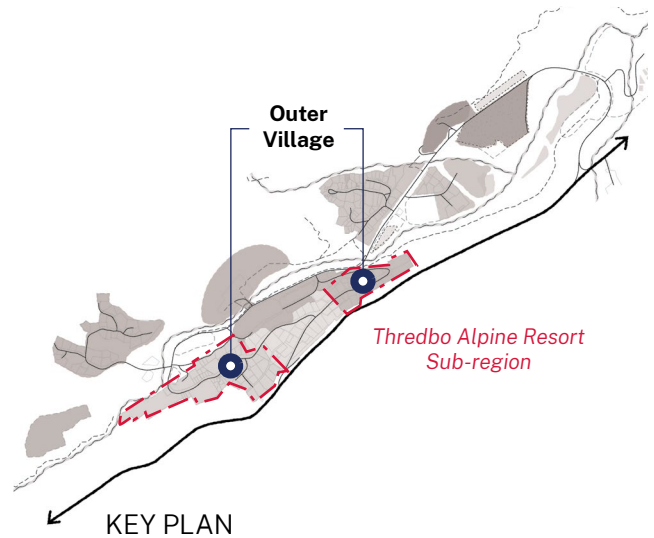
Higher density development responds to the steep topography with winding narrow roads providing access. Accommodation on the western fringe transitions to a lower scale of riverside cabins with limited food and drink offerings. There is a mixture of both lodge, apartment and cabin typologies. Vegetation is interspersed amongst the built form.

2.2.2.5-2 Desired future character

The Outer Village will provide for a greater density of accommodation in support of the Village Centre and Inner Village. Development will generally transition to a lower scale at the western fringe of the village. Renewal of existing accommodation sites and opportunity for more substantive redevelopments in already disturbed areas. Building heights and scale appropriately respond to both the landscape and built form character of the village particularly when viewed from the ski slopes, up and down the valley and key public viewpoints.

2.2.2.5-3 Objectives and controls

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).



Building setbacks and separation

Outer Village eastern area

Controls

- C1. Development achieves the following building setback and separation requirements:
- minimum three metre setback from side and rear boundaries, front setbacks are to respond to predominant or established setbacks, and
 - minimum building setbacks to Bobuck Lane may be required where there is an existing setback that is to be adhered to.

Outer Village western area

Controls

- C1. Development achieves the following building setback and separation requirements:
 - a. minimum three metre setback from front, side and rear boundaries,
 - b. minimum front setback of three metre, and
 - c. minimum six metre separation between buildings.

Building height

Controls

- C1. Maximum building height of 15 metres above natural ground level.
- C2. Maximum of four storeys above natural ground level.

Site coverage

Controls

- C1. Development must not exceed a site coverage of 35% of the lease area.

Soft landscaping

Controls

- C1. A minimum 35% of the lease area must provide for soft landscaping

Lot 768 Key Site Controls

- C2. Development must not exceed four storeys and is to be stepped consistent with the site topography.
- C1. Setbacks on site are to be a minimum of three metres from lease boundaries visual and acoustic privacy.
- C1. Development is to include food and beverage facilities.



2.2.2.6 Golf Course (River View)

2.2.2.6-1 Existing character

Nine-hole golf course interspersed with pockets of vegetation located along the Thredbo River. It is located on the western fringe of the village and is otherwise surrounded by dense vegetation.

2.2.2.6-2 Desired future character

A redevelopment of the golf course will provide an opportunity for low scale accommodation while minimising impacts on vegetation. A modified golf course will continue to contribute towards the year-round activation of the village.



Figure 51. Artists impression : Example development of the Golf Course key site, Thredbo

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2.2.2.6-3 Objectives and controls

For objectives and controls that apply across the entire Thredbo Alpine Resort Sub-region, refer to [Chapter 2.2.3](#).

Building setbacks and separation

Controls

- C1. Development achieves the following minimum building setback and separation requirements:
- minimum four metre setback from side and rear boundaries, and
 - minimum six metre setback from the edge of the road.

Building height

Controls

- C1. Maximum building height of 8.5 metres above natural ground level.

Roof design

Controls

- C1. Development achieves a predominant roof pitch of between 10–30 degrees.

Site coverage

Controls

- C1. Development must not exceed a site coverage of 35% of the lease area.

Soft landscaping

Controls

- C1. Soft landscaping is incorporated into development in accordance with the following:
- minimum 35% of the lease area must provide for soft landscaping.



2.2.3 Thredbo Alpine Resort Sub-region objectives and controls

The following provisions apply to **all** character areas within the Thredbo Alpine Resort Sub-region.

Building siting

Controls

- C1. The design and siting of development must minimise impact on identified view corridors and significant vistas.

Built form and building height

Objectives

- O1. Ensure that the height, bulk and scale of development is consistent with the desired future character of the character area.
- O2. Maintain key view corridors and vistas from public spaces and vantage points.
- O3. Development is designed in a manner sympathetic to the natural landform, vegetation, and other features of the landscape.

Controls

- C1. Building height and building storeys are consistent with the planning controls in [Chapter 2.2.2](#).
- C2. Development is to respond to the topography of the site, stepping with the gradient of the slope.

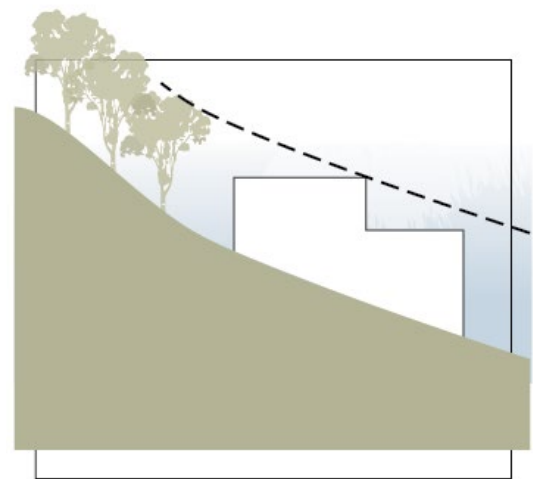


Figure 52. Relationship of building height to natural ground level

Building materials and colours

Objectives

- O1. Be sympathetic to and enhances the landscape character of the Sub-region.
- O2. Encourage contemporary building materials that suit the environment.

Controls

- C1. Building façade design must:
 - a. achieve a balance between solid and void elements,
 - b. avoid large expanses of a single material,
 - c. be articulated using techniques such as projections and recesses,
 - d. external wall materials may comprise a mixture of profiled metal, timber, stone, plastered masonry, bagged and painted concrete, or other appropriate materials,
 - e. must incorporate natural stonework or a natural look, such as granite or similar, for a minimum of 15% of the ground floor wall from areas readily viewed from the public domain, and
 - f. colours for large expanses of external wall must be recessive and sympathetic to the landscape character.



- C2. Window design must be consistent with the following:
 - a. not exceed 60% of the corresponding wall area,
 - b. appear as individual openings in the wall, and
 - c. full height glazing or curtain wall glazing is avoided.
- C3. For levels above ground floor, a solid, translucent or vertical picket style balustrade is required to a minimum height of 0.8 metres above floor level, with glass permitted above, to a total height of 1.2 metres above floor level.
- C4. Roof forms are to be predominantly gable or skillion roof forms and should avoid complex configurations to accommodate heavy wet snow/freeze-thaw.

Connectivity, street network and active transport

Objectives

- O1. Reinforce active transport links within the Thredbo Alpine Resort Sub-region for walking, hiking and cycling.
- O2. Enhance connections through the character areas.

Controls

- C1. Establish a connection network in accordance with the ILP at **Figure 49**.
- C2. Allow for and accommodate a shuttle bus loop with set down/pick up in appropriate locations.
- C3. Integrate public transport stops with new development to create safe, comfortable waiting areas for public transport users.
- C4. Provide end-of-trip facilities for public transport users.
- C5. Village centre and main transport nodes will provide continuous shelter from adverse weather in the form of projecting roofs, colonnades, and other measures. Careful consideration should be given to snow accumulation and adverse alpine wind conditions.
- C6. Pedestrian footpaths are provided in accordance with the ILP at **Figure 49**
- C7. Prioritise the continuity of the pedestrian footpaths when crossing vehicle and shuttle bus routes or vehicle driveways where possible.



Parking

Objectives

- O1. Support delivery of parking which meets the requirements of expected development in Thredbo Alpine Resort Sub-region.
- O2. Ensure adequate day and overnight parking is provided across the sub-region.

Controls

- C1. At-grade car parking must be designed to incorporate landscaping and pedestrian links.
- C2. Multi-deck communal car parking is encouraged.
- C3. The siting and design of car parking must minimise disturbance to sensitive vegetation where possible.
- C4. Where parking spaces are proposed that have access directly from a public road, parking spaces must have minimum dimensions of seven metres deep by 2.7 metres wide to accommodate longer vehicles and vehicles fitted with bicycle racks without interrupting the safe function of the road for both pedestrians and vehicles.
- C5. All new parking spaces contained within a building or parking structure have the electric circuitry (cabling, distribution board and power supply for 'Level 2' electric vehicle charging points.
- C6. All new parking areas with over 20 spaces must provide one car parking space or 5% of all car parking spaces with a 'Level 2' electric vehicle charging point installed. These charging points must be provided in undercover structures otherwise sheltered to prevent snow and ice build-up on the equipment or alternatively demonstrate that they can be 'all weather' and not require shelter.



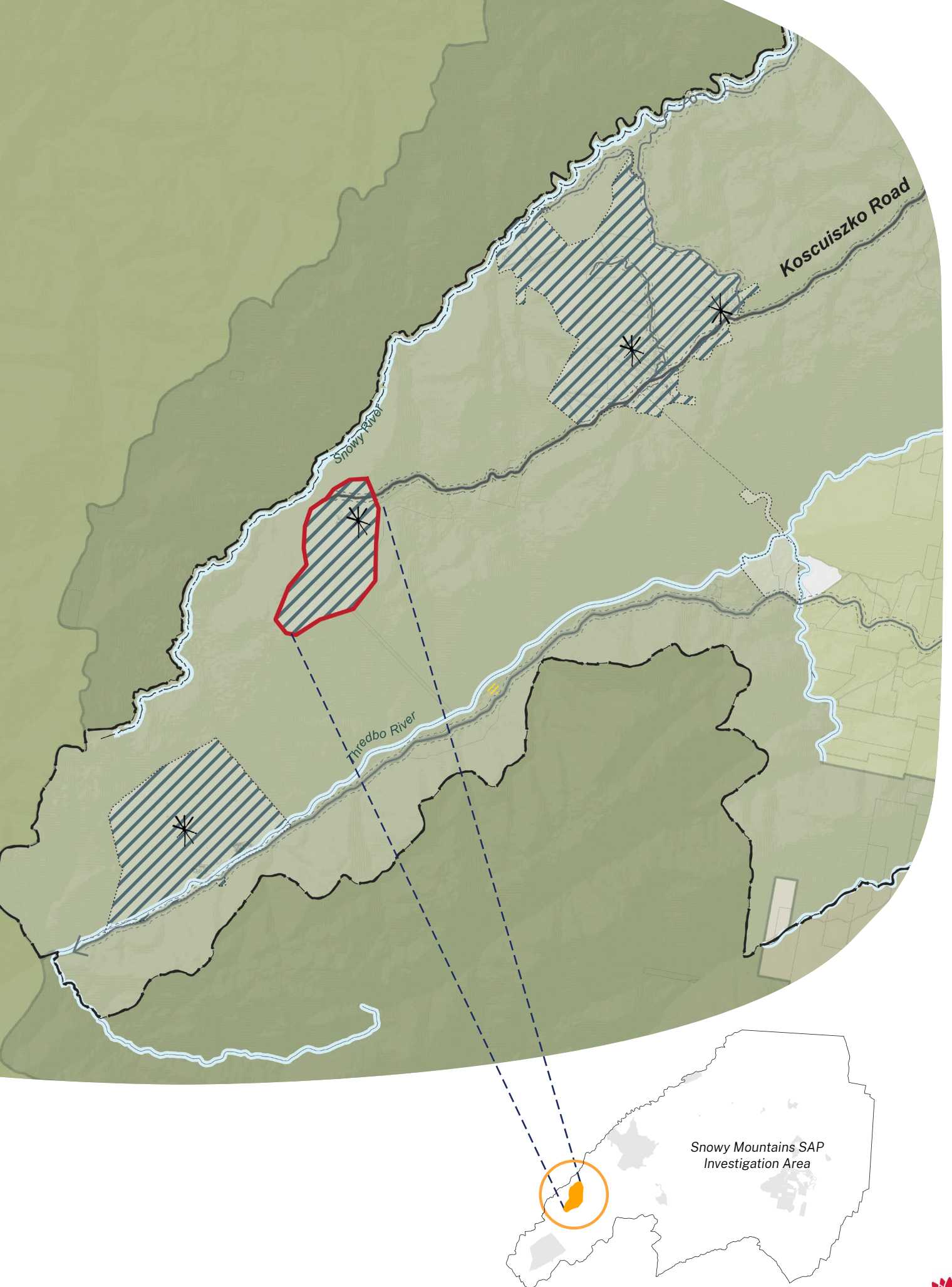


Figure 53. Location of Charlotte Pass Alpine Resort Sub Region

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2.3 Charlotte Pass Alpine Resort Sub-region

2.3.1 Existing character

Charlotte Pass Alpine Resort (location shown in **Figure 53**) is an important gateway to the Main Range Management Unit of KNP and is the highest of all the Alpine Sub-region villages.

Charlotte Pass Alpine Resort is renowned for being snowbound during winter and can only be accessed by oversnow transport. Outside the winter season, the Sub-region is accessed via Kosciuszko Road. The Sub-region provides accommodation focused around commercial and club lodge facilities, with associated infrastructure. While the peak activity and visitation to the Sub-region occurs during the winter ski season, it is an increasingly important staging point for other recreation uses, including sightseeing, walking, mountain biking and hiking all year around. The Charlotte Pass Alpine Resort is an important trailhead for the Mount Kosciuszko Summit Walk/Ride, the Main Range Walk, Mount Stillwell Walk and Snowies Alpine Walk. **Figure 54** provides a photograph of the view of Charlotte Pass Alpine Resort from Spencers Creek Road.

Charlotte Pass Alpine Resort presents a small-scale village atmosphere, centred around the Kosciuszko Chalet Hotel and offering visitors ski-in ski-out accommodation, access to relatively uncrowded ski slopes and views to the Main Range Management Unit and Mount Kosciuszko.



Figure 54. View of Charlotte Pass Alpine Resort from Spencers Creek Road

Land use and activities

The majority of the Sub-region's visitor services and hospitality offerings are located both within and around the Chalet Hotel, positioning it as the Sub-region's anchor destination. There is also a small bar and food offer at Stillwell Hotel, shown in **Figure 55** and **Figure 56**.

While the peak activity and visitation to the Sub-region is during the snow season, it continues to cater for visitors for other recreation uses, including sightseeing, walking and hiking all year around, including the Mount Kosciuszko Summit Walk/Ride.

Charlotte Pass Alpine Resort provides accommodation within a combination of hotels, commercial lodges, club lodges and staff accommodation.



Figure 55. Stillwell Hotel



Figure 56. Stillwell Hotel outdoor dining area

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Built form

The landmark Kosciusko Chalet Hotel (shown in **Figure 57**) is one of the oldest surviving accommodation buildings within the Alpine Region and is known as the ‘Grand Old Lady of the Mountains’ having high historic, social and aesthetic values. The Chalet is the largest scale building within the sub-region, located on the flatter portion of the valley.

The Chalet forms part of a largely intact group comprising the staff quarters, the administration building, Knockshannoch, the Kosciusko Alpine Club and the Kosciusko Alpine Club’s Manager’s House. These buildings form a gateway view as visitors enter the village and consist of a variety of architectural styles that are generally low-rise when compared to lodges constructed further upslope.



Figure 57. Kosciusko Chalet Hotel

Buildings within Charlotte Pass Alpine Resort are sited within close proximity to one another, contributing to the compact nature of the village and in respect of high biodiversity value areas. Separation between the buildings provides pedestrian and ski access to the lodges via informal paths and stairs. The existing buildings at the end of Charlotte Way are illustrated in **Figure 58** and **Figure 59**.

There are no established built form setback standards to the village roads, with an irregular layout and building orientation. The road network is unsealed with no formal infrastructure due to its winter ‘snowbound’ condition.

Building heights vary between one and five storeys depending on their location within the Sub-region and topography. Buildings located on the flattest, northern-most part of the slope, are predominantly two storeys, while those located on the steeper slopes within the southern part of the Sub-region are generally one to two storeys in height on the upslope, three to four storeys on the downslope, or step in sections, as is evident with the Stillwell Hotel as illustrated in **Figure 59**.

Character of the built environment is defined by the variation in building form and style. The predominant roof design is a pitched or skillion style, with large overhanging eaves. Most are of timber construction with stone faced basement structures reflecting Kosciusko State Park Trust (KSPT) influences. Exceptions to this are the range of commercial lodges erected from the late 1970s which incorporate contemporary materials and construction techniques and are often multi-storeyed.

Although differing in style and articulation, a consistency in building materials includes:

- wall materials: Stone bases and / or timber or metal and composite cladding to the upper levels,
- roof materials: Colourbond clad, and
- colour palette: neutral shades comprising of navy blue, green, grey and browns.

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Most buildings within the Charlotte Pass Alpine Resort are of two or three storeys due to the steeply sloping terrain.

The overriding value at the Charlotte Pass Alpine Resort is that views to the Chalet are not blocked when entering the village or when viewed from Kosciuszko Road. Also important is the maintenance of the compact feel of the village, as well as the existing scale of the place.



Figure 58. Existing buildings at the end of Charlotte Way



Figure 59. Cascading form of Stillwell Hotel

Landscape

Set in an amphitheatre-shaped valley, Spencers Creek (Figure 60) traverses the Sub-region providing a natural separation between the village to the east and ski slopes and associated infrastructure to the west.

The Sub-region's alpine and sub-alpine vegetation contributes to the unique landscape setting and provides important habitat for rare fauna species including populations of the endangered Mountain Pygmy Possum and Guthega Skink. Charlotte Pass Alpine Resort is within and adjacent to a range of terrestrial and riparian ecosystems of conservation importance, including 'Montane Peatlands and Swamps' and 'Alpine Sphagnum Bogs and Associated Fens' which are endangered ecological communities. The rocky terrain throughout the Sub-region is illustrated in Figure 61.

The waterways within the Alpine Sub-region are of high catchment value for downstream users including hydro electrical generation and are part of an endangered ecological community. The buildings within the eastern part of the village abut vegetation which encompasses lower lying bog plant communities, grasslands and heath, as well as taller snowgum eucalypt forest.

An outdoor seating area directly adjoins the western façade of the Chalet and is the main public gathering area within the Sub-region.



Figure 60. Spencers Creek



Figure 61. Rocky terrain

Views and vistas

Key views are from Charlotte Way and Kosciuszko Road on approach from the east.

Desirable views from the Sub-region present to the ski slopes / the Main Range Management Unit in the west, as well as across the open plains of the Spencer's Creek valley to the east and north.

2.3.2 Desired future character of Charlotte Pass

Charlotte Pass Alpine Resort will continue to grow its profile as a high-altitude winter destination while increasingly becoming a summer node for hiking with improved access between the village and main trail heads.

Key development sites (shown in Figure 62) provide opportunity for a range of accommodation typologies including serviced apartments utilising contemporary architecture and materials. Increasing building height will minimise impact and disturbance of sensitive biodiversity values whilst responding sympathetically to the heritage values of the Kosciuszko Chalet and key views.

An expanded range of food and drink and recreational uses will draw visitors to the village and contribute towards the vision of a year-round destination in summer months. This includes the potential for a zipline attraction and dedicated facilities for day visitation.

Establish a public realm that provides visitor gathering points and plazas that improve the amenity and desirability of the village and that are appropriately designed for the difficult alpine climate. Improvements to access and parking, including through surfacing of the village road network and installation of stormwater infrastructure, will support day visitation and ease of movement through the village while improving outcomes for riparian ecosystems.

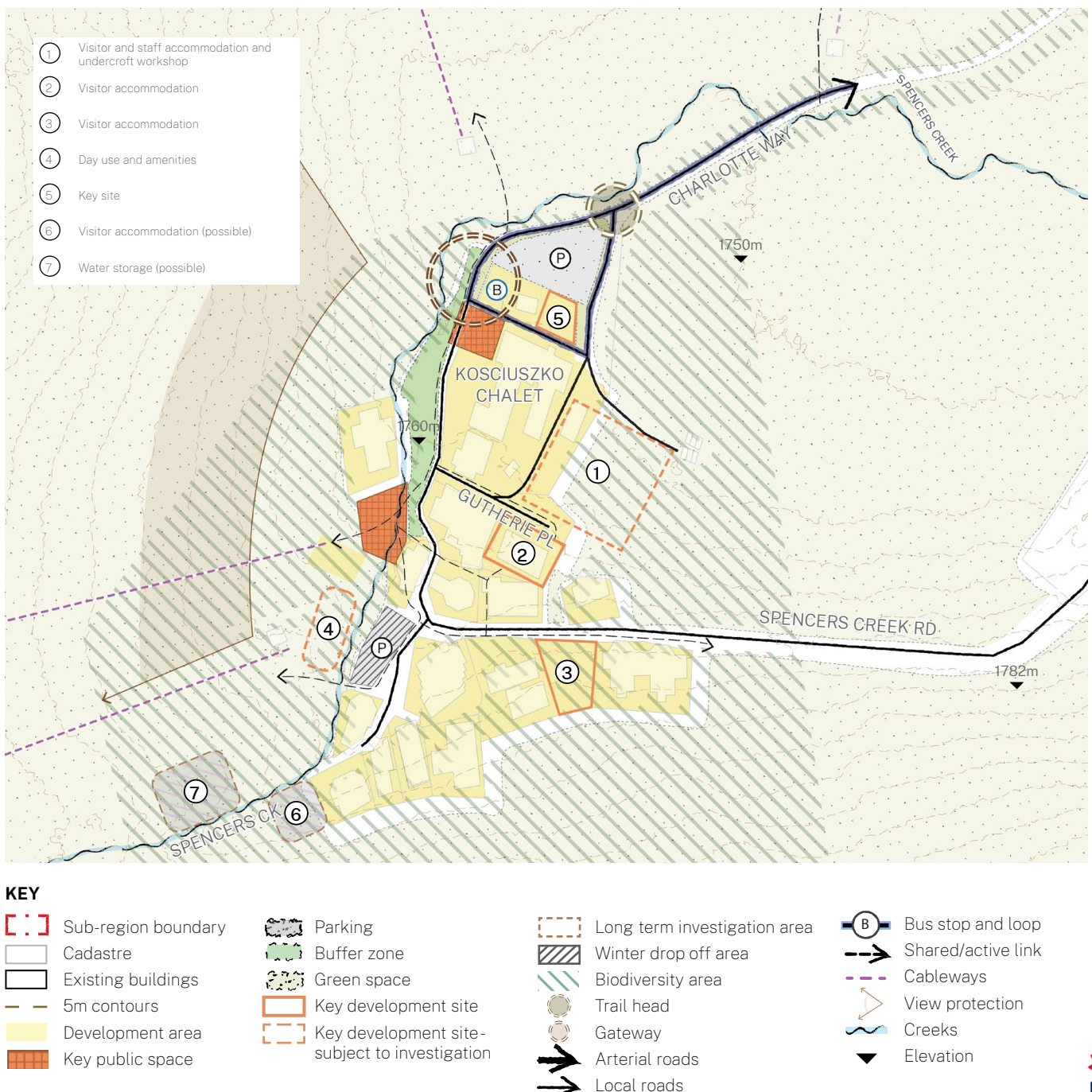


Figure 62. Charlotte Pass Alpine Resort Sub-region ILP

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Figure 63. Artists impression : Example development of key development site, Charlotte Pass

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Future development within the Charlotte Pass Alpine Resort Sub-region will continue to build upon the existing consistency of building materials and colours through ensuring that future development incorporates the following:

- wall materials: Stone bases and metal and composite cladding to the upper levels;
- roof materials: Colourbond clad; and
- colour palette: neutral shades comprising of navy blue, green, grey and browns.

2.3.3 Objectives and controls

For objectives and controls that apply across all Alpine Sub-regions, refer to [Chapter 4](#).

Land use and activities

Objectives

01. Locate land uses and services to minimise land use conflict.
02. Encourage a range of uses including accommodation, food and drink premises, retail, recreation and day-uses that supports the desired future character of the village.
03. Respond to the design capacity of the ski fields, supporting infrastructure, environmental conditions, and visitor amenity.
04. Support redevelopment of key development sites, and expansion of existing development sites for new tourist and seasonal worker accommodation and growth of other tourism-based activities in the Sub-region.
05. Establish Charlotte Pass Alpine Resort as a key destination and staging point for summer activities.

Controls

- C1. Focus development within existing disturbed areas or within the footprint of the existing village to minimise impact on sensitive alpine and sub-alpine vegetation and habitats.
- C2. Prioritise new development within key development sites in accordance with the ILP at **Figure 62**, including:
 - a. provide for a range of tourist and visitor accommodation with potential for serviced apartment typology. Staff accommodation to be integrated in a manner which clearly distinguishes between accommodation. The extent of the key site and development footprint will avoid and minimise environmental impacts,
 - b. redevelopment of the existing workshop site (1). Provide for tourist and visitor accommodation with potential for a serviced apartment typology. Consider potential connection with key development site (2),
 - c. undeveloped site will provide for tourist and visitor accommodation that is designed sensitive to the site constraints,
 - d. establish day-use facilities and amenities. Built form will be low scale to avoid and minimise environmental impacts and views towards the ski slope, and
 - e. support low scale commercial uses adjacent the Charlotte Way gateway integrated with the oversnow access.
- C3. Long term investigation areas will be subject to further detailed assessment to determine their suitability for development. With regard to further tourist and visitor accommodation, long term investigation areas will be considered once key development sites have been developed.
- C4. Support retail and commercial uses adjacent the Charlotte Way gateway in conjunction with a new trail head and summer season shuttlebus access identified on the ILP at **Figure 62**.
- C5. Development should enable year-round tourism activation, including improved trail head facilities, amenities and trails to support sightseeing, walking, hiking and adventure-based activation.

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Building setbacks and separation

Objectives

- O1. Provide a compact engagement with village road and public domain areas, that provides a clear delineation and transition from public to private space, while recognising the absence of a formal vehicular street network during snowbound months.
- O2. Ensure development is sited to maintain and contribute to the alpine character of the Sub-region, particularly key views to the Chalet when entering the village on Charlotte Way or from Kosciuszko Road.

Controls

- C1. Front or village road setbacks generally align with the neighbouring buildings either side of the development. Where no neighbouring development exists, the setback is to allow an appropriate setback to facilitate access and egress.
- C2. New development achieves a minimum six metres separation between buildings.
- C3. Side and rear setbacks are required to:
 - a. maintain existing ski and pedestrian access, and
 - b. allow for the management of snow accumulation between buildings and to avoid obstruction of building entries and exit points.

Built form

Objectives

- O1. New development provides good amenity and minimises overshadowing of public spaces and adjoining development.
- O2. Building design responds to the landscape setting, supports the desired future character and is appropriate for sub-alpine and alpine climatic conditions.
- O3. Ensure new building form adjoining the heritage significant Kosciuszko Chalet Hotel respects and enhances the existing built fabric and form through a detailed contextual analysis.
- O4. Provide roof forms that reflect the alpine character and are appropriate for the prevailing climatic conditions.
- O5. Ensure new development is complementary in function, architectural style, built form and materiality.

Controls

- C1. Ensure that new development is designed to address and activate the new public spaces and minimise overshadowing.
- C2. Entries are recessed and or protected against snow load and management of snow accumulation.
- C3. Accommodation units are to be designed to ensure adequate access to sunlight, natural ventilation, outlook, and efficient layouts and service areas.
- C4. Orientation and design of buildings are to consider solar access for individual rooms, and communal spaces while balancing opportunity for views.
- C5. Where development adjoins the Kosciuszko Chalet Hotel, the following matters are addressed:
 - a. new built form has detailed articulation and form commensurate with the visual interest and detail of the Chalet,
 - b. key facades adjoining or facing the Chalet are proportionally and materially aligned, including a two-storey solid / base façade, and
 - c. the roof form is to respond to a detailed contextual analysis of the Chalet, to ensure the visual primacy of the Chalet's roof forms.



- C6. Roof design and material selection must be consistent with the following:
- prevent snow accumulation over building entrances, walkways, roads and driveways, or in public spaces or other areas where people congregate, or in a manner that impacts on the structural integrity of the roof or building,
 - shedding snow safely to ground melt zones is the preferred method of managing snow accumulation, and
 - roof materials should comprise corrugated iron or profiled metal and be non-reflective.

Building height

Objectives

- Height, bulk and scale is consistent with the desired future character of the village.
- Additional height may be considered where new development occurs within disturbed areas and where it minimises environmental impacts.
- Maintain key view corridors and vistas from public spaces and vantage points including the unique built form of the Kosciusko Chalet Hotel.

Controls

- The height of new buildings in the key development sites are to be a maximum of five storeys and (where possible) step with the existing topography of the land, whilst also minimising impact on undisturbed land.
- The height of adjacent buildings must be considered when determining heights of new structures. Where there is a distinct difference in the height of adjacent buildings, a transition in height between buildings and proposed buildings should be considered.
- The height and scale of buildings should:
 - maintain key view corridors and vistas identified within the character statements, and
 - avoid reducing solar access to identified public spaces shown at **Figure 62** within the resort.
- Where not identified as key sites in **Figure 62** and located adjoining Kosciuszko Chalet Hotel, ensure that despite the nominated heights, that the upper most point of the ridge to the new development, remains below the primary roof ridge of the Chalet.

Building materials and colour palette

Objectives

- Be sympathetic with and enhance the landscape character of the Sub-region.
- Encourage contemporary building materials that complement and enhance the alpine character of the Sub-region whilst still continuing the predominant colour scheme of Charlotte Pass Alpine Resort.

Controls

- Building façade design should be consistent with the following:
 - achieve a balance between solid and void element,
 - be articulated using techniques such as projections and recesses,
 - wall materials may comprise a mixture of profiled metal, timber, stone, plastered masonry, bagged and painted concrete, or other appropriate materials,
 - must incorporate natural materials that complement existing development, avoiding large expanses of a single material, and
 - colours for large expanses of external wall must be recessive and sympathetic to the landscape character.
- Where adjoining Kosciuszko Chalet Hotel, ensure building materials and colours are a natural, recessive shade and maintain visual primacy of the Chalet from the public domain.



Figure 64. Artists impression : View from Ski Slopes (summer) to Charlotte Pass Snow Resort

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Public realm

Objectives

01. Create a central point of arrival as a gateway to Charlotte Pass Alpine Resort.
02. Create public spaces that are comfortable and amenable year-round, orientated to maximise solar penetration and capture views to the ski slopes and surrounding landscape.
03. Provide public spaces that are flexible which allows for temporary activation whilst ensuring they are functional, for day-to-day use when temporary events are not held.

Controls

- C1. Gateways nominated on the ILP at **Figure 62** are to provide landscaping through planting that provides a visible, sense of arrival. Landscaping is to be in accordance with the Vegetation Management Strategy provided at **Appendix C**.
- C2. Where built form is adjacent key public spaces, the ground floor interface should provide for active uses such as food and beverage.
- C3. Provide new public spaces in accordance with the ILP at **Figure 62**, including:
 - a. a 'Gateway plaza' adjacent the Kosciusko Chalet Hotel,
 - b. a new village square adjacent the Spencer's Creek as a flexible space to cater for temporary events and activation, particularly in summer, and
 - c. expansion of the existing public space adjacent to the Stillwell Hotel for increased day facilities and associated amenities.
- C4. Public spaces must be orientated and designed to optimise winter solar access and to be sheltered from prevailing winds, avoid snow build up, facilitate snow clearing operations, and to capture views to the surrounding landscape.

Vegetation management strategy

Objectives

01. Enhance the character of Charlotte Pass Alpine Resort by selecting species that provide seasonal interest which is in line with the existing character and flora of the area.
02. Use landscaping and water sensitive urban design to improve biodiversity, water and other environmental outcomes for Charlotte Pass Alpine Resort.

Controls

- C1. Utilise only native and endemic species as identified in the Vegetation Management Strategy at **Appendix C**.
- C2. Water sensitive urban design on either side of village roads to slow down stormwater runoff and treat in a passive manner through native planting.
- C3. Future development must address [Chapter 4.8](#) and **Appendix E**.

Views and vistas

Objectives

01. Maintain a strong relationship between Charlotte Pass Alpine Resort village and its landscape context, including views to adjacent snow fields and surrounding hills and ridge lines including Kangaroo Ridgeline and Main Range Management Unit.
02. Maintain key gateway views to facilitate a pleasant arrival experience, as identified on the ILP at **Figure 62**.
03. Ensure that new development maintains view corridors from key public vantage points to surrounding mountain vistas.

Controls

- C1. Retain visual links from key view corridors through new development to the ski slopes and significant topographic features.

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- C2. Pedestrian links to align with key view corridors to ski slopes and landscape features.
- C3. Distribute building heights to retain views across Charlotte Pass Alpine Resort village to the ski slopes and landscape features.

Connectivity, street network, parking and active transport

Objectives

- O1. Prioritise pedestrian movement to create a walkable, comfortable, safe, efficient, and attractive pedestrian network that respects the competing needs of pedestrians, service vehicles (including oversnow) and, in summer, public and private transport.
- O2. Maintain convenient pedestrian access to the ski slopes from key arrival points.
- O3. Enhance connections through to key summer destinations for pedestrians and cyclists including into the village and to surrounding trails.

Controls

- C1. Provide sheltered waiting areas and facilities integrated with built form to create a safe, comfortable waiting area for short-term and day-use visitors year-round.
- C2. Prioritise safe pedestrian traverse paths when crossing oversnow and shuttle bus routes or vehicle driveways.
- C3. New development is to support the delivery of the recommended connectivity network shown within the ILP at **Figure 62**.
- C4. If additional car parking is sought for summer private vehicle access for the below land uses, this parking should be incorporated within the shared public parking for the resort. The amount of additional parking should be based on a merit assessment by a suitably qualified traffic specialist, and guided by the numerical parking rates outlined in [Chapter 4](#) of this DCP:
 - a. hotel or motels accommodation (including pubs where accommodation provided),
 - b. backpackers' accommodation,
 - c. serviced apartments, and
 - d. eco-tourist facilities.

Management of hazards

Refer to [Chapters 4.9](#)-Chapter 4.15.

Objectives

- O1. Ensure adequate consideration and mitigation of contamination and geotechnical risks and hazards arising from development.

Controls

- C1. Key sites (1) and (6) as detailed in the ILP at **Figure 62**, must be remediated as part of redevelopment in accordance with the requirements of *State Environmental Planning Policy (Resilience and Hazards) 2021* –Chapter 4 –Remediation of land.



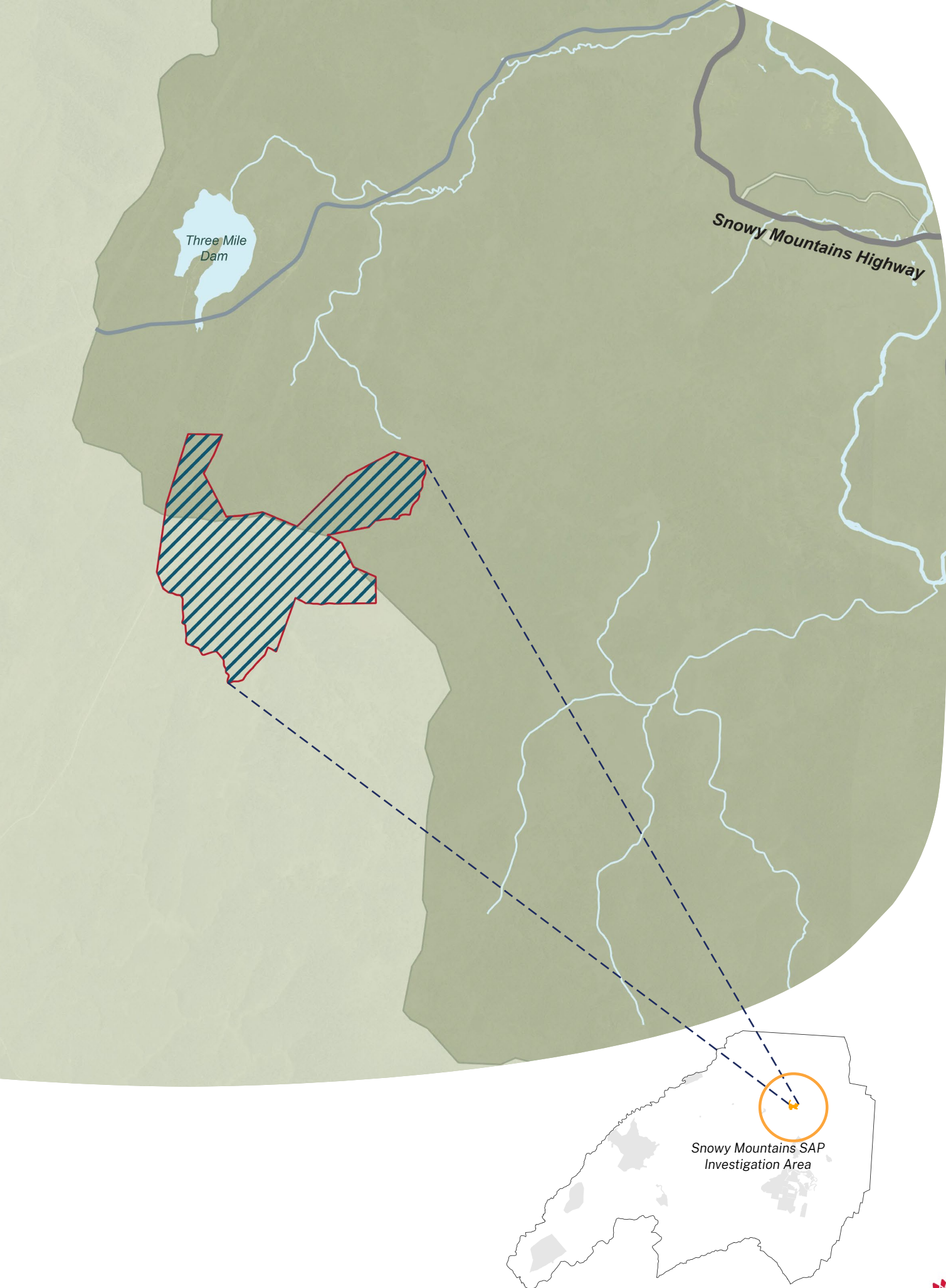


Figure 65. Location of Mount Selwyn Alpine Resort Sub-region

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KEY PLAN



2.4 Mount Selwyn Alpine Resort Sub-region

2.4.1 Existing character

The Mount Selwyn Alpine Resort Sub-region is located approximately 130 kilometres north of Jindabyne, near Cabramurra, and is the northern-most resort within KNP as shown in **Figure 65**. The wider landscape of the resort is characterised by mountains and valleys.

Existing development within the Sub-region is limited to a day resort providing ski-slope infrastructure for visitors, including ski lifts and small huts. There is access to cross-country ski trails which extend beyond the Sub-region. Outside of the snow season, hikers can access the walking and park management trails that traverse the Sub-region.

Buildings and infrastructure within the Sub-region are located within cleared land. The ski slopes and infrastructure are located within areas of disturbed vegetation and interspersed pockets of woodland.

Buildings at the resort centre were completely destroyed in the 2019-20 'Black Summer' bushfires and have since been rebuilt. The rebuilt facilities include a Visitor Centre (with equipment hire, ticketing, ski school/crèche, café and restaurant facilities) a Resort Operations Centre (with machinery maintenance, ski patrol and other resort operations facilities), staff accommodation cabins and a sewerage treatment plant to the north of the site.

The rebuilt facilities provide significantly enhanced visitor capacity and amenity for the Alpine Resort Sub-region and follow a consistent visual theme complimentary to the surrounding landscape. These buildings curve around the southern side of the Selwyn Trail towards the intersection with Kings Cross Road. The buildings are sited on a high point of the resort and are elevated above the ski slopes to the south and south-east. This maximises views across the Sub-region and surrounding landscape of KNP, particularly from the rebuilt Visitor Centre. From the Visitor Centre, expansive views are available in all directions, particularly southward towards the peaks of Tabletop Mountain and Mount Jagungal.

Clear Creek lies just inside the southern end of the western boundary of the Sub-region while Bullock Head Creek hugs the northern end of the western boundary. The tributaries and corridors from Clear Creek extend westwards across the Sub-region and intersect with the ski slopes.

Vehicular access to the resort is generally from the north via a two kilometre stretch of Kings Cross Road which connects to Link Road. Link Road is accessed from the north or south along the Snowy Mountains Highway or from the west via Goat Ridge Road and the Elliott Way. During winter months, access to the resort along Kings Cross Road is from the north, as the road is closed to the south of the Mount Selwyn Alpine Resort Sub-region. **Figure 66** is a photograph of the view of the ski field from Mount Selwyn looking to the south.



Figure 66. Views from Mount Selwyn facing south

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2.4.2 Desired future character

The Mount Selwyn Alpine Resort Sub-region is a small scale, winter season day resort providing a range of snow-based recreation facilities for snowplay, beginner and intermediate skiers. Future development should build on the consistent visual identity adopted for the resort during the rebuilding, including in terms of colour and material choice.

Vehicle access and visitor car parking will be maintained to facilitate the ongoing 'park and ski' operation of the resort.

The Mount Selwyn Alpine Resort Sub-region is located within a sub-alpine vegetation zone and has the most diverse sub-alpine flora of the Alpine Region. The Sub-region is dominated by sub-alpine woodland, interspersed with tall sub-alpine heath and grassland. Further disturbance of the sub-alpine woodland is to be minimised. Buildings and structures outside the centre will be limited to ski infrastructure and associated low scale huts and structures and will be integrated with the sub-alpine landscape setting.



2.4.3 Objectives and controls

Objectives

- O1. Protect and enhance the natural and cultural setting of the Sub-region by maintaining the existing curtilage and general structure of the resort centre and ensuring new buildings are located within existing cleared areas.
- O2. Conserve views and vista from the key gathering areas and open space within the Sub-region and from other public places within the Sub-region.
- O3. Maintain and enhance Mount Selwyn Alpine Resort Sub-region as a winter season day resort that provides a range of snow based recreational facilities, with supporting amenities and facilities to optimise the visitor experience.
- O4. Support initiatives to grow and develop summer activities at the Sub-region.

Controls

- C1. New development must be consistent with the Desired Future Character statement in Chapter 2.4.2 of this DCP.
- C2. New development should build on the consistent visual identity adopted for existing resort buildings during post-bushfire rebuilding, including in terms of colour and material choices.
- C3. Views from the Visitor Centre are to be maintained along with views from other key gathering areas.





How to read and apply this Chapter:

Chapter 3.0 Alpine Accommodation and secondary Alpine Sub-regions (this Chapter)

[Chapter 3.1-Bullocks Flat Terminal](#)

[Chapter 3.2-Creel Bay Alpine Accommodation Sub-region](#)

[Chapter 3.3-Kosciuszko Tourist Park Alpine Accommodation Sub-region](#)

[Chapter 3.4-Ski Rider Alpine Accommodation Sub-region](#)

[Chapter 3.5-Sponars Chalet Alpine Accommodation Sub-region](#)

[Chapter 3.6-Thredbo Ranger Station Alpine Accommodation Sub-region](#)



Chapter 4 – General Planning Provisions



Chapter 5 – Alpine Carrying Capacity Framework

3.0 Alpine Accommodation and secondary Alpine Sub-regions

This Chapter provides design guidance for the Alpine Accommodation and secondary Alpine Sub-regions (as shown in Figure 67), including:

- Bullocks Flat Terminal,
- Creel Bay Alpine Accommodation Sub-region,
- Kosciuszko Tourist Park Alpine Accommodation Sub-region,
- Ski Rider Alpine Accommodation Sub-region,
- Sponars Chalet Alpine Accommodation Sub-region, and
- Thredbo Ranger Station Alpine Accommodation Sub-region.

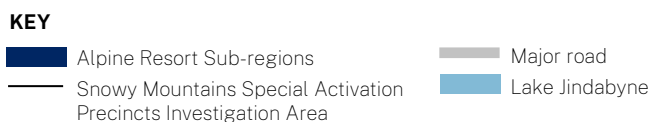
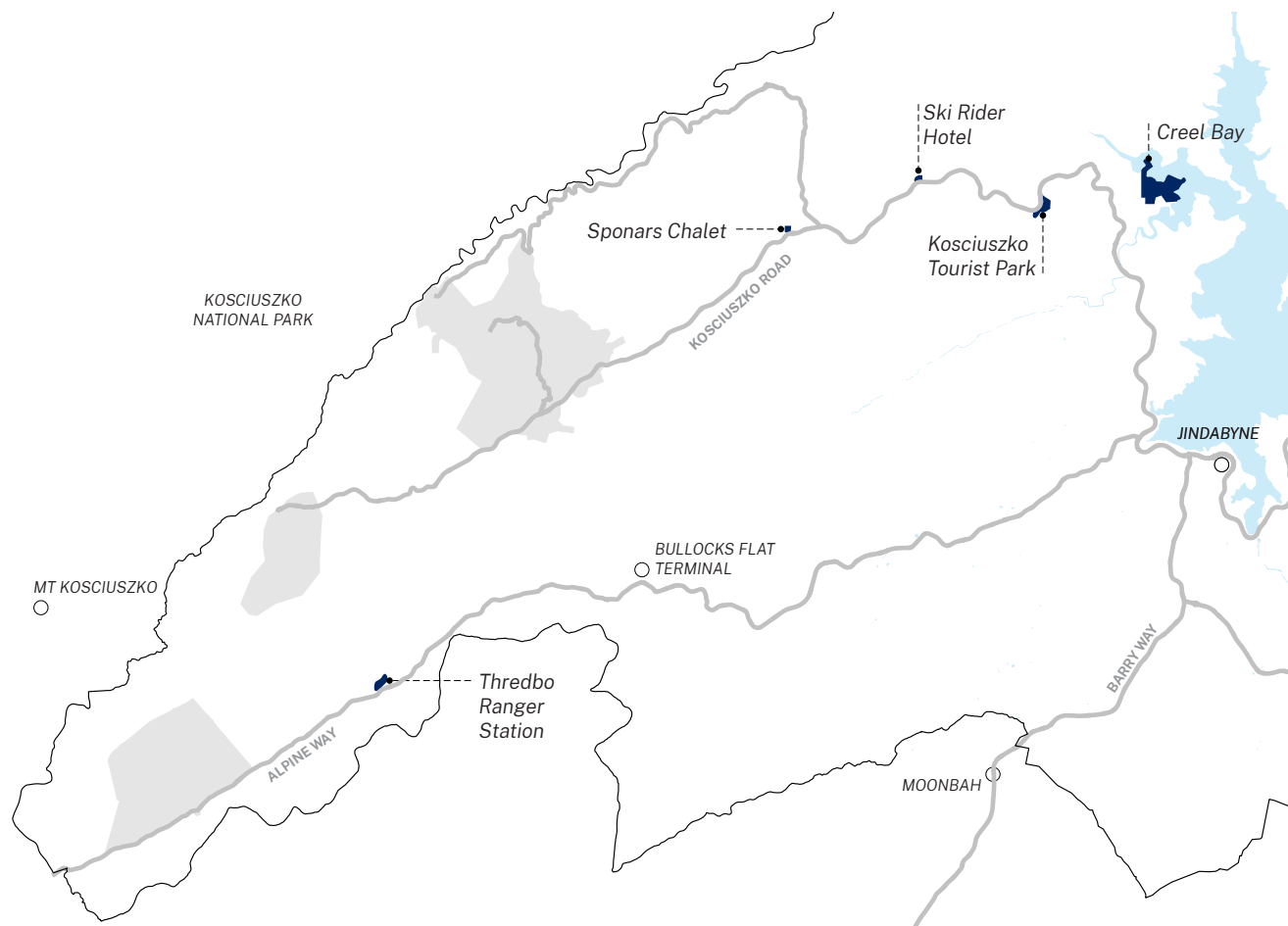


Figure 67. Alpine Accommodation and secondary Alpine Sub-regions

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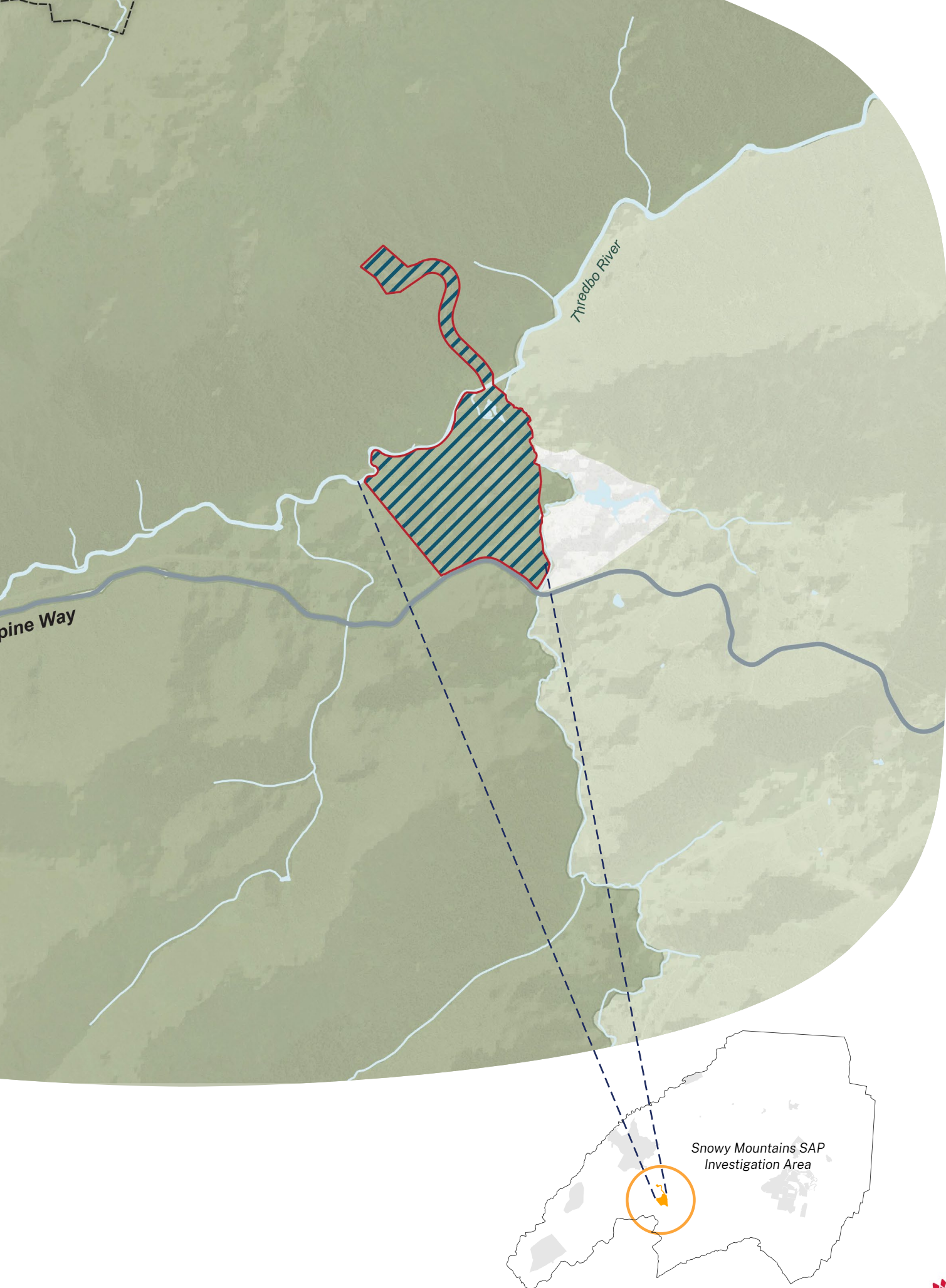


Figure 68. Location of Bullocks Flat Terminal

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3.1 Bullocks Flat Terminal

3.1.1 Existing and desired future character

Bullocks Flat Terminal is located around 21km west of Jindabyne (as shown in **Figure 68**), along the Alpine Way on the eastern edge of KNP. The site accommodates the Ski Tube terminal and functions as a transport interchange during the snow season. Visitors' park vehicles in the provided day or overnight car parking and catch the Ski Tube to Perisher Valley or Blue Cow Mountain. Visitors to Charlotte Pass Alpine Resort alight at Perisher Valley to access that Alpine Sub-region by oversnow. There is no ski infrastructure or guest accommodation at Bullocks Flat Terminal, but it contains a small amount of staff accommodation. The Thredbo River runs along the north-western boundary of the primary lease area and Little Thredbo Creek follows the eastern boundary. Little Thredbo Creek forms the eastern boundary of KNP. The Sub-region lease area is approximately 468 hectares. The Ski Tube terminal and surrounding car park occupy around 25 hectares of the central portion of the Sub-region. The above ground section of the Ski Tube railway track is accommodated within a corridor of the lease area that extends northward.

Figure 69 to **Figure 70** demonstrate the existing character of Bullocks Flat Terminal and the visitors carpark.



Figure 69. Car park at Bullocks Flat Terminal



Figure 70. The Ski Tube



Figure 71. View towards car park from Bullocks Flat Terminal

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As a result of its lower elevation, the Sub-region is surrounded by montane vegetation. While the parts of the site accommodating the car park and terminal building are largely devoid of vegetation, the areas surrounding the car park and terminal building are interspersed with a montane tree-less complex, and some small clusters of montane woodland. The Thredbo Valley Track and Bullocks Accessibility Track to nearby Bullocks Hut extend through the western areas of the Sub-region and are popular hiking and mountain biking tracks outside of the snow season. Bullocks Flat Terminal forms an important trailhead for both the Thredbo Valley Track and the Thredbo Valley to Perisher Valley section of the Snowies Alpine Walk.

The Ski Tube will continue to have a freight function transporting supplies to the Perisher Range Alpine Resort Sub-region during winter. The scale and form of development on the site will continue to reflect the principal and utilitarian function as a transport interchange, with associated maintenance facilities and limited staff accommodation.

Changes to the Sub-region will be limited to renovations and improvements on the existing train station Terminal building and maintenance facilities, as well as some minor additional staff accommodation. There will be opportunities to enhance trailhead facilities for amenity purposes and to improve signage and wayfinding to and from. Overall, the height, number and size of buildings creates a modest building scale across the Sub-region, which is to be maintained.

While large areas of the Sub-region have been cleared for surface car parking, it is surrounded by elevated bushland terrain, which maintains its national park setting. Further disturbance of the surrounding montane vegetation is to be minimised. Remnant vegetation around the buildings and through the car parks is to be enhanced to improve the landscape qualities within the Sub-region and improve distant views.



Figure 72. Bullocks Flat Terminal

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3.1.2 Objectives and controls

Objectives

- O1. Maintain and enhance Bullocks Flat Terminal as a transport interchange providing winter access and freight to the Perisher Range Alpine Resort and Charlotte Pass Alpine Resort, whilst being consistent with the approved uses and scale of the existing buildings.
- O2. Embellish remnant vegetation around the Terminal building and car parks to improve views of the Sub-region buildings and facilitate their visual integration into the landscape and a positive contribution to the landscape setting.
- O3. Create a safe and attractive environment in all seasons, including to support the increasingly important trailhead usage of the Alpine Sub-region in the summer season for the Thredbo Valley Track, Snowies Alpine Walk and Bullocks Accessibility Track.
- O4. The form and design of new buildings shall reflect the principal function of the Sub-region as a transport interchange for the Ski Tube, with new structures being designed to be subservient to the Terminal building and maintenance facilities.

Controls

- C1. Development must not be inconsistent with the Desired Future Character statement for Bullocks Flat Terminal outlined in Chapter 3.1.1 of this DCP.
- C2. New development should be confined to existing cleared areas to avoid the removal of further significant vegetation.





Figure 73. Location of Creel Bay Alpine Resort Sub-region

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3.2 Creel Bay Alpine Accommodation Sub-region

3.2.1 Existing and desired future character

Creel Bay Alpine Sub-region (also known locally as Waste Point) comprises a number of buildings and facilities that have been developed in line with its historical use for management of the KNP. The built elements of the village form a cohesive grouping that makes Creel Bay unique. They represent varying forms of architecture and functions from a range of historical periods.

The location of Creel Bay Alpine Accommodation Sub-region is shown in **Figure 73**.

Creel Bay Alpine Accommodation comprises a series of cottages managed by NPWS for staff and visitors of the nearby Works Depot and now for broader tourist accommodation from 2011. Creel Bay Road provides access to a public boat ramp and day-use area, which is located at the edge of Creel Bay (part of upper Lake Jindabyne).

A number of informal and formal roads follow the natural ridge line of the site towards low lying areas at the Works Depot and Creel Bay. The gravel service roads to the cottages are well maintained. There are no formalised walking tracks to points of interest such as Creel Bay, vantage points, the lake edge and recreation areas. Topography to the west of Creel Bay day-use area is relatively steep making it difficult to form a direct connection with the cottages.

A selection of photographs of the accommodation and landscape of Creel Bay Alpine Accommodation Sub-region are shown in **Figure 74**.



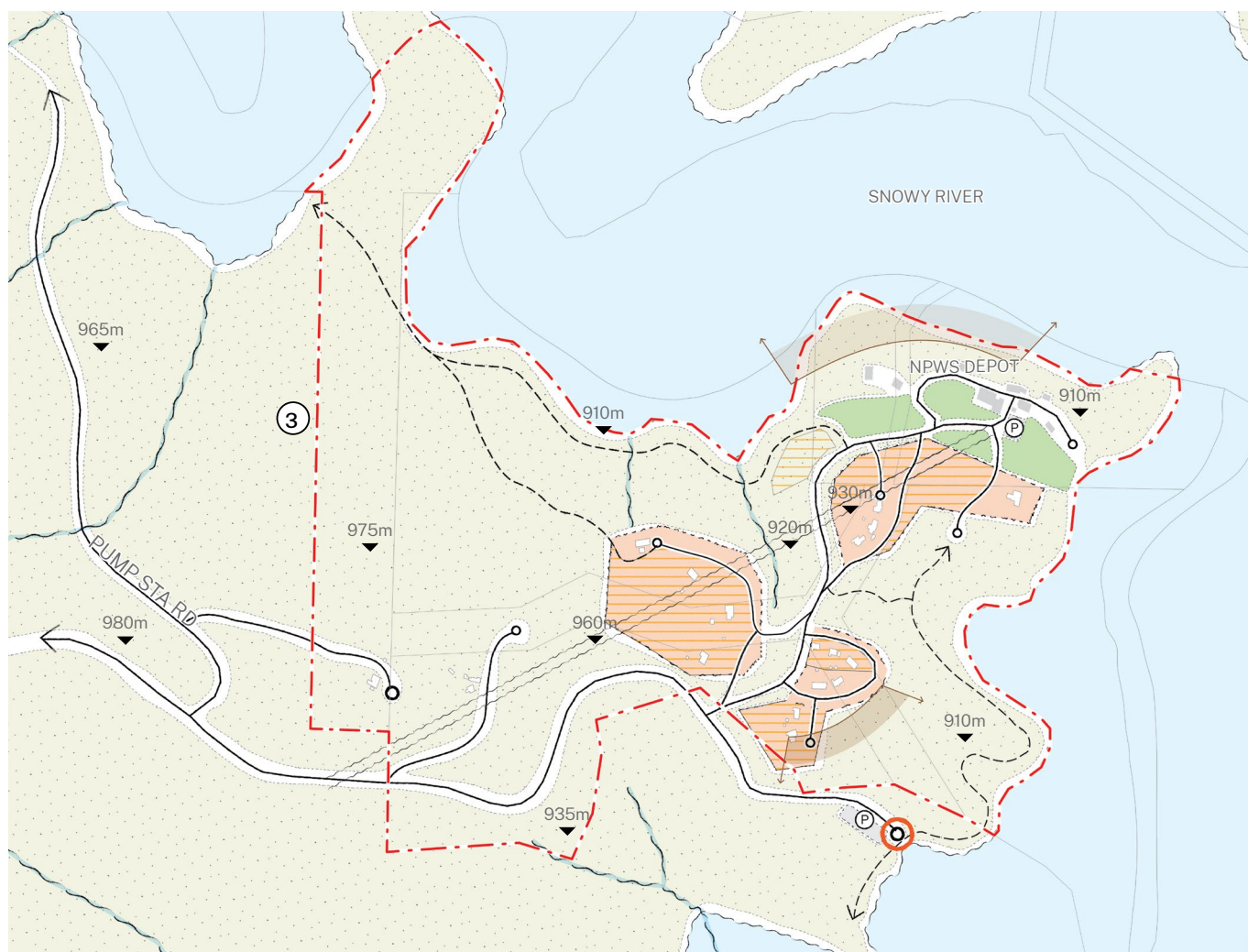
Figure 74. Accommodation within Creel Bay Alpine Accommodation Sub-region



One of the attractions of the site is the views of the lake and mountains, which include forested slopes and pastoral grasslands. While the site provides a lookout to a number of natural features, it is visually constrained. It is sited below Kosciuszko Road, has varying topography and is surrounded by dense woodland and forested slopes as illustrated in **Figure 75**. This restricts the potential for establishing new view corridors within the site.

The flora is an important component of the natural beauty of the site. The vegetation varies from open woodland and grassland to taller closed forest. These combine to create a picturesque quality of contrasting hues and sinuous trunk forms.

Many of the existing cottages part of Creel Bay Alpine Accommodation have filtered views to the lake and the refurbishment of the cottages to maximise views where possible should be considered. The cottages were constructed over a period of 25 years and reflect an evolution of Kosciuszko architectural style. The earliest phase of development had an emphasis on stone, reflecting the presence of a stone mason Mr Giovanni 'Jack' Piazza. The cottages establish an architectural language through form, materiality and scale. New additions to the Sub-region will require a building form, typology and scale appropriate to the existing architectural expression of Creel Bay Alpine Accommodation.



KEY

- | | | | |
|---------------------|------------------------|------------------|--------------------|
| Sub-region boundary | Campground opportunity | Open green space | Local roads |
| Cadastre | Cabins | Gateway | Shared/active link |
| 5m contours | Buffer zone | Node | Creeks |
| Development area | | Arterial roads | Elevation |

Figure 75. Creel Bay Alpine Accommodation Sub-region ILP

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The Preliminary Master Plan prepared by NPWS for the Sub-region in 2019 outlines a number of future character and development opportunities, including:

- allowing a portion of the site to be zoned ‘Visitor Service’ to enable a range of flexible land use options (this has now occurred in the KNP PoM),
- encouraging a growth in use of the site for summer activities, including improved walking tracks and access to the boating ramp and day-use area, and
- opportunity to experiment with additional eco accommodation.

Aboriginal cultural heritage and historic heritage

The quality of the cottages part of Creel Bay Alpine Accommodation and their historical importance ranges from State Level Significance (Creel Lodge) to Local Significance, however, these are not heritage listed under Schedule 4 of the Precincts-Regional SEPP or the State Heritage Register. Despite these items not being listed, development must consider the historic significance of these buildings and ensure that development does not detract from these buildings.

With the establishment of KNP, all new buildings adhered to a consistent design style that transitioned with the natural environment, utilised local building fabric and reflected the values and aspiration of the park and its management. **Appendix D** identifies the location of the historic heritage of high significance.

The buildings form a cohesive grouping representing the varying forms of architecture and functions from a range of historical periods, which contribute to the overall character of the site. All buildings are in good condition, although some of the older cottages are no longer in use and are in the process of being renovated by NPWS. Other cottages are in excellent condition and continue to be used.

Aboriginal cultural heritage zones of significance are identified in **Appendix D**. Design objectives and development controls to protect, manage and enhance Aboriginal cultural heritage and historic heritage have been provided in [Chapter 4.5](#) and [Chapter 4.6](#).



Figure 76. View along Creel Bay Road on approach to Creel Bay

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Protection of the environment

The vegetation around Creel Bay Alpine Accommodation varies from open woodland and grassland to taller closed forest. These combine to create a picturesque quality of contrasting hues and sinuous trunk forms (refer **Figure 77**).

NPWS mapping indicates three key vegetation types as detailed below:

- Candle Bark Woodland,
- Snow Gum Mountain Gum Forest, and
- Peppermint Forest.

Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland have been found at Creel Bay Alpine Accommodation.



Figure 77. Landscape environment of Creel Bay Alpine Accommodation Sub-region



3.2.1.1 Objectives and controls

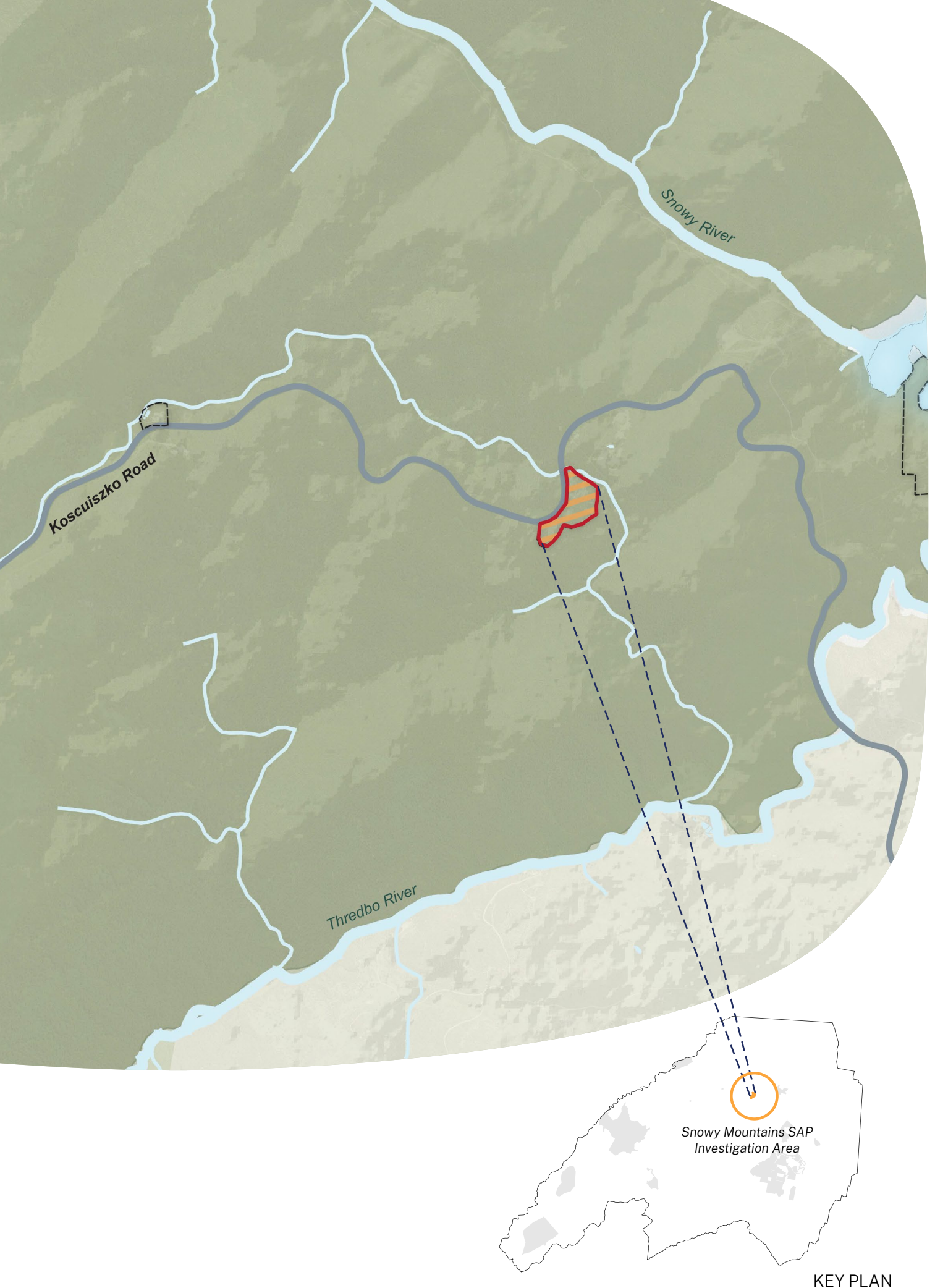
Objectives

- O1. Be consistent with the Desired Future Character outlined in this DCP (3.2.1), namely to:
 - a. respect and maximise natural and cultural assets,
 - b. maintain consistency with KNP PoM goals,
 - c. build on the local tourism attributes,
 - d. enable public access to the site,
 - e. provide robust and flexible site outcomes, and
 - f. provide year-round visitation opportunities.

Controls

- C1. Development is to be consistent with the Desired Future Character statement in Chapter 3.2.1 of this DCP.
- C2. New development is to be consistent with the 'Waste Point KNP Preliminary Master Plan dated 2019 by NPWS as well as the ILP as illustrated in **Figure 75**.
- C3. Infrastructure improvements should be located in disturbed parts of the site (where possible) and have minimal visual impact on the aesthetics of the site. Visual screening and planting can assist with this and reinforce the existing separation between infrastructure and the accommodation precinct.
- C4. Disturbance of vegetation will need to be assessed in terms of the significance of its impact on existing ecological communities. A detailed survey is required to confirm the location and extent of the endangered ecological communities.
- C5. New tourism accommodation is to deliver experiential and nature-based accommodation with a point of difference. New accommodation should be both contemporary and iconic in a unique nature-based setting.
- C6. New cottages along the main access road are to retain adequate setback of at least 10 metres to habitable rooms to ensure adequate noise and visual privacy is achieved.
- C7. Planting of native vegetation and tree species should be adopted along the existing road where it adjoins a cottage.
- C8. To minimise vegetation disturbance, cottages can be grouped in clusters and maintain the following setbacks:
 - a. front minimum setback of 10 metres from the main access road,
 - b. building separation of 12 metres from adjoining cottages, and
 - c. side setbacks to be determined based on existing vegetation screening, topography and other site-specific conditions.





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Figure 78. Location of Kosciuszko Tourist Park Alpine Accommodation Sub-region

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3.3 Kosciuszko Tourist Park Alpine Accommodation Sub-region

3.3.1 Existing character

The Kosciuszko Tourist Park Alpine Accommodation Sub-region (the Tourist Park) is located at Sawpit Creek, approximately halfway between Perisher Valley (16 kilometres) and the Jindabyne town centre (17 kilometres) as shown in **Figure 78**. The site is bound to the west by Kosciuszko Road, to the north and east by Sawpit Creek and is located within montane forest.

The Tourist Park provides a range of low-scale accommodation options, including cabins, caravan and camping sites complemented by communal facilities. The Sub-region is located at the trailhead of Sawpit, Pallaibo and Waterfall walking tracks and adjoining picnic areas. Direct access from Kosciuszko Road provides connections to alpine villages and upper Lake Jindabyne.

The Tourist Park is located near the Kosciuszko Education Centre, which is an NPWS learning facility providing access to interactive activities focusing on Australian wildlife, Aboriginal cultural heritage, natural and historic heritage, and national park management.

The site's established built form comprises several single storey cabins, communal kitchens, amenities buildings, caretakers' accommodation and reception. The site contains several powered and unpowered caravan and camping sites. The Tourist Park and nearby Education Centre are serviced by NPWS operated water and sewer infrastructure, including a sewerage treatment plant located to the east of the site.

Near the entrance to the Tourist Park is a stone-built chimney within an enclosure wall. It is suspected that the structure dates to the forestry period at the Sub-region. This item has potential heritage value associated with the forestry period within the KNP.

Figure 79 provides a selection of photographs of Tourist Park Sub-region.



Figure 79. Photos of the Tourist Park

3.3.2 Desired future character

Future development opportunities are limited to the existing lease area with a focus on improvements and expansion of the Tourist Park's existing accommodation offering and nearby Education Centre. It will continue to provide a range of low-scale accommodation options with further diversity of affordable accommodation options through the addition of eco-cabins sensitively designed to avoid the removal of significant established trees.

Development opportunities identified in **Figure 80** are focused around the existing disturbed areas and avoids the southern part of the Tourist Park which contains more intact vegetation communities. Renewal of the old camping area should be undertaken in a manner that minimises the footprint and therefore minimises the impact to biodiversity.

Park and ride services or shuttle bus parking will connect the site to key KNP destinations, including the Alpine Sub-regions of Perisher Range Alpine Resort and Charlotte Pass Alpine Resort for winter recreation activities. In summer, visitor experience benefits from local walking trails including Sawpit Walking Track, Waterfall Walk, and Pallaibo Walk.

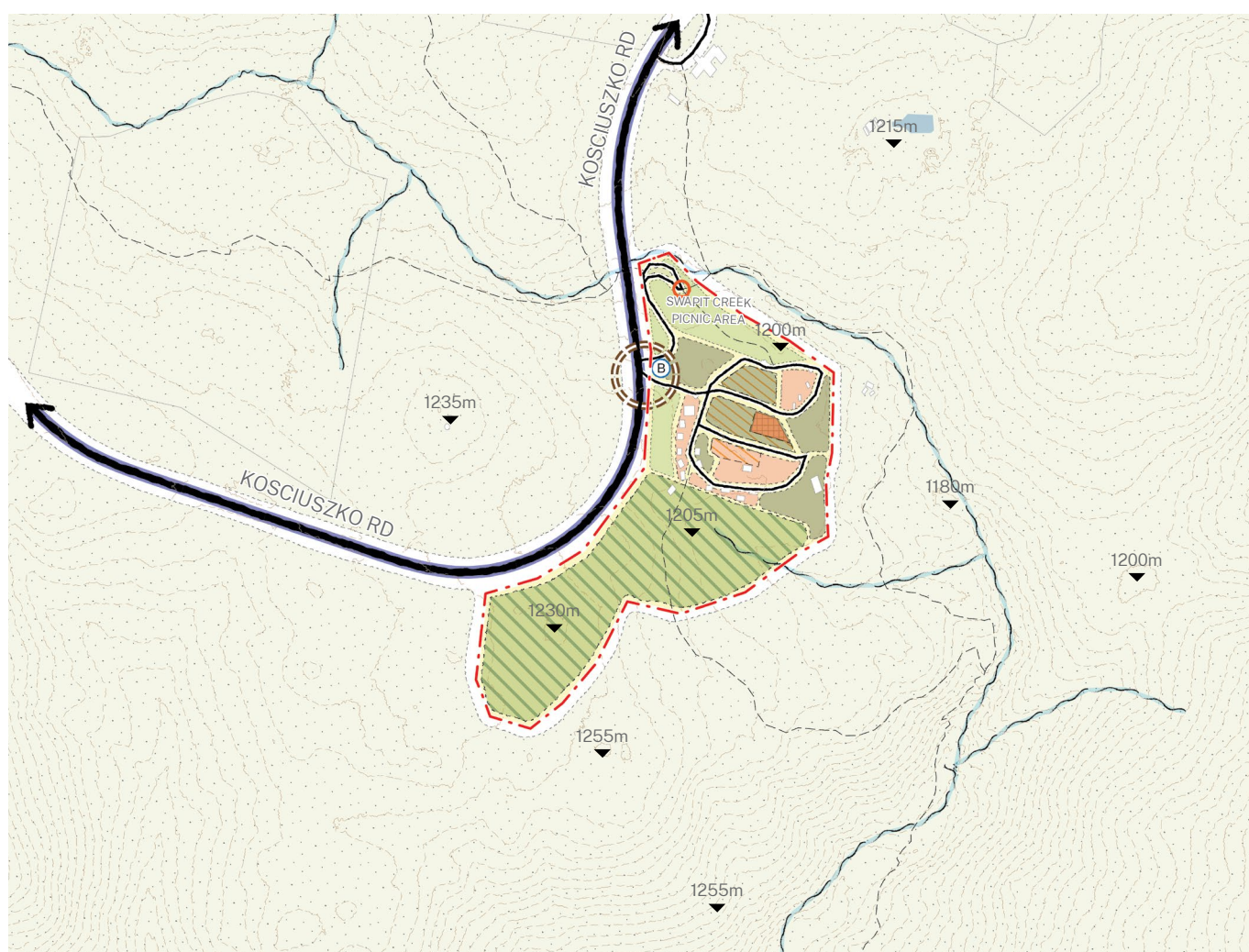
The Tourist Park contains areas of low Aboriginal cultural heritage potential. This is identified in **Appendix D**.

Design objectives and development controls to protect, manage and enhance Aboriginal cultural heritage have been provided in [Chapter 4.5](#) and [Chapter 4.6](#). Design objectives and development controls to protect, manage and enhance historic heritage have been provided in [Chapter 4.6](#).

The Tourist Park Sub-region contains vegetation of various conditions and is dominated by the tall wet forest of Snow Gum – Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion. Areas of biodiversity value have been mapped in **Appendix E** and include:

- large trees providing canopy cover over the internal access roads and campground. These areas are potential habitat for native fauna and threatened species, and should be retained where possible, and
- areas of Snow Gum – Mountain Gum shrubby open forest in moderate condition (in the south of the Sub-region). These areas provide potential habitat for threatened species, and should also be retained where possible.

Renewal of the old camping area in the south of the Sub-region which contains amenities buildings, camping areas, car parks and internal access roads should be undertaken in a manner that minimises the footprint and therefore minimises the impact to biodiversity.



KEY

Sub-region boundary	Key public space	Open green space	Shared/active link
Cadastre	Cabins	Gateway	Bus stop
5m contours	Traditional camping	Node	Creeks
Development area	Buffer zone	Arterial roads	Elevation
New campground opportunity	Biodiversity area	Local roads	

Figure 80. Kosciuszko Tourist Park Alpine Accommodation Sub-region ILP

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3.3.2.1 Objectives and controls

Objectives

01. Ensure new guest amenities and facilities, such as toilet blocks, barbeque areas, water collection points and refuse areas, are designed to integrate with the landscape, enhance the visitor experience and encourage social interaction.
02. Maintain the curtilage and general structure of the Tourist Park to minimise the clearing of vegetation and preserve the bushland setting of the Sub-region.
03. Enhance connections from the precinct to key destinations including walking, hiking and mountain biking destinations for pedestrians and cyclists.
04. Parking is to be integrated into the natural setting rather than included as a formal facility.
05. Encourage low impact recreational activities with no permanent built asset requirements including kayaking, walking, hiking and cycling (gravel, road and mountain bike).

Controls

- C1. New development must be consistent with the desired future character statement in Chapter 3.3.2 of this DCP.
- C2. Consolidate opportunities for the provision of eco-tourist accommodation within existing disturbed areas of the Sub-region in accordance with the ILP at **Figure 80**.
- C3. Focus development within previously disturbed areas of the Sub-region.
- C4. Expand and enhance communal amenities and facilities, including toilet block and camp kitchen, within existing disturbed areas, to support an increase in accommodation.
- C5. Establish a central communal area clustered around the existing emergency assembly area and playground.
- C6. Development in proximity to Sawpit Creek may require further flood assessment to understand the existing flood behaviour and what is an appropriate design and siting response. Refer to the general provisions at Chapter 4.11.
- C7. Provide a bus stop at the gateway to Sawpit Creek in accordance with the ILP at **Figure 80**.
- C8. Provide sheltered waiting areas to the new bus stop to create a safe, comfortable waiting area for short-term and day-use visitors year-round.
- C9. Maintain existing access to trailheads and walking trails including Sawpit, Pallaibo and Waterfall walking tracks in accordance with the ILP in **Figure 80**.
- C10. Provide safe pedestrian connections to the Kosciuszko Education Centre.
- C11. A detailed traffic engineering assessment of the proposed development is required, which may include the following:
 - a. right-turn bay for turn into Kosciuszko Tourist Park from the west,
 - b. acceleration bay for right and left-turn out of Kosciuszko Tourist Park,
 - c. deceleration bay for left-turn into Kosciuszko Tourist Park from the east,
 - d. intersection design to consider longer deceleration and acceleration distances and reduced lateral transitions required during snow or icy conditions, and
 - e. road surface designed with minimal interruption to snow clearing activities and space for snow push.



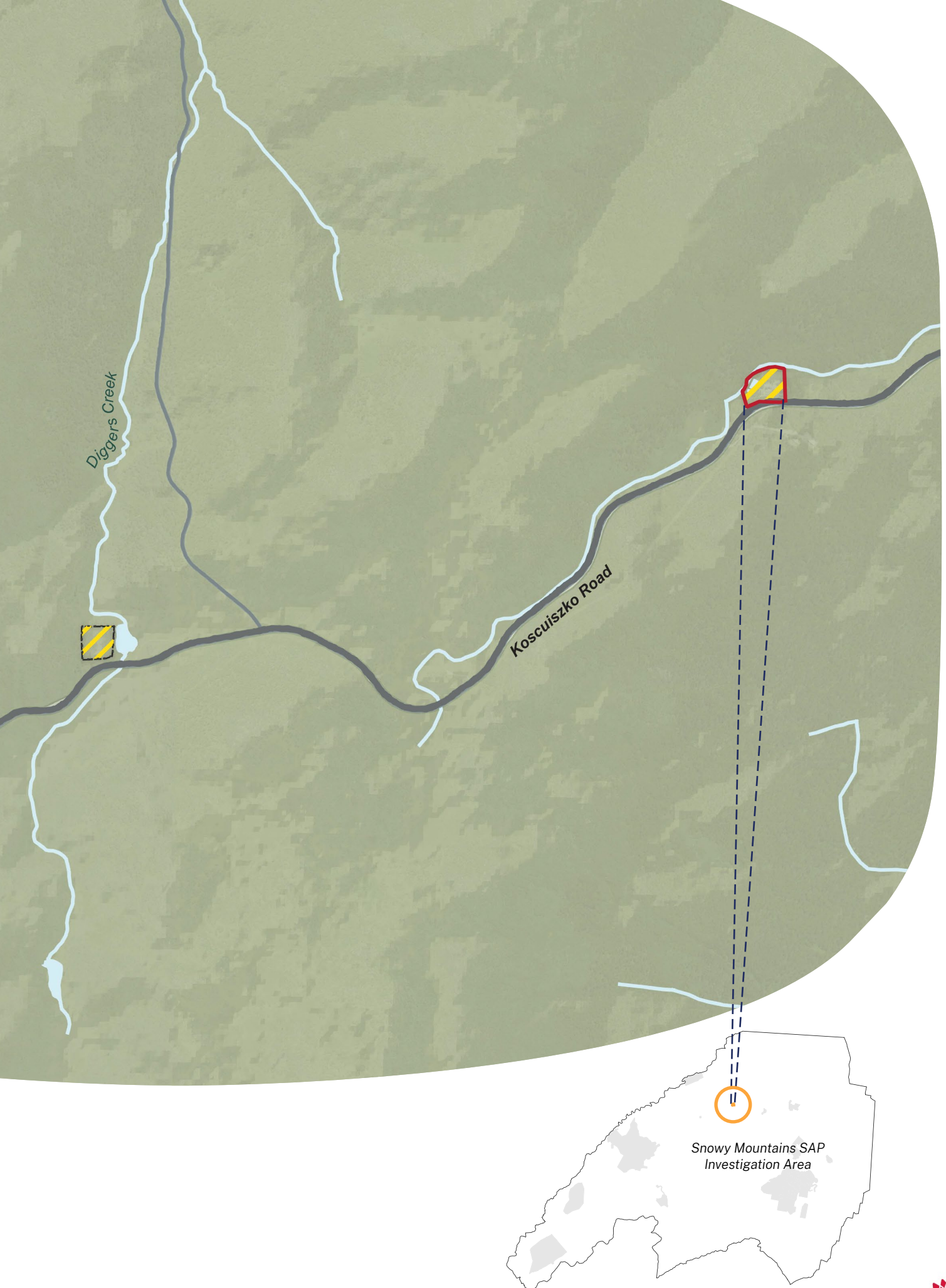


Figure 81. Location of Ski Rider Alpine Accommodation Sub-region

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3.4 Ski Rider Alpine Accommodation Sub-region

3.4.1 Existing character

Ski Rider Alpine Accommodation Sub-region (Ski Rider) has positioned itself as a fully serviced accommodation provider with equipment hire, restaurants, bars, and entertainment available on-site. A shuttle service is available for guest use during peak ski season providing access to resorts within the Perisher Range Alpine Resort Sub-region.

Ski Rider is located within Wilsons Valley, approximately 21 kilometres north-west of Jindabyne and 11 kilometres north-east of Perisher Valley via Kosciuszko Road as shown in **Figure 81**. The Sub-region is situated within heavily vegetated natural bushland and on land that slopes northwards towards Sawpit Creek.

The majority of the accommodation buildings are elongated motel-style buildings with low pitched gabled roofs with eave overhangs. The room entries are generally located along the southern elevation, or on the inward facing side of the building and are accessed via a common, covered walk-way that extends the length of the elevation. These buildings have a moderate roof pitch and are generally unified by the consistent use of stone cladding in select areas, green vertical cladding and a light weight metallic roof.

The northern portion of the Sub-region is heavily vegetated. The remainder is interspersed with vegetation. Car parking is distributed throughout the Sub-region either directly in front of, or opposite, the accommodation buildings. Three sewage treatment ponds lie on the western edge of the lease area and are separated from the Sub-region buildings by vegetation.

3.4.2 Desired future character

Ski Rider will continue to provide a fully serviced accommodation offering suitable for large tourist group tours. An upgrade of facilities and access will ensure protection of environmental values and safe egress while improving overall visitor amenity.

Accommodation is to remain the predominant use within the Sub-region. Ancillary restaurant, bar and dining facilities as well as general amenities, will be maintained for the enjoyment and convenience of guests (refer ILP at **Figure 82**).

The Sub-region will continue to provide vehicle access to the accommodation buildings and associated parking. The visibility of the port-cochere and car parking areas from Kosciuszko Road should be minimised by restoring remnant vegetation within the building line and enhancing the landscape setting of the Sub-region.

The intent is to maintain the curtilage and general structure of the Sub-region to minimise the clearing of vegetation and to enhance the bushland setting.

The Ski Rider contains disturbed land and areas of low Aboriginal cultural heritage potential, and this is identified in **Appendix D**.

Design objectives and development controls to protect, manage and enhance Aboriginal cultural heritage have been provided in [Chapter 4.5](#).

The main building of the Ski Rider, as well as three of the dormitory buildings, have been constructed in the Kosciusko State Park Trust alpine style using local stone for the base of the buildings and for the veranda pillars. This more significant building style is confined to the first three dormitory buildings to the west of the main building, as well as the main building itself. The other dormitory buildings are constructed in a more vernacular style and do not have heritage values.



The Ski Rider contains disturbed land and areas of high and low historic heritage significance which are mapped in **Appendix D**.

Design objectives and development controls to protect, manage and enhance historic heritage have been provided in [Chapter 4.6](#).

The Ski Rider contains vegetation of various condition and is dominated by the tall wet forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion.

Areas of biodiversity value within the Ski Rider have been mapped in **Appendix E** and include:

- large trees around existing buildings and the car park are potential habitat for native fauna and threatened species and should be retained if possible, and
- areas of vegetation outside of the existing disturbed area which provide potential habitat for threatened species.



KEY

Sub-region boundary	Development area	Gateway	Creeks
Cadastre	Parking	Arterial roads	Sewage treatment ponds
Existing buildings	Buffer zone	Local roads	Elevation
5m contours	Open green space	Bus route	

Figure 82. Ski Rider Alpine Accommodation Sub-region ILP

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3.4.2.1 Objectives and controls

Objectives

- O1. Maintain the curtilage and general structure of the Sub-region to minimise the clearing of vegetation and to enhance the bushland setting.
- O2. Ensure the scale, siting, and design of future development enhances the national park setting of the built form by reducing its visibility from Kosciuszko Road.
- O3. Enhance the landscape qualities of the Sub-region by embellishing the vegetation along Kosciuszko Road, fronting the car park.
- O4. Enable expansion of hospitality uses in the precinct for year-round activation.

Controls

- C1. Development is to be consistent with the Desired Future Character statement in Chapter 3.4.2 of this DCP.
- C2. Development should be limited to upgrades on existing facilities (including the staff accommodation block) and enhancing existing buildings.
- C3. Deliver improved access to the site by establishing a logical path of arrival for public and private transport modes and to create a sense of arrival at the Ski Rider.
- C4. Building extensions are restricted to areas where there is previous disturbance or where it can be demonstrated that significant natural features and areas of high biodiversity value are not impacted upon. This includes the disturbed areas around buildings, car parks, and internal access roads.
- C5. Maintain buffer zones from Sawpit Creek, ensuring protection of environmental value areas.
- C6. Screening should continue to be applied around gas, vehicle refuelling, bin storage and sewage treatment pond areas.





Figure 83. Location of Sponars Chalet Alpine Accommodation Sub-region

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3.5 Sponars Chalet Alpine Accommodation Sub-region

3.5.1 Existing character

Sponars Chalet Alpine Accommodation Sub-region (the Sponars Chalet) is located on largely undulating lands at the foot of steeply sloping terrain to west. The Sub-region lies approximately 24km north-west of Jindabyne and 8km north-east of the Perisher Range Alpine Resorts Sub-region via the Kosciuszko Road as shown in **Figure 83**. The Sub-region has an elevation of 1500 metres.

The Sub-region contains the heritage listed Sponars Chalet building, which is the only remaining section of the original Hotel Kosciuszko, which was the earliest hotel in the Alpine Region built in 1907. The Sponars Chalet was originally the servants wing of that much grander hotel which was destroyed by fire in 1951. Today it provides traditional ski lodge accommodation and associated facilities for around 100 guests. There is no ski slope infrastructure at the Sub-region.

The Sponars Chalet is a local landmark building that is clearly visible from Kosciuszko Road when approaching from the east. A second building containing an indoor swimming pool and other guest facilities adjoins the Sponars Chalet. The northern portion of the Sub-region is vacant with the Sponars Chalet, facilities building, and car park confined to the southern portion of the Sub-region. Diggers Creek and Sponars Lake are located directly to the east of the Chalet, just outside the Sub-region boundary.

The Sub-region is located within a low sub-alpine vegetation zone. However, the land surrounding the Sponars Chalet and facilities building, is largely cleared and is dominated by managed grasses and vegetation and an unsealed car park. There is some remnant and exotic vegetation dispersed through the northern portion of the Sub-region. There is a cluster of exotic pine trees within the south-western corner of the Sub-region, which extends outside the Sub-region boundaries into the adjoining steep terrain to the west. This terrain is heavily vegetated with sub-alpine species which creates a backdrop to the Sponars Chalet.

Vehicle access to the Sub-region is via Kosciuszko Road. The vehicle access splits into two roads providing separate access for service and guest vehicles. The access for guest vehicles terminates at a large unsealed car park located on the eastern side of the Sponars Chalet.

In contrast to the larger Sub-regions within the Alpine Region, the Sponars Chalet offers accommodation to a small number of guests within a consolidated footprint. The four-storey, heritage listed Sponars Chalet building contains hotel style accommodation and a restaurant, while a pool and other recreational facilities are housed within the adjacent single storey facilities building.



3.5.2 Desired future character

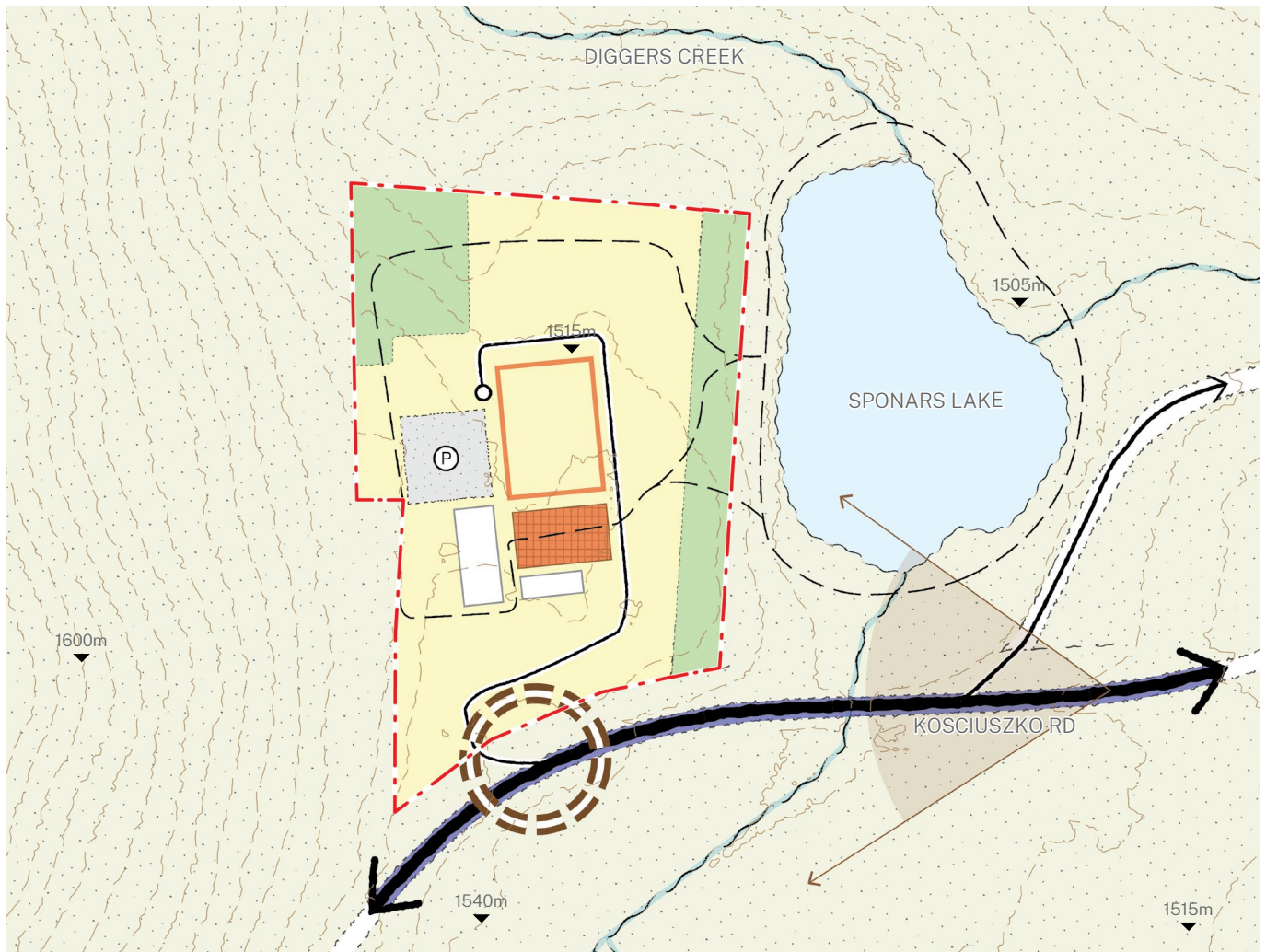
The key future consideration for this Sub-region is to reinforce the landmark qualities and heritage values of the Sponars Chalet and maintain the visual prominence of the Sponars Chalet building from Kosciuszko Road, in particular when approaching the Sub-region from the east.

The ILP for Sponars Chalet is shown at Figure 84.

An additional focus is to retain and rehabilitate remnant vegetation within the Sub-region to enhance visual and physical linkages to the surrounding natural environs to the north, east and west. Future redevelopment will need to remove exotic vegetation and revegetate areas within the Sub-region to minimise the visual impact of surface car parking and enhance the landscape qualities of the Sub-region.

The Sponars Chalet ILP proposes upgrades to existing accommodation and facilities, with potential for future expansion doubling the modest number of beds currently provided. Strategic revegetation and screen planting and rehabilitation will enhance the landscape and environmental qualities of the Sub-region and its surrounds. Upgrades to site access, internal roads and general site amenities, including sewerage treatment, will be required to support increased visitation.

Telecommunication upgrades are also required as limited mobile and internet service at the Sub-



KEY

- | | | | |
|---------------------|----------------------|--------------------|--------------------|
| Sub-region boundary | Key development site | Parking | Views |
| Cadastre | Key public space | Buffer zone | Creeks |
| Existing buildings | Open green space | Bus stop and route | Elevation |
| 5m contours | Arterial roads | Local roads | Shared/active link |
| Development area | Gateway | | |

Figure 84. Sponars Chalet Alpine Accommodation Sub-region ILP

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region impacts the current visitor experience. To facilitate summer activation, new walking trails are proposed, including a loop walk around Sponars Lake. Activation of the lake will be supported by the construction of a watercraft landing or jetty for seasonal activities and water sports. The structure plan also identifies opportunities for additional commercial space, best suited to an enhanced hospitality offering and conference facilities.

Sponars Chalet will remain an iconic visitor destination that celebrates the region's alpine heritage. The setting of the Sub-region is characterised by the prominence of the Sponars Chalet building on account of its location within a clearing, the backdrop of the steep, sub-alpine terrain to the west and the building's unique architectural style. Lake activation and enhanced walking and cycling connections will attract visitors year-round, establishing the Sub-region as a hub for active travellers. Commercial development will centre around conference facilities to enable the Sponars Chalet to deliver a full-service offering year-round.

Sponars Chalet contains disturbed land and areas of low Aboriginal cultural heritage potential, and these are identified in **Appendix D**.

Design objectives and development controls to protect, manage and enhance Aboriginal cultural heritage have been provided in [Chapter 4.5](#).

Large portions of the area near the Sponars Chalet were once occupied by the historically important Hotel Kosciusko. Some remains of foundations are visible to the north and east of the existing buildings. The surrounds and steps associated with the former tennis court are also visible.

The archaeological remains of the former Hotel Kosciusko at Sponars Chalet constitute significant archaeological deposits of local and perhaps state heritage value given the pioneering role played by the Hotel Kosciusko in the development of the Australian ski industry. Information gained from archaeological investigation would likely enhance the interpretability of the place and would add to our knowledge about the pioneering days of the Australian ski industry.

The Sponars Chalet contains disturbed land and areas of high, moderate, and low historic heritage significance along with areas with archaeological potential. These areas are identified in **Appendix E**. Design objectives and development controls to protect, manage and enhance historic heritage have been provided in [Chapter 4.6](#).

The Sponars Chalet is one of the least constrained Sub-regions in the Alpine Region from a biodiversity perspective and is dominated by exotic vegetation with little biodiversity value. There are a few patches of native vegetation that are likely to provide habitat for threatened species and these should be retained wherever possible.

Areas of biodiversity value at Sponars Chalet have been identified in **Appendix E** and include:

- areas of Snow Gum Woodland to the west of the Sponars Chalet buildings, and
- shrublands between the Sponars Chalet buildings and the lake which provide potential habitat for threatened species.



3.5.2.1 Objectives and controls

Objectives

01. Reinforce the landmark qualities and heritage values of Sponars Chalet.
02. Maintain the visual prominence of Sponars Chalet main building from Kosciuszko Road, in particular when approaching the Sub-region from the east.
03. Retain and rehabilitate remnant native vegetation within the Sub-region to enhance visual and physical linkages to the surrounding natural environs to the north, east and west.
04. Remove exotic vegetation and revegetate areas within the Sub-region to minimise the visual impact of surface car parking and enhance the landscape qualities of Sponars Chalet.
05. Enable expansion of tourist accommodation and commercial uses in the Sub-region for year-round activation.
06. Support Sponars Lake activation through access to walking loop and water sports facilities.
07. Encourage public transport use to reduce reliance on private vehicles and provide choice of transport modes.
08. Support increased connectivity to Perisher Range Alpine Resort Sub-region and Jindabyne township.
09. Enhance connections from the Sub-region to key summer activities including walking, hiking and cycling (gravel, road and mountain bike).

Controls

- C1. New development is to be consistent with the Desired Future Character statement contained within Chapter 3.5.2 of this DCP.
- C2. Provide for additional tourist and visitor accommodation and appropriate commercial uses that are compatible and sympathetic to Sponars Chalet being a listed heritage item.
- C3. Should a new development be proposed in the zone of 'archaeological potential' at Sponars Chalet, the following must occur:
 - a. the impact footprint of the new development will be inspected by a suitably qualified archaeologist to determine an appropriate research methodology,
 - b. test excavation may be required to determine the nature and extent of archaeological deposits at the site,
 - c. based on the results of the test excavation, further archaeological investigation may be required based on the advice of the directing archaeologist, and
 - d. following archaeological excavation at the site, a report will be produced to record the results of the excavation.



- C4. Facilitate connections to facilities in the vicinity of the Sub-region, including a walking loop and jetty constructed at Sponars Lake.
- C5. Building extensions are restricted to areas where there is previous disturbance or where it can be demonstrated that significant natural or historic heritage features are not impacted upon.
- C6. New development should increase pedestrian pathways within the site and connections to water features.
- C7. A detailed traffic engineering assessment of the proposed development is required, which may include the following:
 - a. right-turn bay for turn into Sponars Chalet from the east,
 - b. acceleration bay for right and left-turn out of Sponars Chalet,
 - c. deceleration bay for left-turn into Sponars Chalet from the west,
 - d. intersection designed to consider longer deceleration and acceleration distances and reduced lateral transitions required during snow or icy conditions, and
 - e. road surface designed with minimal interruption to snow clearing activities and space for snow push.



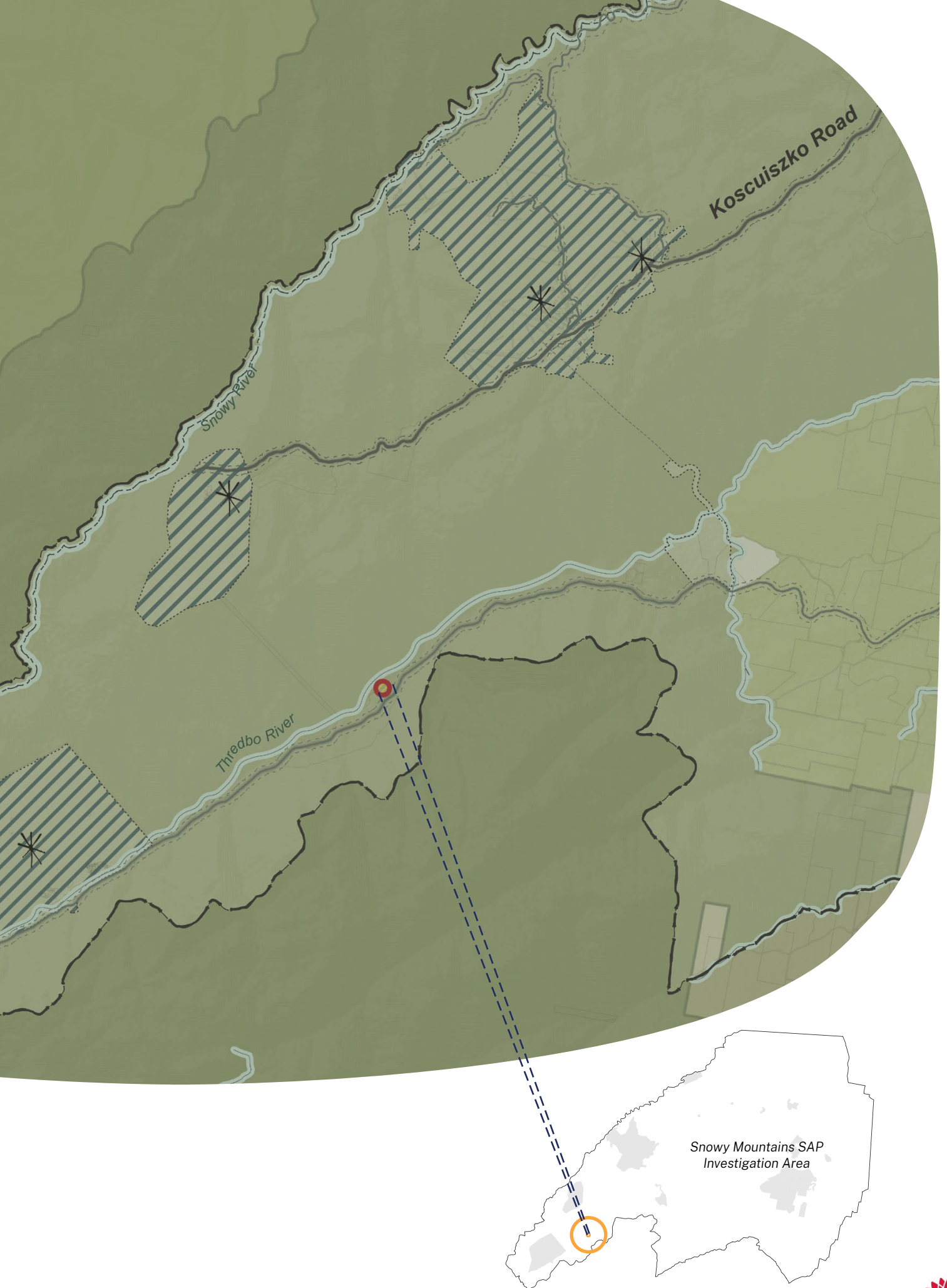


Figure 85. Location of Thredbo Ranger Station Alpine Accommodation Sub-region

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3.6 Thredbo Ranger Station Alpine Accommodation Sub-region

3.6.1 Existing and desired future character

The Thredbo Ranger Station Alpine Accommodation Sub-region (Thredbo Ranger Station) is located 24 kilometres west of Jindabyne and is bound by the Alpine Way and the Thredbo River corridor as shown in **Figure 85**. The Sub-region comprises cleared areas along the river and around the buildings with a ribbon of woodland vegetation through the centre of the site.

Existing use of the Sub-region is limited to supporting general NPWS park management and construction operations. The Sub-region boasts linkages to existing telecommunications and electrical services and is in a highly accessible location. New water and sewer infrastructure will be required to support development. Vehicular access is available to the Thredbo Ranger Station through a sharp entry from Alpine Way and there are connections for walkers and riders to the nearby Thredbo Valley Track. The Sub-region's established built form comprises the existing, unused Thredbo Ranger Station and associated service buildings.

The Thredbo Ranger Station is intended to provide a high-quality development connecting visitors to the landscape through thoughtful design that responds to the natural topography and character of the Alpine Sub-region.

The Sub-region's unique setting will be a fundamental part of its visitor appeal in providing significant views to the mountain ridgelines and direct access to the Thredbo River for both active recreation and passive enjoyment. The siting and design of future development will foster a connection to the changing seasonal landscape. Visitors will have an inherent appreciation for the river and be drawn to the site for its uninterrupted access and quality finishing activities.

The Sub-region presents a strong development opportunity for sustainable eco-tourism, suitable for use during summer and winter. It benefits from the Sub-region's proximity to the Thredbo River's renowned fishing locations and existing shared use biking and walking trail. Future development should be limited to existing, disturbed areas centralising development and reducing the need for site preparation works while also limiting environmental impacts.



Figure 86. Photos of the Thredbo Ranger Station Alpine Accommodation Sub-region



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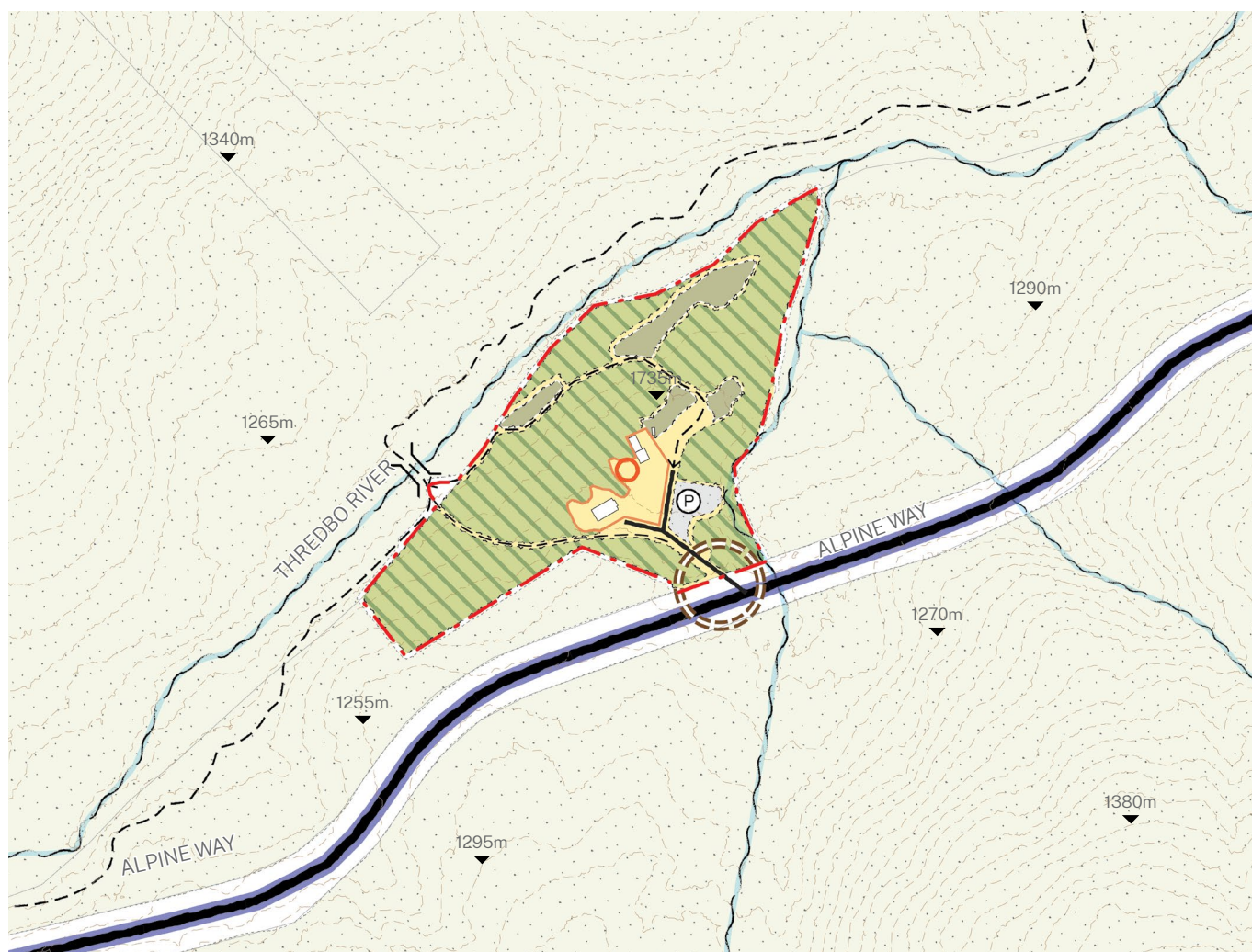
The Thredbo Ranger Station contains disturbed land, and areas of low and medium Aboriginal cultural heritage potential and historic heritage significance which are identified in **Appendix D**.

Design objectives and development controls to protect, manage and enhance Aboriginal cultural heritage and areas of historic heritage significance are provided in [Chapter 4.5](#) and [Chapter 4.6](#).

The Thredbo Ranger Station contains vegetation of various condition, including some areas of high biodiversity value which should be retained wherever possible. The main vegetation type in the Sub-region is Black Sallee–Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion.

Areas of high biodiversity value within the Sub-region which are identified in **Appendix E** include:

- areas of the threatened ecological community ‘Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion’ which is listed as a Critically Endangered Ecological Community under the Biodiversity Conservation Act 2016, and
- riparian areas along the Thredbo River.



KEY

Sub-region boundary	Key development site	Biodiversity area	Bus route
Cadastre	Parking	Gateway	Shared/active link
Existing buildings	Open green space	Nodes	Pedestrian bridge
5m contours	Camping pod area	Arterial roads	Creeks
Development area		Local roads	Elevation

Figure 87. Thredbo Ranger Station Alpine Accommodation Sub-region ILP

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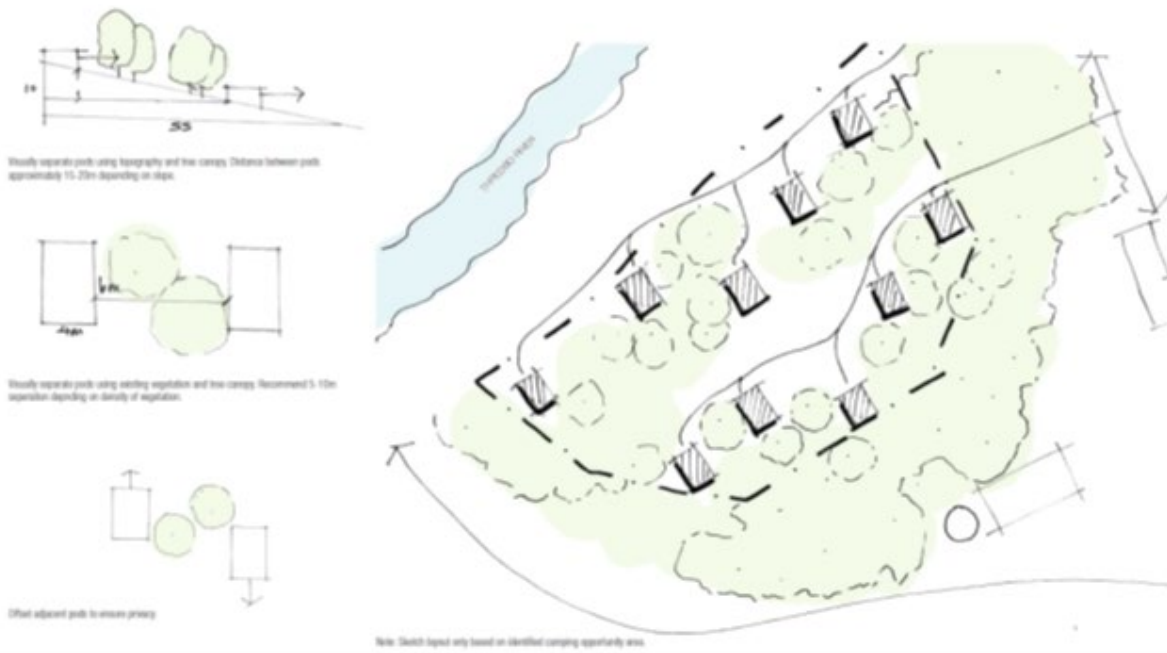


Figure 88. Thredbo Ranger Station – indicative sketch layout of camping pods

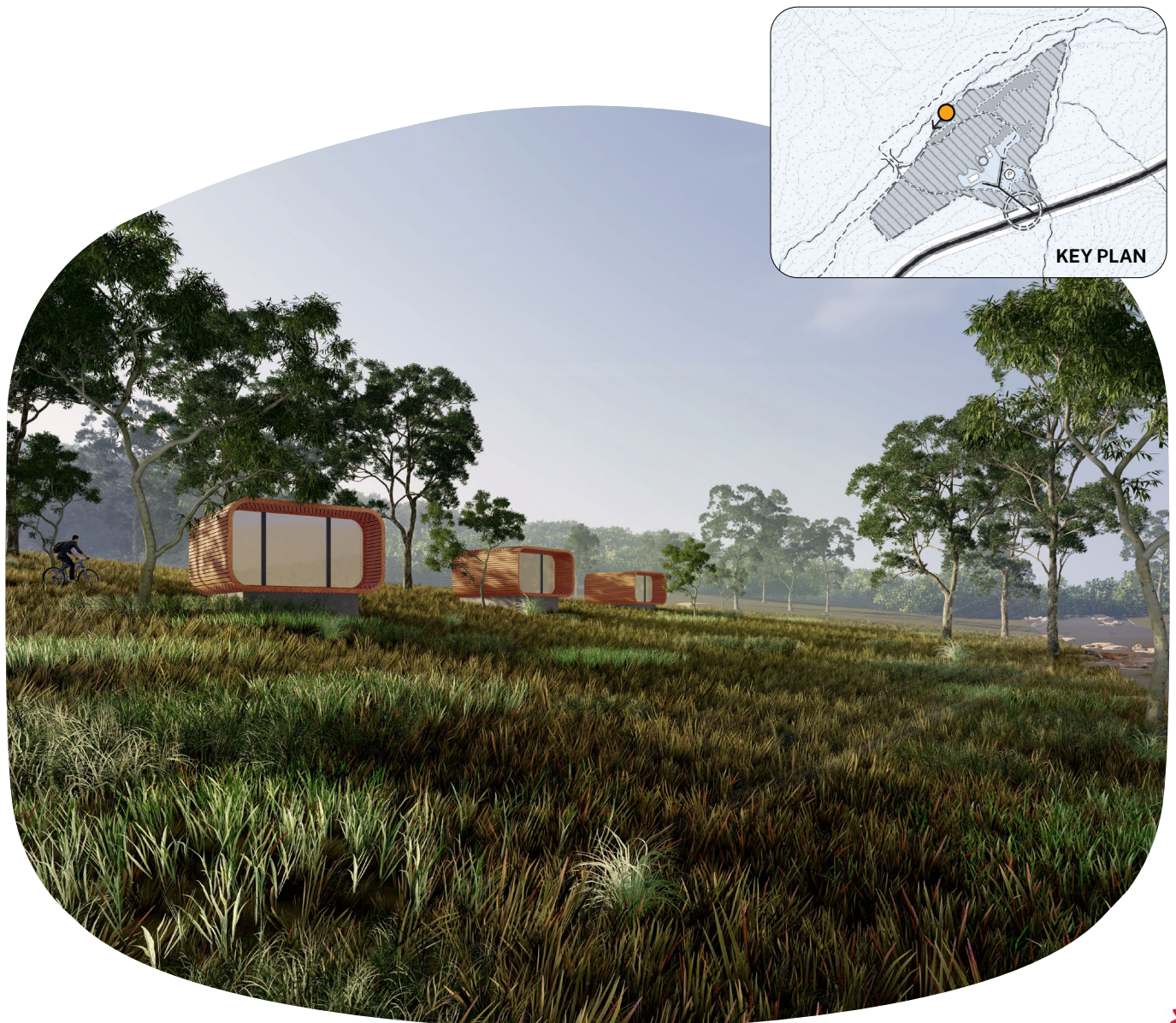


Figure 89. Artists impression : Example development of accommodation units in a summer setting

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3.6.1.1 Objectives and controls

Objectives

- O1. Enable expansion of tourist accommodation, commercial uses, and visitor services in the precinct for year-round activation, including the activation of the Thredbo River corridor for recreational purposes. Refer to **Figure 87**, **Figure 89** and **Figure 88**.
- O2. Protect sensitive sub-alpine and montane environments and waterways.
- O3. Support the adaptive reuse of the main ranger station building.
- O4. Accommodation is disbursed across the Sub-region responding to the landscape and minimising the visual impact of development.
- O5. Enhance connections from the Sub-region to key summer activities including walking, hiking, fishing and mountain biking destinations for pedestrians and cyclists.

Controls

- C1. New development is not inconsistent with the Desired Future Character statement contained within Chapter 3.6.1 of this DCP.
- C2. Enable the development of high-quality cabin style accommodation (eco-tourist facilities, camping grounds and staff accommodation) within the Sub-region.
- C3. Enable the development of on-site camping ‘pods’ along the banks of the Thredbo River within the Sub-region.
- C4. Upgrade and adaptive reuse of the historic rangers’ station building to allow for reception, food and beverage, commercial, administration, visitor information, heritage interpretation, storage and services uses. These uses must respond to the site’s historic heritage significance.
- C5. Development is focussed in areas where there is previous disturbance.
- C6. Where needed, new infrastructure related to water, sewer and waste transfer should be provided on site.



- C7. Areas where threatened ecological community occurs as shrubland along the Thredbo River may be developed for the purpose of low impact eco-tourism. Applicants must demonstrate that development:
- has been planned and will be constructed carefully to minimise the overall footprint and indirect impacts, and
 - there are no feasible alternative design and siting options
- C8. Development must not cause the loss of significant natural vegetation or other natural features, restrict the movement of wildlife, cause the loss of habitat linkages or distort natural drainage systems.
- C9. Provide wayfinding to iconic hiking, walking and mountain biking destinations.
- C10. Walking tracks must be as narrow as possible and utilise existing trail alignments where available.
- C11. Development must consider and improve vehicular access from Alpine Way.
- C12. Asset protection zones must be limited to existing buildings (e.g., to be used as a refuge) and not around individual cabins or on-site camping 'pods'.
- C13. A detailed traffic engineering assessment of the proposed development is required, which may include the following:
- right-turn bay for turn into Thredbo Ranger Station from the east,
 - acceleration bay for right and left-turn out of Thredbo Ranger Station,
 - deceleration bay for left-turn into Thredbo Ranger Station from the west,
 - intersection design to consider longer deceleration and acceleration distances and reduced lateral transitions required during snow or icy conditions, and
 - road surface designed with minimal interruption to snow clearing activities and space for snow push.





4.0 General planning considerations

4.1 Introduction

This chapter contains planning and design objectives and development controls applicable to all development areas within the Alpine Sub-regions. The controls respond to the general character of the Alpine Region given its unique location within the KNP and the sensitivity and demands of its alpine, sub-alpine and montane environments.

How to read and apply this Chapter:

Chapter 2 Alpine Resort sub-regions

OR

Chapter 3 Alpine Accommodation and secondary Alpine Sub-regions

+

Chapter 4 – General Planning Provisions

[Built form and design](#)

[Flooding](#)

[Amenity](#)

[Bushfire prone land](#)

[Transport, car parking and access](#)

[Waste management and recycling](#)

[Aboriginal cultural heritage](#)

[Geotechnical and contamination](#)

[Historic heritage](#)

[Universal design and accessibility](#)

[Landscaping](#)

[Climate and ecologically sustainable development](#)

[On-mountain development and infrastructure](#)

[Stormwater management](#)

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Chapter 5 – Alpine Carrying Capacity Framework

NOTE: Chapters 2 and 3 prevail over Chapter 4



This Chapter provides the planning provisions that apply across all Sub-regions. It should be read in conjunction with Chapters 2 or 3, and the Carry Capacity Framework at Chapter 5.



4.2 Built form and design

Built form and design controls seek to ensure a high quality of building design that enhances the character of individual Sub-regions whilst ensuring building design responds to landscape setting and is appropriate for the demands of alpine, sub-alpine and montane climatic conditions.

For clarity, the controls in this part do not apply to snowmaking and ski-lift infrastructure.

4.2.1 Building siting and location

Objectives

01. Ensure the siting and location of development is:
 - a. consistent with the future desired character of the Sub-region in which it is located,
 - b. where practical, delivered on existing disturbed land to minimise impacts on the environment, and
 - c. located to protect important Aboriginal cultural heritage values, including landscapes, vegetation and objects of significance to Aboriginal people.
02. Maintain key view corridors and vistas from roads and other public vantage points and minimise visual intrusion on the landscape.
03. Allow for the management of ground accumulated snow during winter months and associated building maintenance requirements.
04. Ensure safe access to and between buildings, including adequate provision for fire egress, that appropriately addresses climatic design considerations throughout the year.
05. Be appropriately separated to:
 - a. ensure visual privacy of occupants, and
 - b. protect amenity and activation of public domain throughout the year.

Controls

Siting development and topography

- C1. Development must be set back from significant landscape features and habitats, including boulder outcrops/tors, creeks, bogs and wetlands to provide an appropriate buffer zone.
- C2. Encourage development to be located within existing building footprints and other disturbed areas such as ski slopes and infrastructure corridors, where practical.
- C3. Conserve existing significant natural landform features including slopes, ridges and boulder outcrops/tors.
- C4. Upgrades/extensions to existing buildings on ridgelines should not amplify visual impacts.
- C5. Reflect the natural topography by stepping down/up to align with the gradient of the slope and minimising the need for earthworks, cut and fill as shown in **Figure 90**.

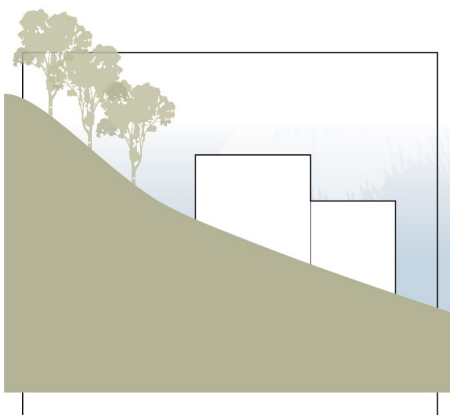


Figure 90. Built form responding to the topography

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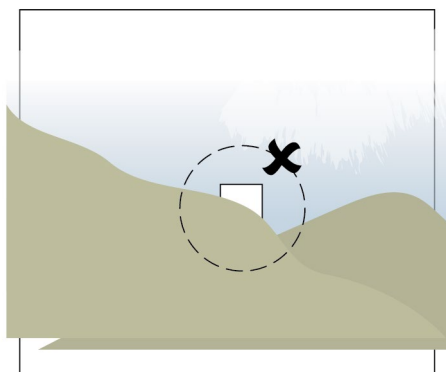


Figure 91. No development on ridgelines



C6. To maintain ridgelines (see **Figure 91**) and natural vegetated backdrops, unless appropriate merit-based circumstances enable taller buildings. Additional height may be considered where new development occurs within disturbed areas and where it minimises environmental impacts.

Setbacks to access ways, roads and infrastructure

C7. The front façade of buildings are to align with the neighbouring building setback where there is an established setback from a road or access way (refer **Figure 92** and **Figure 93**).

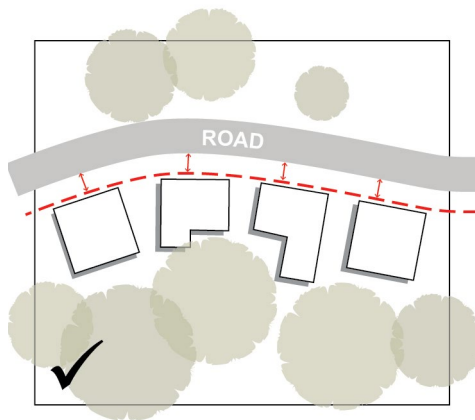


Figure 92. Maintain established building heights

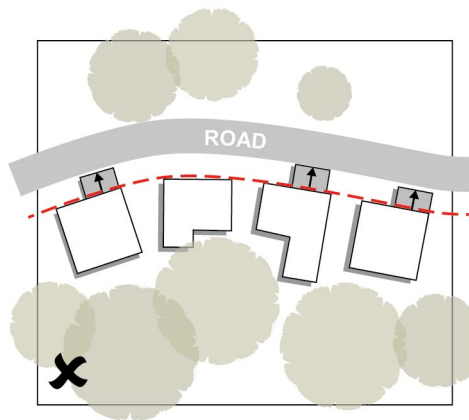


Figure 93. Avoid buildings that extend above surrounding building heights

C8. Buildings are to be set back from transport, utilities and snow-based infrastructure to ensure that amenity is preserved for visitors and to provide sufficient operating space for infrastructure, including oversnow and snow-clearing operations.

Setbacks to lease boundaries and building separation

C9. All buildings are to be located within existing or proposed lease boundaries.

C10. Setbacks to lease boundaries and side boundaries are to be consistent with predominant or established setbacks and separation distances from adjoining development, landscape elements and lease boundaries (where appropriate). Where existing lease boundary arrangements preclude consistent setbacks, setbacks should (as far as possible) seek to adopt the established setbacks and separation distances.

C11. Buildings should be sited and orientated so that they ensure occupant privacy between principal habitable rooms in the same or adjacent buildings.

C12. Setbacks to lease boundaries and separation distances between buildings must:

- a. ensure that new development does not impede existing public pedestrian or ski access,
- b. allow for the management of snow accumulation between buildings while avoiding obstruction of building entry and exit points, and
- c. ensure compliance with the relevant fire safety requirements by facilitating egress during a fire in all weather conditions and minimising the spread of fire to adjoining buildings.

4.2.2 Building height and scale

Objectives

- 01. Reinforce the future desired character and scale of the relevant Sub-region, except where sites have been identified as a key development site with specific height controls.
- 02. Locate building height so that it maintains view corridors and key vistas from public spaces and vantage points.
- 03. Ensure development does not unreasonably dominate the natural landform, vegetation, or other features of the landscape setting.

- 04. Maintain solar access to public spaces.
- 05. Support additional height in certain circumstances, only where it is located in existing disturbed land and where identified on the relevant ILP.

Controls

- C1. The height of buildings must be consistent with those specified for the relevant Sub-region, Where there is no specified height for buildings, the development should be consistent with:
 - a. the established heights that characterise the Sub-region,
 - b. the height of the adjacent buildings (see **Figure 94** and **Figure 95**). Where there is a distinct difference in the height of adjacent buildings, a transition in height should be achieved, and
 - c. where development involves alterations and or additions to existing buildings, the existing building height is to prevail.
- C2. Where a site is not an identified key development site in this DCP, an analysis of adjacent building heights is to be provided with DAs' for new buildings or increased height to existing buildings that seek to protrude beyond the tree canopy.
- C3. The height and scale of buildings should, where reasonable:

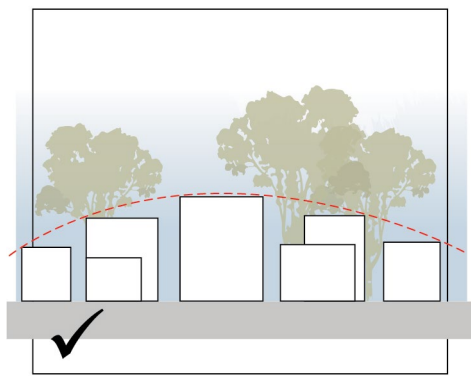


Figure 94. Maintain established building heights

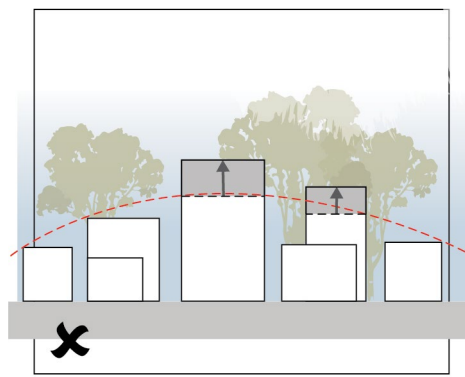


Figure 95. Avoid buildings that extend above surrounding building heights

- a. maintain key view corridors and vistas identified within the character statements, and
- b. avoid reducing solar access to identified public spaces within the Sub-region.

4.2.3 Building design

Objectives

- 01. Provide a high quality of building design that incorporates architectural elements of the Sub-region.
- 02. Encourage equitable access and facilities for all people to all new development and upgraded or intensified uses in existing buildings.
- 03. Ensure building design responds to the landscape setting of the Sub-region and is appropriate for the prevailing alpine, sub-alpine or montane climatic conditions.
- 04. Ensure development enhances and responds to public spaces through activation, appropriate public domain treatments for year-round conditions, and minimise any reduction in solar access.
- 05. Ensure individual buildings contribute positively to the desired future character of Sub-regions with regard to bulk, form, style, scale, setbacks and materials whilst enabling innovative and contemporary design.
- 06. Alterations and additions to existing buildings are of a high quality design that creatively interprets and responds positively to the context provided by the place or adjoining buildings.
- 07. Encourage contemporary building materials that complement and enhance the character of the relevant Sub-region.

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08. Ensure building materials and finishes are appropriate for the prevailing alpine, sub-alpine or montane climate and minimise glare and reflection.

Controls

Relationship to public spaces

- C1. Where buildings accommodate car parking, it is to be integrated into the design of the building. Garages and undercroft parking structures should not dominate building façades.
- C2. Buildings located adjacent to public spaces should:
 - a. Address and activate public spaces with entrances, lobbies and windows. Where entertainment, food and drink premises are located adjacent to public spaces, outdoor seating appropriate to prevailing climatic conditions should be considered, and
 - b. Provide a visually attractive and functional interface with public spaces, appropriate to the alpine, sub-alpine or montane climatic conditions prevailing in the relevant Sub-region.

Roof design

- C3. Roof design, including materials, pitch and plane, should:
 - a. prevent snow accumulation over building entrances, walkways, roads and driveways, or in public spaces or other areas where people congregate,
 - b. avoid snow accumulating in a manner that impacts on the structural integrity of the roof or building, and
 - c. avoid hazards arising from large amounts of snow and ice fall and accumulation.

Articulation

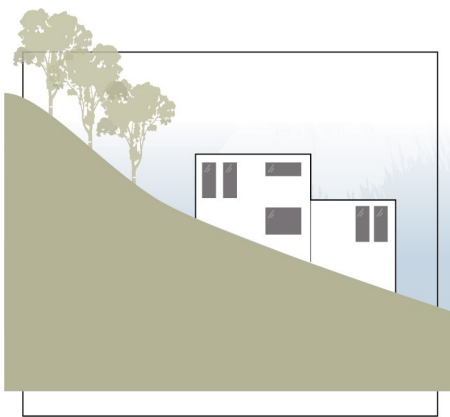


Figure 96. Incorporate openings to soften facades

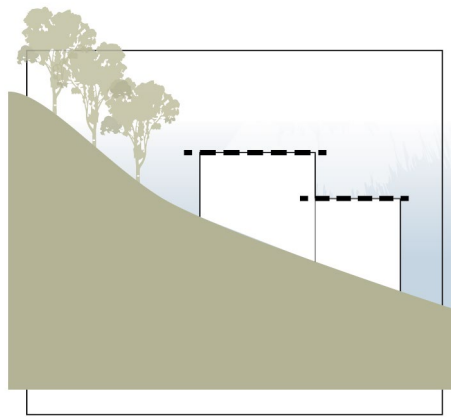


Figure 97. Incorporate vertical steps into buildings

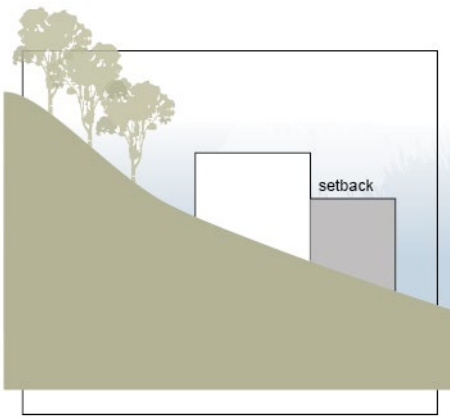


Figure 98. Incorporate setbacks to soften length of facades (elevation)

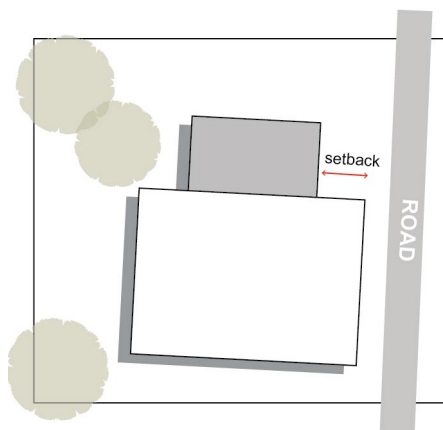


Figure 99. Incorporate setbacks to soften length of facades (plan)



C4. Buildings should avoid blank walls and be articulated. Examples of achieving building articulation are illustrated in **Figure 96** to **Figure 99**.

Building entries

C5. Building entries are to be designed and located:

- a. to be clearly visible from the street/road or access point, and easily identifiable and accessible in difficult weather conditions,
- b. building identification and signage is to be designed in accordance with **Appendix B**,
- c. to provide practical shelter and a transition space to the interior, and
- d. to be snow and drip free, incorporating a roof structure or design element that prevents snow from accumulating above the entrance or at ground level.

Building materials

C6. The selection of building materials and finishes:

- a. are of a high quality and low maintenance to withstand the snow, rain, wind and high levels of UV exposure encountered in alpine, sub-alpine and montane climates, and
- b. maximise thermal comfort and minimise energy consumption.

C7. Natural cleft or rock face stone such as granite and basalt should be used on 15% of lower levels.

C8. Sustainable building materials are to be encouraged where they are appropriate for the prevailing climatic conditions and environment in the Sub-region.

C9. Roof materials should comprise corrugated iron or profiled metal and be non-reflective.

4.2.4 Signage and Wayfinding

Objectives

O1. Wayfinding and interpretive signage are to achieve the following:

- a. enhance the visitor experience,
- b. utilise universal design principles to provide equitable access and legibility for all users,
- c. enhance scenic qualities rather than impacting upon views and vistas,
- d. be attractive, functional, effective and fit for purpose,
- e. enhance the local landscape and atmosphere,
- f. create identity through a recognisable, consistent and cohesive look and feel,
- g. be sympathetic to and reflective of the local landscape, heritage and history,
- h. comply with and not contravene road safety principles,
- i. achieve a high quality of design, fabrication, finish and installation,
- j. be appropriately located and positioned, and
- k. reduce visual clutter by being discreet and fewer, rather than greater, in number.

Controls

C1. Signage is to be located and designed generally in accordance with the requirements of **Appendix B** (Signage and Wayfinding).

C2. To assist with the public access and understanding of the long Aboriginal association with the land, Aboriginal cultural items such as artistic design or names will be incorporated into wayfinding signage and/or interpretive panels. Interpretation initiatives should include consultation with Aboriginal community members.

C3. Design guidance for wayfinding signage should consider how building design, siting, and materials could form part of a broader interpretation strategy, including consideration of Connection to Country and Return to Country.

4.3 Amenity

The climate, biodiversity attributes and character of the Alpine Region provide opportunities for unique visitor experiences which allow greater engagement with the environment for all. Controls relating to amenity are intended to improve the experience of visitors throughout the year and allow them to undertake a variety of activities appropriate to the national park setting.

For clarity, the controls in this part do not apply to snowmaking and ski-lift infrastructure.

Objectives

01. Ensure high levels of amenity for staff and residents, visitors in terms of solar access, visual and acoustic privacy and avoidance of odour problems.
02. Protect solar access to existing and proposed key public spaces adjacent to commercial uses in individual Sub-regions.
03. Maintain solar access to principal habitable rooms within developments and minimise overshadowing to existing development.
04. Preserve view corridors and significant vistas that are viewed from publicly accessible vantage points as identified in the Alpine Sub-regions and promote view sharing between developments to key landscape and cultural elements.
05. Minimise impacts from lighting on the natural environment and wildlife.
06. Car parking spaces and structures are to be subordinate in appearance to the main building
07. Ensure lighting does not unreasonably impact on the amenity of building occupants, particularly sleeping locations.

Controls

Solar access and overshadowing

- C1. Tourist and visitor accommodation development is designed and orientated to optimise solar access to the principal habitable rooms and primary windows.
- C2. Development maintains an appropriate level of solar access to the principal habitable rooms of adjoining development where possible.
- C3. Development is designed to minimise overshadowing of public spaces, particularly those that are used by persons to congregate and key open spaces utilised during peak snow season (winter months, noting that weather protection will be required in some public spaces). New development should not reduce solar access to public spaces in winter months between 12-2pm.

Visual privacy

- C4. Tourist and visitor accommodation development minimises privacy impacts on habitable rooms within the same or adjacent development through a combination of the following:
 - a. offsetting the location of habitable windows between buildings (where possible),
 - b. providing setbacks and separation between buildings,
 - c. locating balconies to avoid direct views to, or overlooking of, adjacent balconies and
 - d. use of privacy screening, opaque windows or other such devices.

Examples of proposed approaches and building separations are illustrated in **Figure 100**.

Noise and odour

- C5. Building location, design and layout must consider the following:
 - a. impact from external noise or odour sources such as food and drink premises, plant and machinery or infrastructure on the occupants of the building,
 - b. noise and odour transmission between different uses and occupants of the building, and
 - c. the potential impact of noise or odour upon adjoining uses.



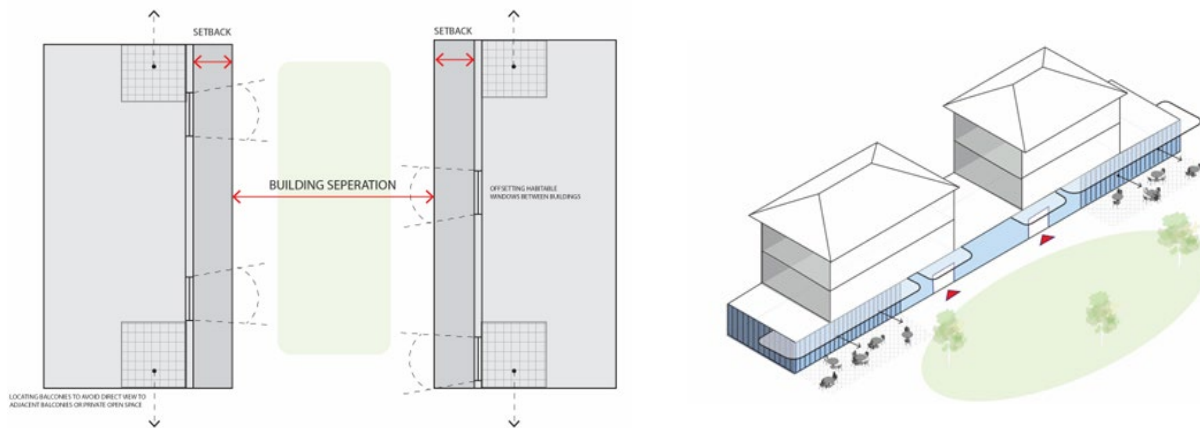


Figure 100. Examples of building separation, setbacks, privacy screening, window offsetting and balcony placement to ensure visual privacy

4.4 Transport, car parking and access

The Alpine Sub-regions are the major visitor destinations within KNP. Anticipated growth is planned to support year-round activity and increase the winter season capacity across the Sub-regions for both day and overnight visitors.

This chapter provides objectives and controls to manage an increasing level of activity on and around Sub-region village roads from the increase in visitation and accommodation. This creates both the opportunity and necessity to improve the road networks in and between Alpine Sub-regions to provide a higher level of transport infrastructure and mode share as well as improving access to areas. This will support higher active and public transport usage, whilst still recognising the necessity of private vehicle travel within and between the Sub-regions.

Roads within Sub-regions are intended to be pedestrian friendly, with active frontages and shared use enhancing visitor connections. Design and construction of such roads and associated parking must also provide for longevity given the climate impacts and maintenance requirements associated with oversnow, snow-clearing and de-icing operations.

For clarity, the controls in this part do not apply to snowmaking and ski-lift infrastructure.

Objectives

01. Support improved public transport to the Sub-regions, including regular bus access from Jindabyne to Perisher Range Alpine Resort Sub-region, and Thredbo Alpine Resort Sub-region.
02. Support improved public transport to Charlotte Pass Alpine Resort Sub-region for the summer.
03. Ensure car parking does not compromise the Sub-region character or visually detract from the desired future character.
04. Provide opportunities for improved walking and cycle connections and supporting infrastructure throughout the Sub-regions.
05. Ensure Sub-region village road and public domain design utilises durable, low-maintenance materials that can tolerate alpine, sub-alpine and montane climate variation and snow-related usage and operations.
06. Ensure car parking, vehicle access, and loading, service and waste facilities do not compromise pedestrian safety.
07. Minimise the environmental impact of car parking.
08. Ensure that parking and access facilities consider both winter and summer activities and the equipment required for them, such as snow related activities, mountain biking, and hiking.



Controls

Car parking and services/loading

- C1. The following parking rates are proposed as a maximum to provide for the parking requirement within a development site:
- a. hotel or motel accommodation (including pubs where accommodation provided):
 - i. one space per unit/room, and
 - ii. two parking spaces for the manager.
 - b. backpackers' accommodation:
 - i. off street parking requirements assessed on merit.
 - c. serviced apartments:
 - i. one parking space per one-bedroom serviced apartment unit, or
 - ii. two parking spaces per two or more-bedroom serviced apartment, and
 - iii. two parking spaces for the manager.
 - d. chalets:
 - i. two parking spaces per accommodation unit.
 - e. eco-tourist facilities:
 - i. one parking space per accommodation unit, and
 - ii. two parking spaces for the manager.
 - f. commercial premises (including offices), shops or restaurants & cafes: For commercial land uses, the majority of customers will be drawn from the village accommodation, and therefore separate parking for individual developments will generally not be required. If additional car parking is sought for commercial land uses, this parking should be incorporated within the shared public parking for the village. The amount of additional parking should be based on a merit assessment by a suitably qualified traffic specialist.
- C2. Car parking provision should minimise substantial earthworks and the loss of significant vegetation and ecological communities where possible.
- C3. Where car parking is to be provided in association with individual accommodation buildings, it must be located within the lease boundary or an associated licence area.
- C4. Car parking is to be setback from side and rear boundaries, consistent with established setbacks.
- C5. The provision of tandem parking or car stackers will be considered for club and commercial lodge accommodation where the operator manages the parking of these vehicles.
- C6. Where buildings accommodate car parking it is to be integrated into the building design and contribute to high quality architecture by:
- a. setting back or recessing car park entries from the main façade line of the buildings,
 - b. minimising the number and size of vehicle access points,
 - c. incorporating screening into the façade design to minimise the visibility of car parking from the street, and
 - d. integration with overall building design.
- C7. Loading, servicing and waste facilities are to be located or screened to minimise visibility from street and other public spaces. These facilities are to be integrated as part of the larger development through materials, design, and landscaping.
- C8. The design of car parking, loading, service and waste facilities is to minimise the potential for pedestrian and vehicle (including oversnow) conflicts.
- C9. All new buildings with car parking should include electric vehicle charging infrastructure. At least 5% of parking spaces should be provided with electric vehicle chargers.



C10. Design of car parking and local road treatment is to:

- a. ensure appropriate storage and melting arrangements for sediment laden snow-push from clearing operations,
- b. minimise use of salts or utilise alternative products or methods for de-icing of roads and paved areas,
- c. consider investment in road paving and stormwater infrastructure to reduce run-off turbidity,
- d. consider the use of storm-ceptors and other measures to prevent pollution from carparks and other paved areas, and
- e. ensure compliance with the requirements of Chapter 4.10 Stormwater Management.

Pedestrian and cycling facilities

C11. New development, including new car parking areas, is to provide for appropriate bicycle storage, or alternatively a bicycle rack for use by the whole of the development (where possible).

4.5 Aboriginal cultural heritage

The National Parks and Wildlife Act 1974 (NPW Act) protects Aboriginal objects and Aboriginal places in NSW. Aboriginal sites are widespread throughout NSW with considerable regional variation in the types of sites, their age, their contents and how they are situated in the landscape. Information on Aboriginal sites can be obtained from Heritage NSW (<https://www.environment.nsw.gov.au/topics/heritage>).

Objectives

- O1. Assist in the management of Aboriginal cultural heritage to be based on the principles of protection, maintenance, and enhancement, to preserve the significance of landscapes, vegetation and objects of significance to Aboriginal people.
- O2. Protect Aboriginal Objects and Aboriginal Places of heritage significance by minimising the likelihood of disturbance from development.
- O3. Minimise potential for interference with archaeological Aboriginal Objects as a result of development by encouraging relics to be preserved in-situ.

Controls

- C1. Where feasible and appropriate, Aboriginal culturally significant places and sites will be integrated with areas of environmental significance and green space. Areas of known Aboriginal cultural heritage should not be developed. Development may only occur in these areas if avoidance is neither feasible nor reasonable and where further Aboriginal cultural heritage assessment will be undertaken to appropriately mitigate and manage impacts to Aboriginal cultural heritage items, places, or areas where feasible
- C2. The location of a development in relation to a heritage management zone in the DCP maps (see **Appendix D**) will determine the nature and level of further assessment required. Where development is located in one of the following management zones, further investigation will include:
 - a. **High ACH potential:** Development within 'high ACH potential' areas will undertake an impact assessment. This assessment will include a visual inspection of the development impact area by an archaeologist and the Aboriginal community, and possibly test excavation, if warranted.
 - b. **Moderate ACH potential:** The nature of a development within 'moderate ACH potential' areas should inform the extent of further investigation. If a new development is likely to include significant ground disturbance (i.e. for building foundations, road construction, or extensive landscaping) or is likely to cause harm to mature native vegetation, an impact assessment will be undertaken following the Due Diligence Code of Practice that will include a visual inspection of the development impact area with the Aboriginal community.

- c. **Low ACH potential:** Development within ‘low ACH potential’ areas will be assessed at a time when the impacts are known by following the appropriate assessment guidelines, currently the Due Diligence Code of Practice. This assessment may involve a visual inspection of the development impact area with the involvement of the Aboriginal community.
 - d. **Disturbed land:** Development on ‘disturbed land’ can generally proceed without further assessment, however, development will first consider the likelihood for there being subsurface archaeological deposits present below areas of disturbed land and carry out test excavation if required. As Aboriginal Objects are still possible in ‘disturbed lands’, work in these areas will follow an unanticipated finds protocol to manage circumstances where Aboriginal Objects are identified during work.
 - e. **Unsurveyed landforms:** Development within unsurveyed landforms should be assessed at a time when the impacts are known by following the appropriate assessment guidelines, currently the Due Diligence Code of Practice. This assessment will likely involve a visual inspection of the development impact area and the involvement of the Aboriginal community.
- C3. Development in the vicinity of an Aboriginal cultural site is to be supported by an ACHA or Archaeological assessment report.
- C4. Erosion and sediment control plan prepared as part of the application must consider measures to minimise disturbance to Aboriginal cultural heritage objects. This may include through the use of soft engineering solutions such as the placing of hay bales or coir logs on the surface.
- C5. Measures to make Aboriginal heritage accessible: where possible and suitable, Aboriginal sites will be incorporated into the design of the public domain where they are publicly accessible and can be appreciated by all.



4.6 Historic heritage

Objectives

- O1. Support the conservation of environmental heritage, including heritage items, associated fabric and views.
- O2. Ensure development of heritage items is based on an understanding of the heritage significance of the particular heritage item(s).
- O3. Ensure significant features of heritage items are retained and that development is sympathetic to these features, with particular regard to bulk, form, style, character, scale, setbacks and materials.
- O4. Ensure the long-term conservation of the heritage values of items and places through retention and interpretation

Controls

- C1. A Heritage Impact Statement (HIS) is to be submitted with a DA where the development relates to an existing listed heritage item. Where an adopted Conservation Management Plan (CMP) is in place for a heritage item, the development is to be consistent with that CMP.
- C2. Historic items, wherever possible, are to be incorporated into the design of the public domain in the Alpine Sub-regions where they are publicly accessible and can be appreciated by all.
- C3. Development adjacent to a heritage item either listed in the Precincts-Regional SEPP or identified as having 'high heritage significance' in the historic heritage mapping in this DCP (refer to **Appendix D**) should:
 - a. ensure impacts to the heritage item are minimised, including through the provision of appropriate curtilages. There may be opportunities to reduce the curtilage to some heritage items if it can be demonstrated the development will not have a significant impact on the heritage item or its value,
 - b. through redevelopment or upgrades, remove inappropriate or unsympathetic alterations and additions to heritage items and reinstate significant missing details and building elements, where possible, and
 - c. provide further heritage assessment where the development is likely to have material effect on a heritage item or its value. Development is considered to have a material affect if it involves:
 - i. the full or partial demolition of a building,
 - ii. major alterations or additions involving the introduction of major new elements or harm to significant portions of original fabric,
 - iii. minor alterations where significant fabric may be harmed, or elements added to original fabric that diminishes its value,
 - iv. major adverse impacts, such as obscuring key views or dominating a heritage item, or the removal of evidence of significant historical associations, and
 - v. impact to significant archaeological deposits.
- C4. Development in areas defined as 'high heritage significance' in the heritage mapping must:
 - a. identify the impacts to the heritage values of an item or place,
 - b. demonstrate the need for the impact and how alternatives to the impact have been considered, and
 - c. demonstrate how the adverse impacts will be minimised or mitigated.



4.7 Landscaping

4.7.1 Water sensitive urban design

Water sensitive urban design (WSUD) is an approach that seeks to minimise the impacts of development upon the water cycle and achieve more sustainable forms of development. This Chapter should be read in conjunction with the Vegetation Management Strategy (**Appendix C**) which also details WSUD outcomes.

WSUD aims to integrate stormwater management systems into the landscape seamlessly and sustainably. Development within the Alpine Sub-regions will incorporate WSUD treatments appropriate for alpine, sub-alpine and montane climate conditions, including stormwater retention and detention that protects and enhances waterways, groundwater and habitat. The use of the term 'stormwater' in this Chapter 4.7 is also taken to include snow-push from snow-clearing operations on roads and paved surfaces.

Objectives

01. Minimise the quantity of stormwater run-off, including changes in flow rate and duration by disconnecting impervious areas.
02. Protect and enhance existing natural or constructed drainage networks including channel bed and banks by controlling the magnitude and duration of erosive flows.
03. Ensure that downstream flora and fauna are protected from stormwater impacts during and post construction.
04. Ensure that on-site stormwater management measures are operated and maintained in accordance with design specifications.
05. Provide opportunities to make WSUD measures visible for greater public awareness and education.

Controls

- C1. WSUD measures must be designed into new development through stormwater drainage, on-site detention and landscaping, and in the orientation of development.
- C2. Design stormwater and WSUD measures to avoid sensitive and water-dependent ecosystems such as bogs and fens. Within the Alpine Region, this includes all areas of alpine and sub-alpine peatlands, damp herb fields and fens.
- C3. Stormwater runoff from communal areas is to be treated through communal WSUD measures to ensure water pollution is avoided.
- C4. WSUD design measures are required so that new development does not rely solely on 'end of pipe' treatment devices prior to discharge.
- C5. New development must be sited and built to minimise disturbance of the natural drainage system.
- C6. Impervious surfaces must be minimised and soft landscaping incorporated to the maximum practical extent to promote water infiltration and reduce stormwater run-off.

4.7.2 Planting palette

Objectives

01. Enhance the character of the Alpine Region and KNP by selecting plant species that naturally occur in areas surrounding individual development sites.
02. Recreate plant community types known to occur or likely to occur based on:
 - a. field verified vegetation,
 - b. adjoining remnant native vegetation,
 - c. landscape position, and
 - d. existing mapping.

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03. Provide strong visual identity by including plants with defined form and foliage to help strengthen a pedestrian orientated environment.
04. Use proven plants with lower maintenance requirements and those which are suitable to the relevant Alpine Sub-region.

Controls

- C1. New development must select species that are consistent with the Vegetation Management Strategy Alpine Precinct at **Appendix C**. Landscaping and rehabilitation must be undertaken for new development in accordance with *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (Rehab Guidelines) (Dept. Environment and Climate Change 2007) as updated or replaced from time to time, including where:
 - a. stabilising sites and preparing them for planting,
 - b. selecting and planting species, and
 - c. maintaining plantings following development.
- C2. Species planting lists can be supplemented with locally occurring native species recorded within the site or listed as occurring within the relevant plant community type.

4.8 Biodiversity and natural water systems

4.8.1 Biodiversity and riparian lands

Objectives

01. Conserve, protect and enhance biodiversity, including the maintenance of habitats, ecosystems and populations of threatened species and endangered ecological communities.
02. Avoid and minimise the removal of existing native vegetation wherever possible.
03. Preserve and rehabilitate natural waterways, which contribute to the area's character and biodiversity.
04. Provide low impact, sustainable development and prioritise new development in areas of low ecological value (disturbed areas) and minimise impacts within undisturbed areas.
05. Minimise impacts to important habitats such as rocky boulder fields, areas of old growth Snow Gum woodland, bogs and fens, snowpatch and avoid impacts to endemic alpine biodiversity with highly restricted distributions, including Mountain Pygmy Possum, Alpine She-oak Skink, Guthega Skink and Broad-toothed Rat.

Controls

- C1. Development should be concentrated in and around already disturbed areas, including to avoid habitat fragmentation and maintain connectivity between significant landscape features and habitats. It should also be located nearby existing infrastructure to limit the need for additional impacts associated with creation of infrastructure and services (e.g. roads and utilities).
- C2. Development must be setback from significant landscape features and habitats, including existing creeks, bogs and wetlands to provide an appropriate buffer zone. Such buffer zones are to be provided in accordance with the requirements under Guidelines for riparian corridors on waterfront land. Exceptions will be considered where new development is located within an existing building footprint and/or disturbed areas.
- C3. Development impacting native vegetation of biodiversity value should be avoided as far as practical. Where it has been demonstrated as unavoidable, impacts must be minimised and offset.
- C4. Development impacting threatened ecological communities should be avoided wherever possible.



- C5. Development proposed within unsurveyed areas of Alpine Sub-regions may need to be accompanied by ecological survey/mapping information to demonstrate that the development will not adversely affect threatened ecological communities, threatened species and their habitats.
- C6. Where development triggers entry into the Biodiversity Offset Scheme a Biodiversity Development Assessment Report must support the DA.
- C7. Where development does not trigger entry into the Biodiversity Offset Scheme but may impact on native vegetation of biodiversity value, threatened species populations and/or endangered ecological communities, an appropriate flora and fauna assessment must support the DA.
- C8. Prioritise the design and location of new development that conserves existing significant natural landform features including slopes, ridges and rock outcrops.
- C9. New development that may result in biodiversity impacts must be supported by the following rehabilitation and monitoring measures consistent with the Rehab Guidelines:
 - a. for moderate biodiversity impacts a ‘Rehabilitation and Monitoring Plan’ is required, adopting sod-replacement techniques for earthworks, mulching and planting of locally occurring seed and tube stock. Monitoring and replacement planting methods, and
 - b. for high biodiversity impacts (i.e. those impacting threatened species and EECs) a Monitoring and Rehabilitation Plan is also required. Such a plan should be prepared by an appropriately qualified and experienced ecologist and include species and ecological community specific monitoring and rehabilitation actions.
- C10. Development involving demolition and construction must be supported by a construction environmental management plan (CEMP). The CEMP should be consistent with the [DPE Blue Book](#) and address the following:
 - a. marking out the site and flagging off sensitive areas (briefing personnel re same),
 - b. earthworks provisions (including sediment and erosion controls and fauna egress),
 - c. waste and hazardous substance management processes where relevant,
 - d. biosecurity and stockpiling management procedures, and
 - e. basic rehab and monitoring in accordance with the Rehab Guidelines.

4.8.2 Natural water systems

A natural water system is a naturally occurring watercourse, waterway, lake, wetland, lagoon, estuary, and/or other waterbody. Within the Alpine Region, this includes all areas of alpine and sub-alpine peatlands, damp herb fields and fens. The following objectives and principles ensure these water systems are sufficiently protected, restored and supported in future precinct planning. This Chapter should be read in conjunction with the DPE Vegetation Management Strategy - Alpine (refer to **Appendix C**) which also details Natural Water Systems outcomes.

Objectives

- 01. Protect and maintain the water regime of natural water systems.
- 02. Development does not adversely affect aquatic fauna and adjacent terrestrial fauna that rely on the natural water systems.
- 03. Protect and enhance the condition and function of riparian and aquatic ecosystems and the life forms they support.
- 04. Development does not adversely affect water quality or availability, including ground water.
- 05. Watercourses and associated riparian vegetation are maintained to contribute to water quality, and to mitigate sedimentation of natural waterways.
- 06. Natural water systems and associated vegetation and landforms are protected to improve the ecological processes and ensure that land is adequately buffered from development.
- 07. Water quality of receiving waters pre-development is improved, or at a minimum maintained.

Controls

- C1. Natural water systems must be maintained in a natural state, including the maintenance of riparian vegetation and habitat.
- C2. Where new development is associated with, or will affect a natural water system, rehabilitation must occur or return that natural water system to a natural state, to the greatest extent possible.
- C3. Where development proposes to discharge to a watercourse or waterbody in a degraded state, the application should include details for rehabilitation.
- C4. Stormwater must be managed to minimise nutrient and sediment run-off entering constructed drainage lines and natural water systems in Alpine Sub-regions.
- C5. Riparian corridors must be preserved and revegetated where possible. Setbacks to the corridors are to be provided in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (2018, NRAR).
- C6. Development within a vegetated riparian zone (VRZ) as illustrated in **Figure 101** should be avoided where possible to retain its ecological processes. Where development is unavoidable in the VRZ, it must be demonstrated that potential impacts on water quality, aquatic habitat, and riparian vegetation will be negligible.
- C7. A Vegetation Management Plan (VMP) must be provided for development within a riparian corridor. The VMP must be prepared consistent with the Vegetation Management Strategy Alpine Precinct (refer to **Appendix C**), and is to address:
 - a. retention and enhancement of existing vegetation and habitat as a priority,
 - b. proposed on or off-site revegetation or regeneration works,
 - c. buffers to development,
 - d. erosion and soil controls,
 - e. weed control, and
 - f. on-going maintenance.

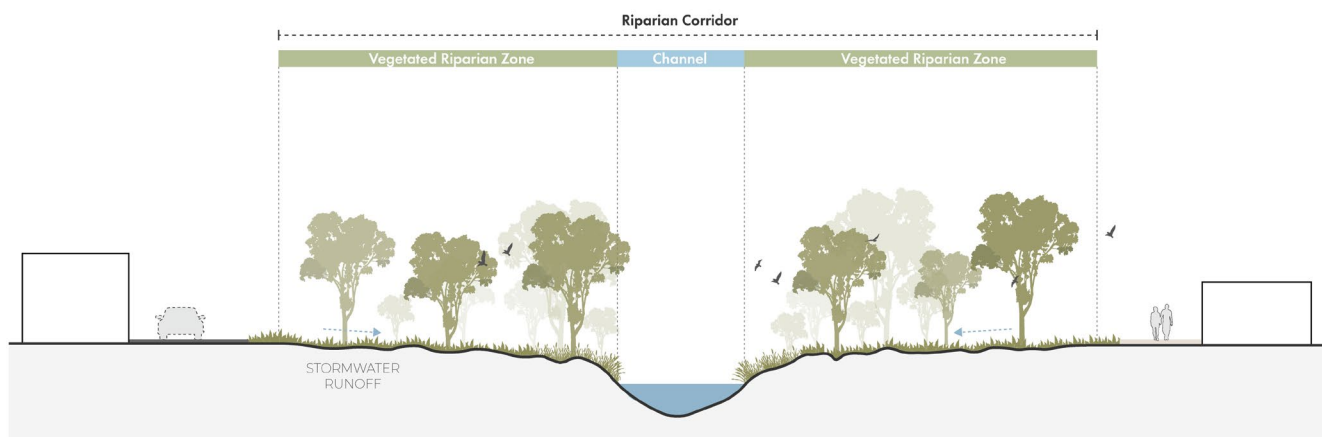


Figure 101. Vegetated Riparian Zone



4.9 Climate and ecologically sustainable development

Objectives

- O1. Contribute to the wider goal of achieving a carbon neutral Alpine Region in operation with electrified development and 100% renewable energy by 2050.
- O2. Enable a climate resilient Alpine Region with promotion of year-round tourism activities.
- O3. Reduce the impacts of development on the Alpine Region environment.
- O4. Provide for the efficient use of natural resources and reduce the consumption of water, electricity and fossil fuels.
- O5. Improve sustainability of building materials through reduction, re-use and recycling of materials, resources and building components.

Controls

- C1. New development should apply a sustainable design framework through achieving compliance with the following recommended tools and associated target ratings:
 - a. Green Star Buildings – minimum 5 Star Rating, or
 - b. NABERS Energy Commitment Agreement – Minimum 5.5 Stars for Commercial buildings and 4.5 Stars for Hotels, or
 - c. Climate Active Carbon Neutral Certification for buildings.
- C2. Development should contribute towards the transition away from hydrocarbon and biomass usage including through the use of:
 - a. electric induction cooktops
 - b. electric heat pumps for space heating, and
 - c. electric hot water supply (solar, electric heat pump or electric instantaneous heating systems).
- C3. New development should incorporate the following energy efficiency measures:
 - a. minimum 10% energy efficiency improvement on current NCC Section J, excluding solar PV, or 20% energy efficiency including solar PV,
 - b. install energy metering in tourist and visitor accommodation buildings or related group of accommodation buildings in accordance with CIBSE TM39 Building Energy Metering, and
 - c. achieve minimum energy rating for the following appliances:
 - refrigerator 4.5 star
 - washing machine 4.5 star
 - dishwasher 4.0 star
 - dryer 6 star
- C4. All new buildings should incorporate the use of on-site renewable energy generation with consideration of snow-loading impacts on solar panel installation and orientation to maximise output.
- C5. All tourist and visitor accommodation and commercial development should use refrigerants with a maximum Global Warming Potential of 750.
- C6. Building design utilises thermal mass principles to reduce energy demand through:
 - a. insulation with 'R' value of 3.5 or more for ceilings, 2.5 or more for walls and two or more for raised or lightweight-type floors,
 - b. a concrete slab-on-ground with an in-slab or in-screed heating or cooling system, must have insulation with an R-Value greater than or equal to 1.0, installed around the vertical edge of its perimeter,
 - c. install double glazed windows, glass doors and skylights (Insulated Glass Units), and
 - d. tourist and visitor accommodation buildings and areas where temperature control is required should have an air tightness / permeability plan to ensure they achieve air permeability in line with national standards.

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- C7. All new buildings should aim to incorporate the following:
 - a. pollutants are to be exhausted to the outside,
 - b. high Efficiency Particulate Air (HEPA) filter in-built into air conditioner systems or an alternative that increases air filtration to mitigate the impacts of poor air quality and bushfire smoke inundation, and
 - c. safe access to HVAC systems is provided for cleaning and maintenance.
- C8. Fireplaces being used for ambience only, should use gas or sustainably sourced timber products.
- C9. All new developments are to integrate circular economy principles into the design. Refer to the Circular Design Guidelines for the Built Environment, issued by the Office of Energy and Climate Change, for guidance.

4.10 Stormwater management

Objectives

- O1. Retain natural features of waterways for stormwater source management and control, in preference for structural or 'end of pipe' solutions.
- O2. Where appropriate, utilise best practice for the stormwater cycle, including collection of stormwater, treatment of stormwater and release at pre-development flow rates, capture of rainwater and reuse.
- O3. Minimise use of salts for de-icing.
- O4. Stormwater drainage networks for alpine and sub-alpine Sub-regions (snow affected areas) should include both underground and above ground drainage infrastructure and facility for removing debris and contamination from snow-push.

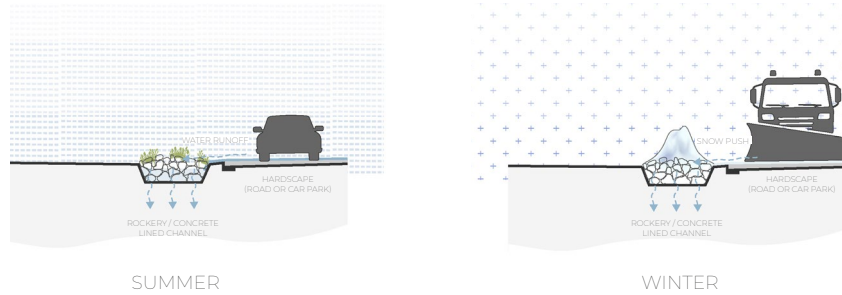
Controls

- C1. All new underground stormwater pit and pipe drainage design must be designed to capture and convey the 5% annual exceedance probability (AEP) design event flow plus 20%.
- C2. All overland flow paths must be designed to safely convey the 1% AEP flows plus 50% of underground pipe flows (based on the assumption that the underground pipe has a reduced capacity of 50% due to blockage of surface inlet pits).
- C3. All development that will affect existing stormwater infrastructure must:
 - a. limit site discharge to predevelopment flows for the 10% AEP and below, and
 - b. provide a safe (where practical limit velocities to 2m/s) overland flow path for stormwater runoff for events greater than the 10% AEP up to and including the 1% AEP including consideration of climate change projections for rainfall intensity. This ensures that where pipes are blocked by frozen water there is a defined overland flow path to ensure water escapes and does not impact development.
- C4. Development must manage stormwater at the source that allows for the treatment of stormwater runoff during summer months and the storage of snow push during winter months which may include:
 - a. edge treatments (rock or concrete lined channels and basins) to store snow push, reduce velocities of melted water and allow for sediment to be captured in the channel or basin before discharge into nearby watercourses. Channels and basins to allow for removal of sediment by heavy machinery following the winter months,
 - b. vegetated buffer strips on roads to capture sediments in storm and snow runoff, and
 - c. site specific stormwater pollution devices to capture runoff from large, paved areas such as carparks. **Figure 102** provides examples of these treatments.
- C5. Minimise road widths, where feasible and appropriate, to reduce salt application areas.
- C6. Ensure waterway crossings are designed to allow for the passage of fish.

Rockery / Concrete Lined Channel

Suitable for primary roads, large car parks and streets prone to high annual snowfall

- stores snow push
- reduces velocities of melted water
- allows sediment to be captured before discharging into nearby watercourses



Vegetated Swale

Suitable for secondary roads, car parks, and streets prone to moderate annual snowfall

- stores moderate snow push
- reduces velocities of melted water
- allows sediment to be captured before discharging into nearby watercourses
- provides greening to the street which enhances amenity and character

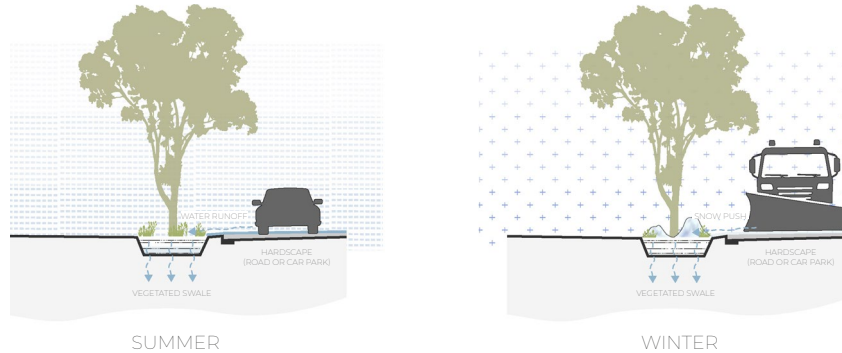


Figure 102. Stormwater treatment

- C7. Cover exposed stockpiles and use sediment traps or filters to keep sediment as close to the source as possible, with extra sediment filters used above environmentally sensitive areas such as creeks, streams, lakes and steep slopes.
- C8. Water quality discharge should aim to meet the targets of:
 - a. total Suspended Solids: 85% reduction, and
 - b. total Phosphorus: 60% reduction.
- C9. Specific concentration targets should be met for all water quality discharges to ensure the Nitrate-oxidising Bacteria effect:
 - a. total Nitrogen: limited to 0.1mg/L for 90% of time when there is flow,
 - b. electrical conductivity levels to be maintained below the 30 $\mu\text{S}/\text{cm}$ ANZG 2018 Guideline Value for upland rivers of south-east Australia, for 90% of time when there is flow, and
 - c. erosion and sediment control should be managed during construction to ensure impacts to waterways are minimised.
- C10. Design of car parking and local road treatment is to:
 - a. ensure appropriate storage and melting arrangements for sediment laden snow-push from clearing operations,
 - b. be designed with robust materials such as concrete to reduce runoff/turbidity,
 - c. consider investment in road paving and stormwater infrastructure to reduce run-off turbidity, and
 - d. consider the use of storm-septors and other measures to prevent pollution from carparks and other paved areas.

4.11 Flooding

Objectives

01. Design within Flood Prone Land (FPL) for the purposes of the DCP in accordance with the NSW *Flood Prone Land Policy* and the principles of the *Floodplain Development Manual* (2005).
02. Be sited, designed, and located to avoid or mitigate the flood risk to people, property and infrastructure both within the lease boundary and beyond the boundary, and ensure flood safe access is available.
03. Result in no net loss of flood storage due to cut and fill or loss of flood conveyance or significant diversion of flood flows or significant changes to hydraulic hazard conditions that impact on safe access or on evacuation routes.
04. Restrict intensification of development and activity in high flood risk precincts and, where possible, to reduce continued tourist and visitor accommodation uses within high flood risk precincts.
05. Protect the integrity of floodplains and floodway, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.

Controls

- C1. Development within FPL (refer **Appendix F**) must satisfy the following:
 - a. ensure flood safe access can be achieved through ensuring depth of flooding over vehicular driveways and roads is limited to approximately 0.3 metres and velocities of less than two metres per second. Should this not be achieved, demonstrate how safe access can be achieved in the event of flooding,
 - b. set minimum habitable floor levels at a flood planning level of 1% AEP plus a freeboard of 500mm,
 - c. ensure the lowest level of habitable rooms shall not be more than three metres above ground level, and
 - d. ensure all structures to have flood compatible building components if below the 1% AEP Flood Level plus 500mm Freeboard.
- C2. Where the flood planning level (FPL) is above the PMF level then the lower of the two values should be adopted. Refer to **Figure 103** which shows the minimum habitable floor level recommended when the PMF is below the FPL.

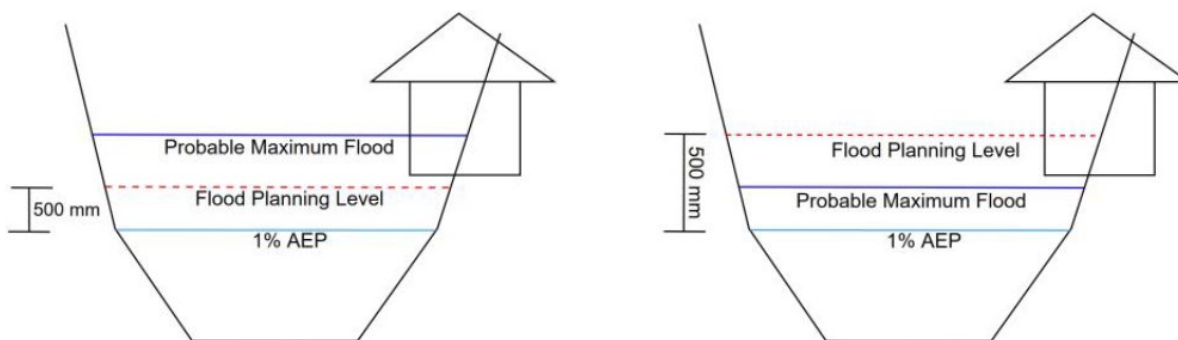


Figure 103. Minimum habitable floor level recommended when the PMF is below the FPL

- C3. For tourist and visitor accommodation, a risk-based approach should be adopted. Where a risk-based approach is applied the development must satisfy the following:
 - a. development will require the preparation of a flood emergency management plan by a suitably qualified consultant to address the risks of flooding and demonstrate compliance with the following principles:
 - i. development planned and operated in recognition of the full range of potential floods up to and including the probable maximum flood (PMF),
 - ii. ensure that development on the floodplain is consistent with the NSW *Flood Prone Land Policy* and the NSW *Floodplain Development Manual* (2005),



- iii. tourist accommodation operators, developers and park occupants are conscious of the potential flood hazard and consequent risk associated with the use and development of land within the floodplain,
 - iv. all land uses and essential services are appropriately sited and designed in recognition of all potential floods,
 - v. does not place an unacceptable financial burden on leaseholders or the community,
 - vi. restrict intensification of development and activity in high flood risk precincts, and where possible to reduce continued occupancy by long-term residents (i.e. staff and managers) within high flood risk precincts, and
- b. to protect the integrity of floodplains and floodways, including riparian vegetation, fluvial geomorphologic environmental processes and water quality, where the development is located within the PMF flood extent but not within the FPL flood extent consideration must be given to the H4 hazard vulnerability limiting depth and velocities (refer to **Table 1**) as part of the structural design of the building/structure,
- c. where the development is located within the FPL minimum habitable floor levels are to be set at the flood planning level of 1% AEP plus a freeboard of 500mm and the design of structures with consideration of the hazard vulnerability classification for the land as per the map and defined in **Table 1**,
- d. where development is located within the 1% AEP flood extent the hazard vulnerability classification for the land in **Table 1** and the special flood considerations include that the development:
- i. will not affect the safe occupation of and efficient evacuation of people in the event of a flood,
 - ii. incorporates appropriate measures to manage risk to life from flood, and
 - iii. will not adversely affect the environment in the event of a flood.

Table 1. Land hazard vulnerability classification

Hazard Vulnerability Classification	Description	Classification Limit (D*V) (m ² /s)	Limiting Stillwater depth (m)	Limiting Velocity (m/s)	Land Use Compatibility
H1	Generally safe for vehicles, people and buildings.	≤ 0.3	0.3	2	All types
H2	Unsafe for small vehicles.	≤ 0.6	0.5	2	All types including Eco-Tourism and Accommodation.
H3	Unsafe for vehicles, children and the elderly.	≤ 0.6	1.2	2	Commercial, establishments, Open Space, Riparian and Wetland
H4	Unsafe for vehicles and people.	≤ 1.0	2.0	2	Open Space, Riparian and Wetland
H5	Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust buildings subject to failure.	≤ 4.0	4.0	4.0	Open Space, Riparian and Wetland
H6	Unsafe for vehicles and people. All building types considered vulnerable to failure.	≥ 4.0	>4.0	>4.0	Open Space, Riparian and Wetland

- C4. For sites that are covered by existing flood mapping, a site-specific flood assessment which demonstrates compliance with this chapter. A site-specific flood assessment would be required for development that:
- intersects and or blocks a watercourse channel which comprises the bed and banks of the watercourse (to the highest bank) with a stream order of two or greater, or
 - is located within the riparian zone of a watercourse with a stream order of four or greater. Where the riparian zone is defined as the vegetated riparian zone (VRZ) adjoining the channel (NoW, 2012). A forth order stream includes estuaries, wetlands and parts of rivers influenced by tidal waters. (NoW, 2012) For a forth order stream the riparian zone is recommended to comprise of 40 metres each side of the channel.

4.12 Bushfire prone land

Objectives

- Provide for the protection of human life and minimise impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment and natural values of KNP.
- Govern protection measures by the degree of threat posed to a development and the vulnerability of occupants.
- Control the types of development permissible in bushfire prone areas.
- Minimise bushfire attack by separating development from bushfire hazards.
- Ensure bushfire protection is included early in the design process.
- Provide safe evacuation and emergency access in the event of bushfire.
- Encourage good design and management of development on bushfire prone land.
- Ensure that bushfire management measures are integrated with the protection of areas of environmental and cultural significance.

Controls

- Provide an Asset Protection Zone (APZ) for subdivision or Special Fire Protection Purpose (SFPP) development, which includes tourist and visitor accommodation incorporating at a minimum:
 - an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the lease boundary,
 - an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,
 - consideration is to be made to the impact of bushfire management measures on ecological, riparian and heritage values of the site, and outline conditions proposed to mitigate these,
 - APZs are to be designed to retain trees, shrubs or ground cover in clumps. Clumped areas are to be designed to create vertical separation between canopy and understorey layers and horizontal separation to reduce the rate of fire spread,
 - APZs are not to overlap with Core/Vegetated Riparian Zones (CRZs/VRPs),
 - contain provisions for two-way access roads which links to perimeter roads and/or connector roads. Site access must be designed to enable fire trails, perimeter and access roads to be located between the urban development and the bushfire prone vegetation. These areas provide a defensible space, passive recreation bushland views. Managed APZs are to be located to the bushfire prone vegetation side of these access ways,
 - contain provisions for adequate water supply for firefighting purposes, and
 - minimise the perimeter of the area of land interfacing the hazard which may be developed and provide land that will receive radiant heat at lower levels (less than 2kW) as a refuge.

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- C2. For infill development (that is development within an already subdivided area), comply with the Australian Standard for Construction of Buildings in Bushfire Prone Areas (AS3959) and the following:
- have safe areas, where people can safely move to and that provide protection from the harmful effects of flame contact and radiant heat,
 - can demonstrate that proposed bushfire protection measures can be adequately implemented, and
 - can demonstrate that by applying bushfire protection measures, bushfire can be managed.

4.13 Waste management and recycling

Objectives

- Reduce the amount of construction and demolition waste going to landfill.
- Reduce amount of waste generated in the operation of a development from going to landfill and maximise resource recovery.
- Ensure waste from construction/demolition and operational phases of development can be collected and disposed in a manner that is healthy, efficient, minimises disruption to amenity, and is conducive to the overall minimisation of waste generated.

Controls

- Development that will generate waste is to be accompanied by a Waste and Recycling Management Plan which addresses the waste disposal, recycling and composting during both the construction/demolition and operational phases of the development.
- Waste and recycling storage and composting collection facilities are to be provided on site consistent with the requirements of the Sub-region in which it is located. Refer to [Chapter 2](#) and [Chapter 3](#) for Sub-region specific requirements.

4.14 Geotechnical and contamination

Objectives

- Ensure adequate consideration and mitigation of contamination and geotechnical risks and hazards arising from development.

Controls

- Where applicable, new development must demonstrate consistency with *State Environmental Planning Policy (Resilience and Hazards) 2021* – Chapter 3 – Hazardous and offensive development, and Chapter 4 – Remediation of land.
- Development involving the erection of a building or the carrying out of any works, or the demolition of any buildings on sites identified within the areas designated ‘G’ on the geotechnical maps for the Alpine Regions in the *Geotechnical Policy – Kosciuszko Alpine Resorts 2003* (Geotechnical policy) is to be accompanied by a geotechnical assessment prepared in accordance with the requirements of the Geotechnical Policy.



4.15 Universal design and accessibility

Objectives

01. Integrate equitable, barrier free access into all developments.
02. Incorporate principle of universal design to ensure development better meets the needs of as many users as possible.

Controls

- C1. Development for tourist and visitor accommodation provide 10% of the total proposed accommodation units incorporate the *Liveable Housing Design Guideline's* gold level universal design features.

4.16 On-mountain development and infrastructure

The Alpine Sub-regions comprise areas of on-mountain land developed to facilitate a range of snow related and summer season visitor and recreational activities. Key characteristics of on-mountain developments and infrastructure include:

- lifting infrastructure comprising gondolas, chairlifts, surface lifts (t-bars and j-bars) and magic carpet facilities,
- snow making infrastructure comprising snow guns water storage facilities (dams and tanks), water and compressed air supply pipelines and hydrants and electrical cabling,
- targeted recreational infrastructure such as terrain parks (with formed jumps, ramps, bowls, rails and the like), and tobogganing areas,
- visitor facilities such as restaurants, food outlets and other amenities,
- operational facilities such as workshops, ski slope huts, snow fences, signage, oversnow routes and summer management trails,
- utility services, and
- regular vegetation management and grooming to define ski runs and ensure visitor safety.

While historically associated with winter activities, on-mountain development and infrastructure increasingly supports recreational and visitor use all year round. Walking, mountain biking and other types of recreation are increasingly popular.

Future use and management of on-mountain development and infrastructure must balance recreational and conservation objectives, consistent with the principles of ecologically sustainable development.

Objectives

01. Allow for a mix of summer and winter recreational opportunities for a range of visitor skill levels and types that enhances the particular Alpine Sub-region character.
02. Allow for on-mountain development and infrastructure that is environmentally sustainable and meets visitor needs.
03. Ensure ease and efficiency of circulation, adequacy of public facilities, lift and trail capacity and public safety to enhance amenity in a variety of weather conditions.
04. Create a safe and attractive environment in all seasons.

Controls

- C1. Upgrades to lifting infrastructure and snowmaking infrastructure should prioritise development that limits disturbance along existing alignments, where there will be no material impact on amenity or efficiency where practical.
- C2. The design of summer-focused trails and infrastructure should occur along existing disturbed areas such as ski slopes.
- C3. In environmentally sensitive areas, the use of aerial lifts are to be used in place of surface lifts unless it can be demonstrated that a surface lift can achieve an improved environmental outcome. Aerial cabling or underboring should be used for associated cabling in these areas

where practical to do so, having regard to icing and geotechnical constraints.

- C4. All summer and winter on-mountain developments and infrastructure must make efficient use of the natural terrain by limiting terrain modification to where it is essential for safety, to resolve environmental issues or to improve visitor experience.
- C5. Where visitor amenity or resort operations will not be materially adversely affected:
 - a. development of lifting facilities, snowmaking infrastructure and recreation infrastructure (such as skiing, walking and mountain bike trails) should utilise existing alignments and/or disturbed areas, and
 - b. aerial lifting facilities should be preferred over surface lifting facilities in environmentally sensitive areas, and associated cabling should be constructed aerially or installed via under boring.

4.16.1 Main Range Management Unit

The Main Range Management Unit extends along the spine of the Great Dividing Range for a distance of 28 kilometres, between the rocky outcrops of the South Rams head and Dicky Cooper Bogong, the extent of which is defined within the KNP PoM. To the west, the unit is bounded by the wilderness area of the Western Fall and by the Schlink Pass Road. This road marks the northern and eastern boundary of the management unit as far south as Guthega Power Station located at the confluence of the Mungyang and Snowy Rivers. From here, the unit adjoins the boundaries of the Guthega Road Corridor, Perisher Range Management Unit, Kosciuszko Road Corridor and Charlotte Pass Management Unit. It then follows the southern break of slope of the Rams Head Range where it adjoins the Thredbo Management Unit. The unit covers an area of 20,800 hectares.

The management unit contains the highest places on the continent, culminating at 2229 metres atop Mount Kosciuszko. It also incorporates the largest contiguous area of snow country and alpine landscapes in Australia. This compact area of only 110 square kilometres contains a range of superlative natural values. These include all of the Pleistocene glacial and most of the periglacial features present on the Australian mainland, comprising glacial lakes, cirques, moraines, erratics, terraces and block streams. A mantle of outstanding fossil and present-day soils covers the mountain tops, while the streams draining the area contain the purest river water in south-eastern Australia and form the headwaters of some of the most important river catchments in the country. The mountains support a host of rare and endemic plant species and communities that provide habitats for a number of unusual animals.

The Main Range Management Unit holds important cultural significance for Aboriginal and non-Aboriginal people alike, as represented by a myriad of social, historical, scientific and aesthetic values. It is also a key visitor destination, receiving more visitors than anywhere else in the park, with the exception of winter use of the alpine resorts. A variety of graded walks have been developed within the unit, the most popular of which leads to the summit of Mount Kosciuszko. By contrast, in winter the area provides opportunity for visitors wishing to undertake backcountry snow activities in the virtual absence of recreational infrastructure.

Land to which this DCP applies does not include the Main Range Management Unit. It is more the indirect impacts associated with development in the Sub-regions that requires consideration. Particularly the visual impacts associated with proposed lifting facilities, snowmaking infrastructure, associated buildings and structures and telecommunication infrastructure. Views of the top of mountain in Charlotte Pass Alpine Resort, Thredbo Alpine Resort, and Perisher Range Alpine Resort are particularly important. The majority of Guthega village can be viewed along with Blue Cow Terminal from the Main Range and will require particular consideration.

Controls

- C1. Sub-region operators are to minimise light spillage visible by visitors to the Main Range Management Unit.
- C2. Development that may be viewed from the Main Range Management Unit must consider a range of measures to minimise impacts including:
 - a. colour palette that blends with the prevailing landscape,
 - b. appropriate materials that minimise reflectivity and prominence, and
 - c. design and siting of development.



5.0 Alpine Carrying Capacity Framework

5.1 Introduction

5.1.1 Purpose

The purpose of this Carrying Capacity Framework (CCF) is to provide operators, developers and regulatory authorities with key details and a framework of operational requirements, infrastructure planning and planning controls, for managing visitor and accommodation capacity within the Snowy Mountains Special Activation Precinct Sub-regions in KNP.

The requirements on operators, and information included in the CCF, can be used to guide the release of new beds in Alpine Sub-Regions by the National Parks and Wildlife Service (NPWS), where uplift potential has been identified under the Snowy Mountains Special Activation Precinct Master Plan 2022 (Snowy Mountains SAP Master Plan). The CCF will also be a consideration in the assessment of individual development applications that may impact upon the capacity of infrastructure/utilities or visitor amenities and for the conditioning applied to resulting development consents.

Accordingly, the CCF is designed to complement governance and tenure arrangements in Alpine Sub-regions relevant to bed release including the KNP PoM, leases and licences within the Sub-Regions, and environmental management system (EMS) arrangements which exist under them.

5.1.2 Development to which this chapter applies

This chapter applies to a development application proposing:

- an increase in additional accommodation (staff accommodation tourist and visitor accommodation or eco-tourist facilities), or
- additional demand on the capacity of utilities and infrastructure.

Such development must demonstrate consistency with the principles and infrastructure requirements of this Chapter.

All other development including development in the Mount Selwyn Alpine Resort does not need to consider this Chapter.



5.1.3 Aims and objectives

The aim of the CCF is to guide the release of beds in the Alpine Sub-regions (Alpine Resorts and Alpine Accommodation) by NPWS in a manner consistent with its objectives, and to ensure development applications lodged following the release of beds are carried out in accordance with the planning and development requirements of this Chapter.

The objectives of the CCF are to:

- a. manage the growth of visitation in the Alpine Sub-regions to ensure the protection, maintenance, and enhancement of identified KNP values, including but not limited to:
 - i. biophysical values (including habitat, biodiversity, landforms, water quality and landscapes), and
 - ii. cultural heritage values (including cultural heritage places, objects and features of significance to Aboriginal people).
- b. ensure opportunities are provided for visitors to undertake a wide range of recreational activities at places and in ways that optimise the quality of the experiences available, while minimising adverse impacts upon the values of KNP and conflicts with other users,
- c. ensure development is appropriately located and designed in a manner commensurate with the objectives of this DCP,
- d. development and bed release are staged to minimise adverse environmental, social and cultural impacts,
- e. development does not inhibit the ongoing maintenance of biophysical values, improved social outcomes, and the regeneration of cultural heritage values, and
- f. complement the KNP PoM and tenure arrangements in Alpine Sub-regions, including EMS and bed release arrangements under them, for the purposes of achieving objectives (a) to (e) inclusive.

5.2 Application of the CCF

The CCF is based on the stages identified as part of the *Carrying Capacity Framework Report* (WSP, 2022) which accompanied the Snowy Mountains SAP Master Plan and considered the acceptability of releasing additional beds in the Alpine Sub-regions, up to the maximum bed limit specified in the KNP PoM. The CCF is based on a series of operational and planning requirements which must be met prior to the allocation of a tranche of beds under the KNP PoM (refer to Appendix A), as well as a tool for development planning consistent with the DCP.

Figure 104 outlines the process and requirements for the release of a tranche of beds (including for Sub-regions with a single tranche of beds, i.e. Alpine Accommodation Sub-regions) and associated development assessments. Figure 105 outlines how this process operates in circumstances where this CCF identifies multiple tranches of beds for a Sub-region, i.e. for Alpine Resort Sub-regions.

5.3 Operational and tenure requirements

5.3.1 Tenure and regulatory compliance

Compliance by operators with the legislation and tenure arrangements relevant to carrying capacity is a key consideration under the KNP PoM in determining the acceptability of releasing beds as per the planned staging in this CCF. The specific considerations are listed in Action 10.2.1.16 of the KNP PoM.



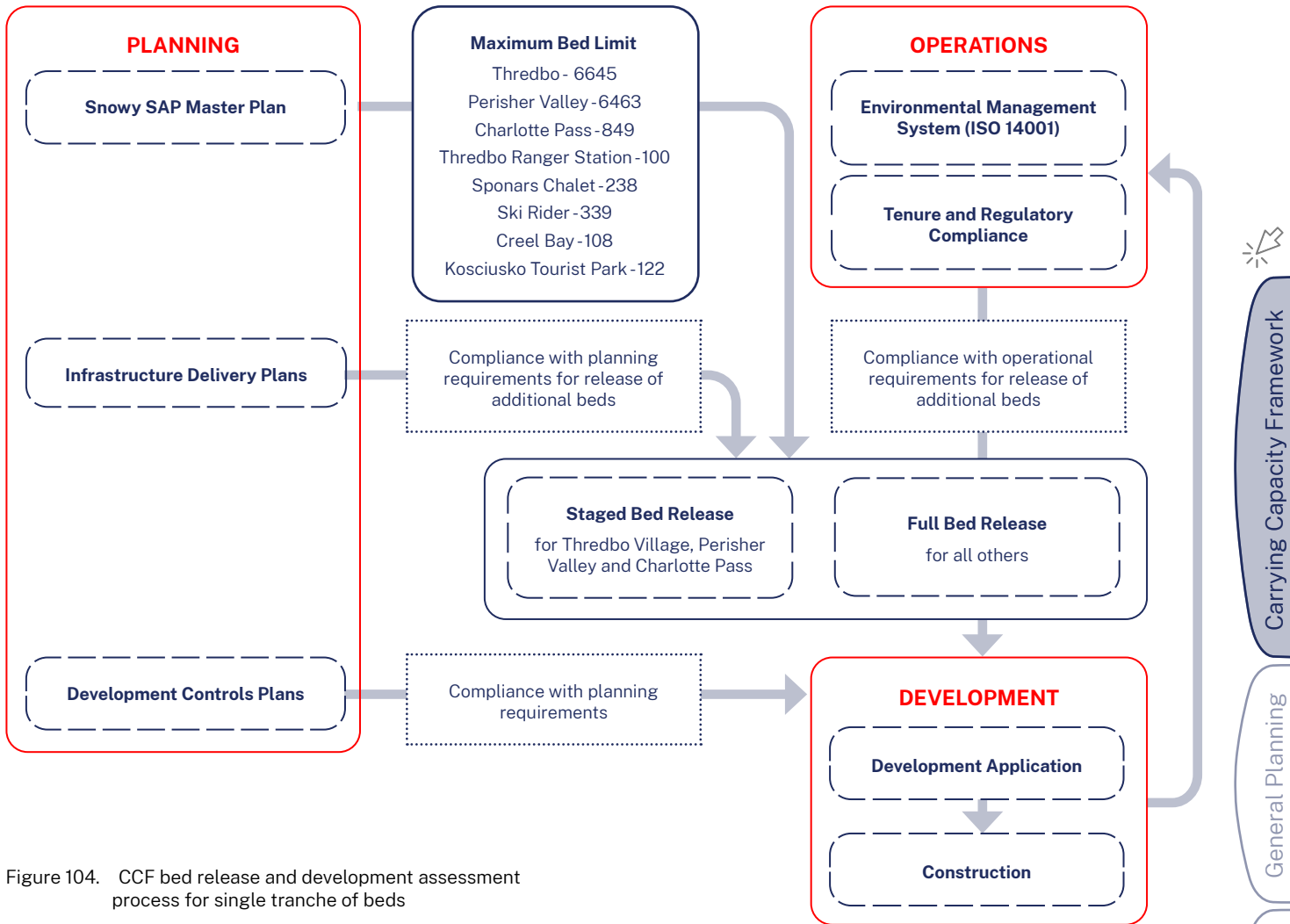


Figure 104. CCF bed release and development assessment process for single tranche of beds

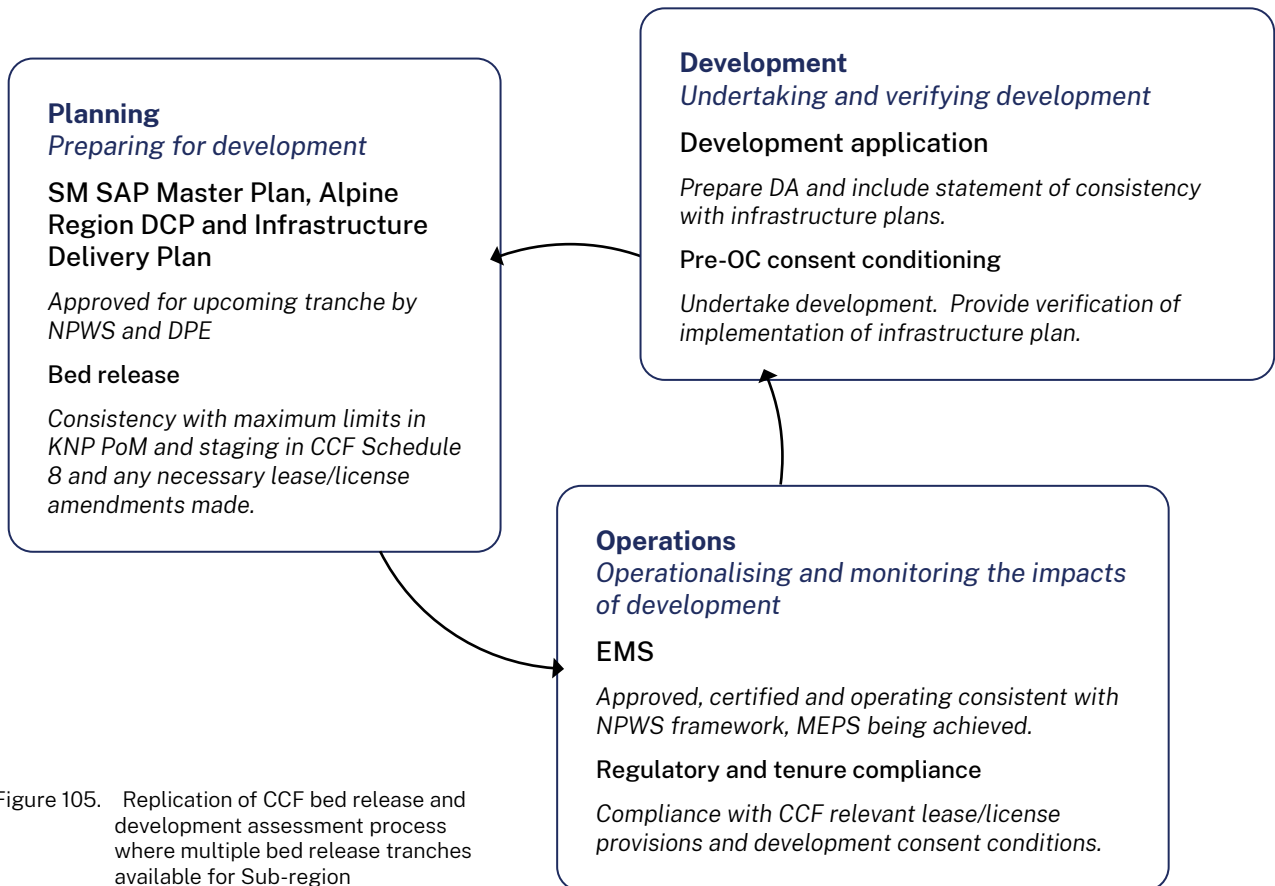


Figure 105. Replication of CCF bed release and development assessment process where multiple bed release tranches available for Sub-region

5.3.2 Environmental Management Systems (EMS)

The EMS requirements apply to operators under the KNP PoM and relevant tenure arrangements in the Alpine Sub-regions. In Alpine Resort Sub-regions, operators' EMS is required to be consistent with ISO 14,001, as demonstrated through independent certification at 3 yearly intervals and annual internal audits. EMS must include Minimum Environmental Performance Standards (MEPS) to be achieved by the operator and reported on to NPWS for publication in the NSW Alpine Resorts Annual Environmental Performance Report.

The overarching EMS policy framework established under the KNP PoM will include:

- a. guidance for operators on how the requirements of ISO 14,001 are to be adapted for application to EMS in the Alpine Sub-regions, and
- b. proposed MEPS to be tailored for each Alpine Sub-region and agreed with NPWS for inclusion in the relevant EMS.

5.4 Planning requirements

The planning requirements for the release of beds vary between the Alpine Resort Sub-regions (Perisher Range Alpine Resort, Thredbo Alpine Resort and Charlotte Pass Alpine Resort) and the Alpine Accommodation sub-regions.

Alpine Resort Sub-region operators are required to prepare and implement the following in accordance with **Appendix A** and the infrastructure Delivery Plan.

For Alpine Resort Sub-regions, these planning requirements reapply for each tranche of beds specified in **Appendix A** for the relevant Sub-region. In anticipation of each tranche, Infrastructure Delivery Plans are to be updated or replaced in accordance with **Appendix A**.

Alpine Accommodation Sub-regions are required to prepare an Infrastructure Delivery Plan in accordance with **Appendix A**.

Table 2 outlines the considerations for infrastructure, utilities and visitor amenity and the objectives for each aspect. These must be addressed in the Infrastructure Delivery Plan (as applicable for the type of Sub-region) and will be considered and satisfied as part of the release of beds and assessment of development where relevant.

In all aspects of the application of **Table 2**, operators are to ensure that infrastructure, utilities and visitor amenity and the objectives for each aspect are consistent with the requirements of the ultimate regulatory authority responsible.



Table 2. Considerations for infrastructure, utilities and visitor amenity

Aspect	CCF Objective	CCF bed release and development assessment objectives	Role/ Responsibility
Water Availability – Potable	<p>Ensure the sustainable use of water resources and protect water resources from overuse.</p> <p>Provide safe and reliable drinking water supply.</p>	<p>To ensure sufficient availability of water supply to meet the demands of peak visitation at the Alpine Sub-region and consistent with the CCF Objective for Water Availability - Potable.</p> <p>To ensure that processes and infrastructure for the extraction and treatment of potable water are capable of meeting applicable legislative requirements and guidelines.</p>	Operators / NPWS / DPE Water / NSW Health / DPE
Water Availability – Snowmaking (Alpine Resort Sub-regions only)	<p>Ensure the sustainable use of water resources and protect water resources from overuse.</p>	<p>To ensure sufficient availability of water supply to meet the demands of snowmaking activities at the Alpine Sub-region and consistent with the CCF Objective for Water Availability - Snowmaking.</p> <p>To ensure that processes and infrastructure for the extraction of water are capable of meeting applicable legislative requirements.</p>	Operators / DPE Water / DPE
Wastewater Treatment	<p>Protect the environmental health and aquatic ecosystems of Alpine Region waterways from development and visitor activities.</p>	<p>To ensure sufficient wastewater treatment capacity to meet the demands of peak visitation at the Alpine Sub-region and consistent with the CCF Objective for Wastewater Treatment.</p> <p>To ensure that processes and infrastructure for the treatment and discharge of wastewater are capable of meeting applicable legislative requirements.</p>	Operators / NPWS / EPA / DPE
Electricity	<p>Ensure visitors to the Alpine Sub-regions have an enjoyable and safe experience.</p> <p>Provide capacity for greater electrification of infrastructure and appliances to reduce reliance on non-renewable energy sources.</p>	<p>To ensure sufficient capacity within the electricity network to meet peak demand at the Alpine Sub-region and consistent with the CCF Objective for Electricity.</p>	Energy providers / Operators / NPWS / DPE
Telecommunications	<p>Ensure visitors to the Alpine Sub-regions have an enjoyable and safe experience.</p>	<p>To ensure sufficient capacity within the telecommunications network to meet peak demand for telecommunications services at the Alpine Sub-region and consistent with the CCF Objective for Telecommunications</p>	Telecom. providers / DPE
Access	<p>Ensure visitors to the Alpine Sub-regions have an enjoyable and safe experience.</p> <p>Ensure environmental resilience and sustainability are implemented into all development activities.</p>	<p>To ensure access (including parking) arrangements are in place to manage peak visitation to the Alpine Sub-region in an efficient / sustainable manner and consistent with the CCF Objective for Access.</p>	TfNSW / NPWS / Operators / DPE
Visitor amenity (Alpine Resort sub-regions only)	<p>Conserve and enhance the existing amenity of the Alpine Sub-regions and surrounding areas of KNP.</p> <p>Ensure visitors to the Alpine Sub-regions have an enjoyable and safe experience.</p>	<p>To ensure Alpine Resort Sub-region operators consider on-mountain management of visitation to meet peak visitor demand at that Sub-region, consistent with the CCF Objective for Visitor Amenity.</p>	Operators / DPE



Carrying Capacity Framework

General Planning

Alpine Sub-Regions

Alpine Resorts

Introduction

5.5 Development requirements

A development application that seeks:

- an increase in additional accommodation (staff accommodation tourist and visitor accommodation or eco-tourist facilities), or
- additional demand on the capacity of utilities and infrastructure.

Such development listed above must demonstrate consistency with:

- a. the aims and objectives of this Chapter,
- b. an approved Infrastructure Delivery Plan, and
- c. the DCP.

A statement of consistency with the above would form part of the applicant's Statement of Environmental Effects lodged with the DA.

Should the application be determined by way of development consent with conditions, the consent authority would likely impose conditions to ensure that any requirements under the Infrastructure Delivery Plans will be delivered and certified prior to any construction certificate or occupation certificate being issued. The consent authority may as a condition of consent require certification by a professional engineer that infrastructure comprising or supporting the development has been constructed and is operating as detailed in the relevant Infrastructure Delivery Plan.

Note: The applicant must also consider infrastructure and utility requirements at a local level as part of the assessment of the development application including connection into existing services and infrastructure.





Appendix A

Carrying Capacity Framework

A1 Bed release assumptions and requirements

The staging of bed releases detailed in this Chapter assumes a peak in visitation by 2040 and that all beds up to the maximum limit identified in the KNP PoM should be made available to align with the expected peak, subject to compliance with the Chapter and KNP PoM requirements around release.

For Thredbo, Perisher Range and Charlotte Pass Alpine Resort Sub-regions, this assumes a staged release for all accommodation. In all other Sub-regions, full bed release is assumed given the smaller quantity of beds provided for under the KNP PoM and the likely implication for infrastructure upgrades. The release of a range of beds within each tranche rather than a specific number will provide some flexibility for operators to make appropriate development decisions within the limitations established by this Chapter and the requirements for release specified by the KNP PoM.

Where conformance to the requirements of the KNP PoM, EMS and this Chapter has been demonstrated by the resort operator, and to the satisfaction of NPWS, consideration may be given to a variation of the staged release of beds under this Appendix for the relevant Sub-region.

When considering the release of beds for each Sub-region, regard will be given to the extent to which beds have been released or are already available under the KNP PoM for that Sub-region but not yet allocated and constructed. This is to ensure the staged release and construction of beds in accordance with this Chapter. Staging also allows any adverse environmental impacts arising from development and increased visitation to be more effectively monitored and mitigated through EMS arrangements for the Sub-region, with those results to then be considered prior to the release of a further tranche of beds.



A1.1 Thredbo Alpine Resort Sub-region

Table 1.1 provides an overview of the proposed bed release requirements for the Thredbo Alpine Resort Sub-region. Further details on each aspect are included in Section A2 of this appendix.

Table 1.1 Proposed bed release and bed release requirements for Thredbo Alpine Resort Sub-region

Upper bed limit - Thredbo Alpine Resort Sub-region ¹ 6,455					
Snowy Mountains SAP Master Plan bed uplift		1,635			
Staged release of Snowy Mountains SAP Master Plan bed uplift		Tranche 1	Tranche 2	Tranche 3	Tranche 4
		20-30% ²	20-30% ²	20-30% ²	Remaining
Operational and regulatory		Planning		Development	
Tenure and regulatory compliance	Environmental management systems (EMS)	Infrastructure		Development Control Plans	
Extent of compliance by operator with past development consents and the lease /licence arrangements which apply to them, as they relate to the operation of the CCF and aims and objectives in NSW Alpine Region DCP -Section 5.1.3.	Does the operator have an approved ISO 14001 EMS? Is compliance demonstrated with the NPWS EMS policy framework and relevant MEPS? (Refer to NSW Alpine Region DCP -Section 5.3)	Does the operator have an approved Infrastructure Delivery Plan? Has implementation of the Infrastructure Delivery Plan been demonstrated / certified to the extent necessary for the relevant stage / tranche of bed release? (Refer to NSW Alpine Region DCP -Section 5.4)		Is proposed development consistent with the requirements of the Alpine Region DCP?	

¹This figure includes approximately 370 beds that have been released under the KNP PoM but not yet constructed or encompassed within a current development application. As these 370 beds are part of an existing allocation, they are not part of the 'Snowy Mountains SAP Master Plan bed uplift' referred to in this table.

² Percentage of the 1,635 Snowy Mountains SAP Master Plan bed uplift available for allocation across the Thredbo Alpine Resort Sub-region (subject to CCF and KNP PoM requirements).



A1.2 Perisher Range Alpine Resort Sub-region

Table 1.2 provides an overview of the proposed bed release requirements for the Perisher Range Alpine Resort Sub-region. Further details on each aspect are included in Section A2 of this appendix.

Table 1.2. Proposed bed release and bed release requirements for Perisher Alpine Resort Sub-region

Upper bed limit – Perisher Range Alpine Resort Sub-region ¹ 6,684					
Snowy Mountains SAP Master Plan bed uplift		1,906			
Staged release of Snowy Mountains SAP Master Plan bed uplift		Tranche 1	Tranche 2	Tranche 3	Tranche 4
		20-30% ²	20-30% ²	20-30% ²	Remaining
Operational and regulatory		Planning		Development	
Tenure and regulatory compliance	Environmental management systems (EMS)	Infrastructure		Development Control Plans	
Extent of compliance by operator with past development consents and the lease/licence arrangements which apply to them, as they relate to the operation of the CCF and aims and objectives in NSW Alpine Region DCP -Section 5.1.3.	Does the operator have an approved ISO 14001 EMS? Is compliance demonstrated with the NPWS EMS policy framework and relevant MEPS? (Refer to NSW Alpine Region DCP -Section 5.3)	Does the operator have an approved Infrastructure Delivery Plan? Has implementation of the Infrastructure Delivery Plan been demonstrated / certified to the extent necessary for the relevant stage / tranche of bed release? (Refer to NSW Alpine Region DCP -Section 5.4)		Is proposed development consistent with the requirements of the Alpine Region DCP?	

¹This figure includes approximately 877 beds that have been released under the KNP PoM but not yet constructed or encompassed within a current development application. As these 877 beds are part of an existing allocation, they are not part of the 'Snowy Mountains SAP Master Plan bed uplift' referred to in this table.

² Percentage of the 1,906 Snowy Mountains SAP Master Plan bed uplift available for allocation across the Perisher Range Alpine Resort Sub-region (subject to CCF and KNP PoM requirements).

A1.3 Charlotte Pass Alpine Resort Sub-region

Table 1.3 provides an overview of the proposed bed release requirements for the Charlotte Pass Alpine Resort Sub-region. Further details on each aspect are included in Section A2 of this appendix.

Table 1.3. Proposed bed release and bed release requirements for Charlotte Pass Alpine Resort Sub-region

Upper bed limit – Charlotte Pass Alpine Resort Sub-region ¹ 849			
Snowy Mountains SAP Master Plan bed uplift		238	
Staged release of Snowy Mountains SAP Master Plan bed uplift		Tranche 1	Tranche 2
		40-50% ²	Remaining
Operational and regulatory		Planning	Development
Tenure and regulatory compliance	Environmental management systems (EMS)	Infrastructure	Development Control Plans
Extent of compliance by operator with past development consents and the lease/licence arrangements which apply to them, as they relate to the operation of the CCF and aims and objectives in NSW Alpine Region DCP-Section 5.1.3.	Does the operator have an approved ISO 14001 EMS? Is compliance demonstrated with the NPWS EMS policy framework and relevant MEPS? (Refer to NSW Alpine Region DCP-Section 5.3)	Does the operator have an approved Infrastructure Delivery Plan? Has implementation of the Infrastructure Delivery Plan been demonstrated / certified to the extent necessary for the relevant stage / tranche of bed release? (Refer to NSW Alpine Region DCP-Section 5.4)	Is proposed development consistent with the requirements of the Alpine Region DCP?

¹ There are currently no beds that have been released under the KNP PoM which are not yet constructed or encompassed within a current development application.

² Percentage of the 238 Snowy Mountains SAP Master Plan bed uplift available for allocation across the Charlotte Pass Alpine Resort Sub-region (subject to CCF and KNP PoM requirements).

A1.4 Alpine accommodation Sub-regions

Table 1.4 provides an overview of the proposed bed release requirements for the Alpine Accommodation Sub-regions which have bed uplift identified in the Snowy Mountains SAP Master Plan. Further details on each aspect are included in Section A2 of this appendix.

Table 1.4. Requirements for bed release in Alpine Accommodation Sub-regions

		Upper limit on number of beds in the identified Alpine Accommodation Sub-region ¹	Snowy Mountains SAP Master Plan bed uplift ²
Thredbo Ranger Station		100	100 (100%)
Sponars Chalet		238	116 (100%)
Creel Bay		108	108 (100%)
Kosciuszko Tourist Park		122	50 (100%)
Operational and regulatory		Planning	Development
Tenure and regulatory compliance	Environmental management systems (EMS)	Infrastructure	Development Control Plans
Extent of compliance by operator with past development consents and the lease/licence arrangements which apply to them, as they relate to the operation of the CCF and aims and objectives in NSW Alpine Region DCP - Section 5.1.3.	Does the operator have an EMS approved by NPWS? Is compliance demonstrated with the NPWS EMS policy framework and any applicable MEPS? (Refer to NSW Alpine Region DCP - Section 5.3)	Does the operator have an approved Infrastructure Delivery Plan? Has the implementation of the Infrastructure Delivery Plan been demonstrated/ certified as providing sufficient capacity for the bed release? (Refer to NSW Alpine Region DCP - Section 5.4)	Is the proposed development consistent with the requirements of the Alpine Region DCP?

¹ Total beds available for relevant the Alpine Accommodation Sub-region, including those currently allocated and identified Snowy Mountains SAP Master Plan bed uplift (subject to KNP PoM requirements).

² Percentage of the total Snowy Mountains SAP Master Plan bed uplift available for allocation across each of the Alpine Accommodation Sub-regions (subject to CCF and KNP PoM requirements).

A2 Infrastructure Delivery Plan

To facilitate the staged release of beds within the Alpine Resort Sub-regions (as outlined in Appendix A), operators will need to demonstrate how infrastructure will be upgraded to cater for the expected future growth in both day and overnight visitation. Resort operators, with assistance from a professional engineer(s), will be required to develop an Infrastructure Delivery Plan, consistent with the aims, objectives and minimum infrastructure/utility requirements outlined in this CCF.

The Infrastructure Delivery Plan must satisfy the following matters, in addition to specific Sub-region requirements outlined in section B.3 (minimum infrastructure/utility requirements):

- a. water availability and licence limits, water and wastewater network, treatment capacity, and discharge licencing, wastewater treatment and electricity infrastructure capacity within the Alpine Resort Sub-region to cater for the expected growth in both day and overnight visitation,
- b. transport infrastructure and parking upgrades within the Alpine Resort Sub-region as identified by the Snowy Mountains SAP Master Plan and this DCP,
- c. the timing and indicative staging (where relevant) of infrastructure upgrades within the Alpine Resort Sub-region and how these correspond with the planned staging/ tranches for bed release in the CCF,
- d. consider infrastructure solutions that seek to minimise the overall footprint and disturbance of the construction and subsequent operation of infrastructure and that utilise technological advancements,
- e. management and resourcing requirements must be considered particularly when utilising novel technological solutions, and
- f. consideration of the relevant licensing or other regulatory authorisation requirements, including those of the Environmental Protection Authority and DPE Water, when designing or upgrading infrastructure.

In seeking approval of an Infrastructure Delivery Plan or amended Plan from NPWS and DPE, certification must be provided by a professional engineer that the works proposed in the Infrastructure Delivery Plan will provide capacity in the relevant infrastructure to support the next tranche of beds proposed to be released under this CCF for the Alpine Resort Sub-region and the specific number of beds to be supported/sought. The professional engineer must consider the demands on the relevant infrastructure from both day and overnight visitation expected in the Alpine Resort Sub-region.

Infrastructure upgrades proposed in an Infrastructure Delivery Plan that provide capacity for the upper limit of beds available under the KNP PoM will not necessarily allow for the corresponding release of beds under the KNP PoM. Rather, the staged release of beds in accordance with Appendix A will still be required, and releases remain subject to other required considerations of the KNP PoM. For example, continuous achievement or improvement on MEPS agreed under the EMS arrangements for the Alpine Sub-region must be demonstrated prior to and following the release of a tranche of beds before the release of further tranches can be considered.

Infrastructure Delivery Plans must be reviewed and approved by both NPWS and DPE prior to the release of a tranche of beds and lodgement of one or more development applications proposing development utilising the tranche of beds released by NPWS.

As detailed in section 2.2, amendment or replacement of the plan must occur prior to application by the operator for release of any further tranche of beds which may be available for the relevant Alpine Resort Sub-region under this CCF and the KNP PoM. See also section 2.3 detailing certification requirements which may be applied through pre-occupancy certificate conditioning on development consents relevant to this CCF.

A3 Minimum infrastructure/utility requirements

A3.1 Thredbo Alpine Resort Sub-region

Table 3.1 provides a guide as to the likely infrastructure and utility requirements for the release of additional beds within the Thredbo Alpine Resort Sub-region. The table may be used to assist in the preparation of the relevant Infrastructure Delivery Plan in addition to the general matters specified in Section A2 of this appendix.

Table 4.1. Potential infrastructure / utility requirements for the Thredbo Alpine Resort Sub-region

Aspect	Description	Requirement	Role/ Responsibility
Water Availability – Extraction and Treatment Capacity	Water extraction within extraction licence conditions or expanded licence limit consistent with legislative requirements. Water treatment infrastructure designed / constructed / operated to meet peak visitation demand.	Operator to plan for an increase in the extraction licence and treatment capacity to meet future potable water and firefighting demands consistent with applicable legislative requirements. Considering, but not limited to, the following matters: <ul style="list-style-type: none"> Water access licence and corresponding water extraction limit for domestic proposes to be reviewed against the future water requirements as bed releases and developments are planned. It has been estimated that the future demand for water treatment capacity to cater for the expected growth in visitation may be up to 911kl/d. This would need to be substantiated by the operator through the preparation of the Infrastructure Delivery Plan. 	Operator / NPWS / DPE Water / NSW Health / DPE
Water Availability – Snowmaking	Water extraction within extraction licence conditions, or expanded licence limit consistent with legislative requirements	Operator to plan upgrades to meet future snowmaking requirements, consistent with applicable legislative requirements. Considering, but not limited to, the following matters: <ul style="list-style-type: none"> Water consumption used for snowmaking may be offset through recycled water use from the Thredbo Sewerage Treatment Plant (STP). Further investigations for recycled water infrastructure would be required to address, although not be limited to, system feasibility, dilution adherence, development footprint, licensing requirements, system governance, and human health and environmental risk assessment (including in relation to potable water supply). 	Operator / DPE Water / DPE NSW Health / EPA / NPWS (where recycled water usage proposed)

Aspect	Description	Requirement	Role/ Responsibility
Wastewater Treatment	Wastewater treatment infrastructure designed / constructed / operated to meet peak visitation demand consistent with applicable legislative requirements	Operator to plan upgrades to existing STP and other wastewater treatment infrastructure to meet future demands, consistent with applicable legislative requirements. Considering, but not limited to, the following matters: <ul style="list-style-type: none"> Major upgrade / replacement of Thredbo STP, and amendment of the effluent discharge licence arrangements to cater for the proposed level of growth. Potential for recycled water usage for non-potable purposes including snowmaking. 	Operator / DPE / EPA NSW Health / NPWS (where recycled water usage proposed)
Electricity	Electricity network capacity designed / constructed / operated to meet peak visitation demand	Assessment and development of electrical infrastructure will need to occur consistent with Essential Energy standard process. Considering, but not limited to, the following matters: <ul style="list-style-type: none"> An additional transformer will be required to provide capacity for the future expected demand. A new 11kV reticulation will likely be required to the new growth areas. At this stage the capacity of the distribution feeders is unknown. 	Energy providers / Operator / DPE / NPWS
Telecommunications	Telecommunications network designed / constructed / operated to meet peak visitation demand	Any development would require connection to existing services, requiring minor extensions. Application and development via telecommunication providers.	Telecomms. providers / DPE
Access	Transport and access upgrades consistent with Snowy Mountains SAP Master Plan and this DCP	Alpine Resort Sub-region operator to maintain appropriate shuttle bus services during peak period and plan required infrastructure upgrades within the Sub-region. Improved public transport facilities are operational which may include park-and-ride shuttle bus service. Priority access given to public transport and other high occupancy vehicles. Improved access and parking facilities for private vehicles.	TfNSW / DPE / Operator

A3.2 Perisher Alpine Resort Sub-region

Table 3.2 identifies the minimum infrastructure and utility requirements for the release of additional beds within the Perisher Range Alpine Resort Sub-region. These requirements must be addressed in the preparation of the relevant Infrastructure Delivery Plan in addition to the general matters specified in Section A2 of this appendix.

Table 3.2. Minimum infrastructure / utility requirements for the Perisher Range Alpine Resort Sub-region

Aspect	Description	Requirement	Role/ Responsibility
Water Availability –Extraction and Treatment Capacity	<p>Water extraction within extraction licence conditions, or expanded licence limit consistent with legislative requirements.</p> <p>Water treatment infrastructure designed / constructed / operated to meet peak visitation demand.</p>	<p>Operator to plan for an increase in the extraction licence and treatment capacity to meet future potable water and firefighting demands consistent with applicable legislative requirements. Considering, but not limited to, the following matters:</p> <ul style="list-style-type: none"> • Water access licence and corresponding water extraction limit for domestic proposes to be reviewed against the future water requirements as bed releases and developments are planned. • Assessment and implementation of an automated chlorine disinfection system, consistent with the relevant guidelines. • Replacement/ upgrades of the existing UV stations. • Perisher storage upgrade comprising: <ul style="list-style-type: none"> – Additional system storage of approximately 0.2ML; and – A new dedicated water main to enable independent filling of Reservoir 2 with Reservoir 1 isolated/bypassed. This would enhance network resilience and operational flexibility. 	Operator / NPWS / DPE Water / NSW Health / DPE

Aspect	Description	Requirement	Role/ Responsibility
Water Availability – Snowmaking	Water extraction within extraction licence conditions, or expanded licence limit consistent with legislative requirements	<p>Operator to plan for upgrades to meet future snowmaking requirements, including an increase in storage capacity for snowmaking operations, consistent with applicable legislative requirements. Considering, but not limited to, the following matters:</p> <ul style="list-style-type: none"> • Storage dam with a capacity of at least 50 ML in order to make effective use of recycled water from Perisher STP. • Further investigations for recycled water infrastructure would be required to address, although not be limited to, system feasibility, dilution adherence, development footprint, licensing requirements, system governance, and human health and environmental risk (including in relation to potable water supply). 	<p>Operator / DPE Water / DPE NSW Health / EPA / NPWS (where recycled water usage is proposed)</p>
Wastewater Treatment	Wastewater treatment infrastructure designed / constructed / operated to meet peak visitation demand consistent with applicable legislative requirements	<p>Operator to plan upgrades to existing STP and other wastewater treatment infrastructure to meet future demands, consistent with applicable legislative requirements. Considering, but not limited to, the following matters:</p> <ul style="list-style-type: none"> • Replace existing blowers in Extended Aeration Tank (EAT1). • Retrofit existing EAT 2 and 3 to a membrane bioreactor treatment system, or complete process optimisation. • Additional space at EAT 2 created by the MBR upgrade to be used for additional waste sludge digestion and storage, which is a current limitation. • Upgrade Pump Station 1 and 2. • Potential for recycled water usage for non-potable purposes including snowmaking. 	<p>Operator / DPE / EPA NSW Health / NPWS (where recycled water usage proposed)</p>

Aspect	Description	Requirement	Role/ Responsibility
Electricity	Electricity network capacity designed / constructed / operated to meet peak visitation demand	<p>Assessment and development of electrical infrastructure will need to occur consistent with Essential Energy standard process. Considering, but not limited to, the following matters:</p> <ul style="list-style-type: none"> • The establishment of a new 33/11kV Zone Substation in the Perisher Range Alpine Resort Sub-region to replace aging and under capacity substation on Kosciuszko Road opposite Perisher Valley Ski Tube Terminal. Note that Zone Substation replacement also relevant to security of electricity supply to Charlotte Pass Alpine Resort Sub-region. • Following relocation of Zone Substation, reuse of existing substation premises for Essential Energy infrastructure associated with increased 11kV supply to new development. • Provision of depot space and emergency accommodation for Essential Energy personnel, potentially in combination with relocated Zone Substation. • The requirement for further upgrades will need to be assessed further on a case-by-case basis as development uplift progresses and changes are made from the proposals in previous assessments. 	Energy providers / Operators / DPE / NPWS
Telecommunications	Telecommunications network designed / constructed / operated to meet peak visitation demand	<p>It is recommended that the coverage and level of service provided be improved, however, any further upgrade will be subject to telecommunications providers' development plans and as such direct engagement with those will be required.</p> <p>Any development would require connection to existing services, requiring minor extensions.</p>	Telecomms. providers / DPE

Aspect	Description	Requirement	Role/ Responsibility
Access	Transport and access upgrades consistent with Snowy Mountains SAP Master Plan and this DCP	<p>Alpine Resort Sub-region operator to maintain appropriate shuttle bus services during peak period and plan required infrastructure upgrades within the Sub-region</p> <p>Improved public transport facilities are operational which may include park-and-ride shuttle bus service.</p> <p>Priority access given to public transport and other high occupancy vehicles.</p> <p>Improved access and parking facilities for private vehicles.</p> <p>Improvements to the Ski Tube railway including any upgrades to rolling stock, platforms or associated Ski Tube infrastructure.</p>	TfNSW / NPWS / DPE / Operators

A3.3 Charlotte Pass Alpine Resort Sub-region

Table 3.3 identifies the minimum infrastructure and utility requirements for the release of additional beds within the Charlotte Pass Alpine Resort Sub-region. These requirements must be addressed in the preparation of the relevant Infrastructure Delivery Plan in addition to the general matters specified in Section A2 of this appendix.

Table 3.3 Minimum infrastructure / utility requirements for the Charlotte Pass Alpine Resort Sub-region

Aspect	Description	Requirement	Role/ Responsibility
Water Availability – Extraction and Treatment Capacity	Water extraction within extraction licence conditions, or expanded licence limit consistent with legislative requirements. Water treatment infrastructure designed / constructed / operated to meet peak visitation demand.	Operator to plan for an increase in the extraction licence and treatment capacity to meet future potable water and firefighting demands consistent with applicable legislative requirements and quality parameters/guidelines. Considering, but not limited to, the following matters: <ul style="list-style-type: none"> Water access licence and corresponding water extraction limit for domestic purposes to be reviewed against the future water requirements as bed releases and developments are planned. Potable and firefighting water system has limited reliability due to lack of reservoir storage and source reliability. Upgrades to storage and supply capacity required for both present and future development. Metering of water extraction required. 	Operators / NPWS / DPE Water / NSW Health / DPE
Water Availability – Snowmaking	Water extraction within extraction licence conditions, or expanded licence limit consistent with legislative requirements.	<ul style="list-style-type: none"> Operator to plan for upgrades to meet future snowmaking requirements, including extraction metering and storage capacity for snowmaking operations, consistent with applicable legislative requirements. Water consumption used for snowmaking may be offset through recycled water use from the Charlotte Pass STP. Further investigations for recycled water infrastructure would be required to address, although not be limited to, system feasibility, dilution adherence, development footprint, licensing requirements, system governance, and human health and environmental risk assessment (including in relation to potable water supply). 	Operators / DPE Water / DPE NSW Health / EPA / NPWS (where recycled water usage proposed)

Aspect	Description	Requirement	Role/ Responsibility
Wastewater Treatment	Wastewater treatment infrastructure designed / constructed / operated to meet peak visitation demand consistent with applicable legislative requirements	<p>Operator to plan upgrades to existing STP and other wastewater treatment infrastructure to meet future demands, consistent with applicable legislative requirements. Considering, but not limited to, the following matters:</p> <ul style="list-style-type: none"> • Current STP is an older Intermittently Decanted Extended Aeration (IDEA) System with final UV disinfection. • Aging STP infrastructure is inhibiting operation. A full condition assessment is required to determine upgrades or replacement required to address existing performance and condition issues. • During the 2016–2020 reporting period there were 203 non-compliances with the relevant EPA licence. • Subject to upgrades, potential for recycled water usage for non-potable purposes including snowmaking. 	Operators / DPE / EPA NSW Health / NPWS (where recycled water usage proposed)
Electricity	Electricity network capacity designed / constructed / operated to meet peak visitation demand	Existing capacity in the distribution network is unknown although Essential Energy currently progressing network upgrades from Perisher Range Alpine Resort Sub-region including line replacements and potential new 33/11kV Zone Substation. Technical inputs to cable condition, cable specifications, and system load analysis will be required to specify any additional network upgrades. Assessment and development of the electrical infrastructure would be through Essential Energy standard processes.	Energy providers / Operators / DPE / NPWS
Telecommunications	Telecommunications network designed / constructed / operated to meet peak visitation demand	Any development would require connection to existing services, requiring minor extensions. Application and development via telecommunication providers.	Telecomms. providers / DPE

Aspect	Description	Requirement	Role/ Responsibility
Access	Transport and access upgrades consistent with Snowy Mountains SAP Master Plan and this DCP	<p>Alpine Resort Sub-region operator to maintain appropriate shuttle bus or oversnow services and associated facilities during peak period and plan required infrastructure upgrades within the Sub-Region</p> <p>Improved public transport facilities are operational which may include park-and-ride shuttle bus service terminus in the summer season.</p> <p>Improved access and parking facilities for private vehicles which supplements those for the Kosciuszko Road turning area at Charlotte Pass.</p> <p>Surface and formalise internal roads and parking areas and provide associated stormwater infrastructure. Widen and/ or provide additional passing bays along Charlotte Way.</p>	TfNSW / NPWS / DPE / Operators

A4 Alpine Accommodation Sub-regions

This section provides a guide to the preparation of Infrastructure Delivery Plans for the Alpine Accommodation Sub-regions.

A4.1 Infrastructure Delivery Plans

To facilitate the release of beds within the Alpine Accommodation Sub-regions (as outlined in Appendix A), it must be demonstrated how infrastructure will be upgraded to cater for the expected future growth in visitation. Accommodation operators with assistance from a professional engineer will be required to prepare an Infrastructure Delivery Plan that shows how infrastructure will be upgraded consistent with the aims, objectives and other requirements of the CCF. An Infrastructure Delivery Plan must satisfy the following matters, in addition to specific Sub-region requirements outlined within Table 3.1 (minimum infrastructure/utility requirements):

- a. water availability and licence limits, water and wastewater network, treatment capacity, and discharge licencing, wastewater treatment and electricity infrastructure capacity within the Alpine Accommodation Sub-region to cater for the expected growth in overnight visitation;
- b. access infrastructure upgrades, including parking, internal roads, intersections with major roads and shuttle bus facilities within the Alpine Accommodation Sub-region as identified by the Snowy Mountains SAP Master Plan and this DCP;
- c. consider infrastructure solutions that seek to minimise the overall footprint and disturbance of the construction and subsequent operation of infrastructure and that utilise technological advancements; and
- d. consideration of the relevant licensing or other regulatory authorisation requirements, including those of the Environmental Protection Authority and DPE Water when designing or upgrading infrastructure.

In seeking approval of an Infrastructure Delivery Plan from NPWS and DPE, certification must be provided by a professional engineer that the works proposed in the Infrastructure Delivery Plan will provide capacity in the relevant infrastructure to support all beds proposed to be released under this CCF for the Alpine Accommodation Sub-region. The professional engineer must consider the demands on the relevant infrastructure from overnight visitation and any other visitation (e.g. public restaurant, café, bar etc) expected in the Alpine Accommodation Sub-region.

Infrastructure Delivery Plans must be reviewed and approved by both NPWS and DPE prior to implementation by the accommodation operator and each time they are amended or replaced. See also section 2.3 detailing verification requirements which may be applied through pre-occupancy certificate conditioning on development consents relevant to this CCF.

A4.2 Minimum infrastructure / utility requirements

Table 4.2 provides a guide to infrastructure requirements in preparation of the relevant Infrastructure Delivery Plans for the Alpine Accommodation sub-regions. These are in addition to the general matters specified in section A3.

Table 4.2. Infrastructure / utility requirements for the Alpine Accommodation Sub-regions

Aspect	Description	Requirement
Water Availability – Potable	<p>Water extraction within extraction licence conditions, or new or expanded licence limit consistent with legislative requirements.</p> <p>Water treatment infrastructure designed / constructed / operated to meet peak visitation demand consistent with applicable legislative requirements.</p>	<p>Thredbo Ranger Station: Operator to establish a source and licence for water extraction requirements.</p> <p>Operator to plan and construct water treatment infrastructure to meet peak demand requirements, consistent with applicable legislative requirements.</p> <p>Other Alpine Accommodation Sub-regions: Operators to ensure water access licence and infrastructure adequate for potable water requirements and firefighting demands consistent with applicable legislative requirements.</p> <p>Operators are to plan upgrades to existing water treatment to meet future demands, consistent with applicable legislative requirements.</p>
Wastewater Treatment	<p>Wastewater treatment infrastructure designed / constructed / operated to meet peak visitation demand consistent with applicable legislative requirements.</p>	<p>Thredbo Ranger Station: Operator to plan and construct wastewater treatment infrastructure to meet design capacity.</p> <p>Creel Bay: Operator to plan upgrades to existing wastewater treatment to meet future demands, consistent with applicable legislative requirements.</p> <p>Other Alpine Accommodation Sub-regions: The operator to determine the required capacity of wastewater treatment infrastructure and upgrade if necessary.</p>
Electricity	<p>Electricity network capacity designed / operated to meet peak demand for electricity</p>	<p>Thredbo Ranger Station: Assessment and development of the electrical infrastructure would be through the Essential Energy standard process.</p> <p>Other Sub-regions: Minor connections are potentially required within the existing Sub-region network.</p>
Telecommunications	<p>Telecommunications network designed / operated to meet peak demand for communications</p>	<p>Thredbo Ranger Station: Development would require connection to existing services, requiring minor extensions. Application and development via telecommunication providers and DPE.</p> <p>Other Alpine Accommodation Sub-regions: Application and development of any telecommunications upgrades via telecommunication providers and DPE.</p>
Access	<p>Priority access given to public transport and other high occupancy vehicles</p> <p>Road and intersection upgrades</p>	<p>All Alpine Accommodation Sub-regions:</p> <p>Operator to consider maintaining appropriate shuttle bus services during peak periods and plan required infrastructure upgrades within the Sub-region, including parking for light vehicles and (if relevant) busses.</p> <p>Road and intersection upgrades as identified in the Snowy Mountains SAP Master Plan and Alpine Region DCP. Internal roads and parking areas are to be surfaced and provided with associated stormwater infrastructure.</p>



Appendix B

Signage and Wayfinding Guidelines

ALPINE PRECINCT DEVELOPMENT CONTROL PLAN – SIGNAGE AND WAYFINDING

OCTOBER 2023

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SECTION 1

INTRODUCTION, VISION, PRINCIPLES AND OBJECTIVES

INTRODUCTION

This Development Control Plan (DCP) is pertinent to wayfinding and interpretive signage within the Alpine Precinct.

The purpose of the DCP is to provide guidelines, principles, objectives and over-arching controls which will enable the development of a high quality and effective design solution.

High quality and effective wayfinding and interpretive signage can make a significant contribution to place by:

1. Enhancing the users experience (locals and visitors alike).
2. Adding value to the local amenity.
3. Improving the local landscape and character.
4. Providing a connection to and understanding of place.
5. Improving general safety and usability.
6. Encouraging walking and cycling and reducing the use of motor vehicles.
7. Providing reassurance and confidence.
8. Enhancing connections between and to significant places and desirable destinations.
9. Supporting economic development and commercial viability by connecting people to businesses.

This DCP supplements the Snowy Monaro Regional Council 'Snowy River Development Control Plan', Section C6 Signage and Advertising (SRCDP Sec C6) which should be considered the governing control for broader signage typologies such as:

1. Street signs
2. Advertising signs
3. Promotional signs
4. Retail, service or hospitality identity signs
5. Building identity signs
6. A-Frames or Sandwich boards
7. Signs within industrial estates

This signage DCP should be read in conjunction with the signage DCP for the Jindabyne Catalyst Precinct and the Jindabyne Growth Precinct.

This signage DCP is not a public document and should be for internal reference purposes only.

VISION AND PRINCIPLES

Wayfinding and interpretive signage should achieve the following:

1.
Enhance the visitor experience.

2.
Foster a world-class, four-season experience.

3.
Utilise universal design principles to provide equitable access and legibility for all users.

4.
Enhance scenic qualities.

5.
Minimise, or mitigate, impact upon views and vistas.

6.
Be attractive, functional, effective and fit for purpose.

7.
Enhance the local landscape and atmosphere.

8.
Create identity through a recognisable, consistent and cohesive look and feel.

9.
Be sympathetic to and reflective of the local landscape, heritage and history.

10.
Comply with and not contravene road safety principles.

11.
Achieve a high quality of design, fabrication, finish and installation.

12.
Be appropriately located and positioned.

13.
Reduce visual clutter by being discreet and fewer, rather than greater, in number.

WAYFINDING OBJECTIVES

Wayfinding signage should:

1.
Establish a well-connected, vibrant, walkable, desirable and understandable place.

2.
Create a legible street, walking and cycling network.

3.
Support and encourage active transport as a priority mode of travel.

4.
Clarify the location and spatial relationship of local landmarks, destinations, geographic features and places to create structure and meaning for users.

5.
Deliver an understanding of where a user is located, where they might go, how they will get there, how far it is and how long it may take to get there.

6.
Create well-structured and well understood journeys which connect key destinations.

7.
Maximise legibility through high quality, accessible design; utilising landmarks to provide orientation cues; clear heads up maps and simplifying choices.

8.
Be cohesive in look and feel with interpretive signage.

INTERPRETIVE OBJECTIVES

Interpretive signage should:

1.
Engender an understanding and appreciation of place, environment, history and heritage.

2.
Celebrate and convey the rich history and landscape values of the region including Aboriginal and European heritage, the Kosciuszko National Park, alpine and winter sports, and the stories of the town of Jindabyne, agricultural heritage and use, the formation of Lake Jindabyne and the Snowy Hydro Scheme.

3.
Prioritise interpretation opportunities which share the history of the Monero Ngarigo people and the Snowy Hydro Scheme.

4.
Promote the importance of the area's landscape; natural; flora and fauna; and biodiversity value.

5.
Be cohesive in look and feel with wayfinding signage.

CONNECTIVITY OBJECTIVES

Signage should:

1.
Contribute to a trail network which is legible, walkable, rideable and connects people to public space.

2.
Support a connected green network.

3.
Support the delivery of recognisable routes, intersections, and landmarks.

4.
Enhance safe connections.

5.
Enhance connections between the Alpine Precinct sub-precincts.

6.
Promote commercial viability by connecting residents and visitors to businesses, particularly retail and hospitality.

DESIGN – WHAT IT SHOULD BE

Signage should:

1.
Sit quietly and confidently in its environment, yet present strong colors and bold typography to be sufficiently visible in times of poor visibility.

2.
Be sympathetic to its local environment, and surrounding lake and mountain vistas in form, colour and materiality.

3.
Acknowledge the heritage and visual cues of the surrounding alpine heritage and landscape character.

4.
Contribute to a village atmosphere.

5.
Be visually interesting.

6.
Exhibit of high level of design quality.

7.
Incorporate universal design principles and provide equal access to all.

8.
Protect views and vistas and in particular minimise or mitigate impact on significant views.

9.
Be of high quality, robust and long lasting.

10.
Implement best practice sustainability measures.

11.
Utilise recycled, recyclable, or re-purposed materials when possible, practical and appropriate.

12.
Incorporate modular/removable/replaceable components and panels to enable ready replacement and updates.

13.
Adopt footing designs which minimise soil disturbance, the amount of concrete used and the risk of disturbance to tree roots.

14.

Alpine precinct signage should be visually contiguous and complementary with National Parks and Wildlife Service signage, as they need to co-exist within the same environment. This includes but is not limited to: Entry signs, Information signs, Directional signs, Identification signs, Temporary signs and Statutory signs.

DESIGN – WHAT IT MAY BE

Signage may:

1.
Contain internally illuminated letters, words or pictograms, particularly in areas which may provide access to places of night-time activation.
———
2.
Utilise ambient lighting to provide gentle night-time illumination.
———
3.
Be softly illuminated from above or below.
———
4.
Incorporate LCD screens, LED components or audio functions if appropriate. Use design discretion and minimise disturbance to residents, wildlife and local users.

DESIGN – WHAT IT SHOULD NOT BE

Signage should not:

1.
Be visually dominant, overwhelming, flashy or highly glossy.

2.
Utilise neon, animation, moving parts.

3.
Be an internally illuminated light box.

4.
Exceed recommended size limitations.

5.
Create excessive visual clutter.

6.
Impede upon views or vistas.

7.
Contain advertising or promotional material.

8.
Be detrimental to the existing or desired future character of the area.

9.
Create a safety or traffic hazard.

10.
Incorporate large plastic components.

11.
Incorporate visually clumsy or predominant lighting fixtures.

MATERIALITY – WHAT IT SHOULD BE

Built signage should be:

1.
Built from materials that consider the harsh conditions of the environment, including extreme temperatures, high winds, high UV and heavy snowfall and ice.

2.
Built from materials that can withstand, damage from recreational equipment, such as ski poles and vehicles, such as snowploughs.

3.
Set back and be of a sufficient height above snow pack to avoid collisions with heavy vehicles.

4.
Highly visible against the natural surroundings, with contrasting colors and bold typography, to a level suitable for times of poor visibility.

5.
Built from materials that are durable and resistant to weathering, such as steel and stone, and designed for ease of maintenance and repair.

6.
Built from steel and stone materials where suitable, particularly locally sourced granite stone and 'Corten' weathering steel with engraved letters and graphics. Steel and stone are preferred over timber for their durability and longevity in the environment.

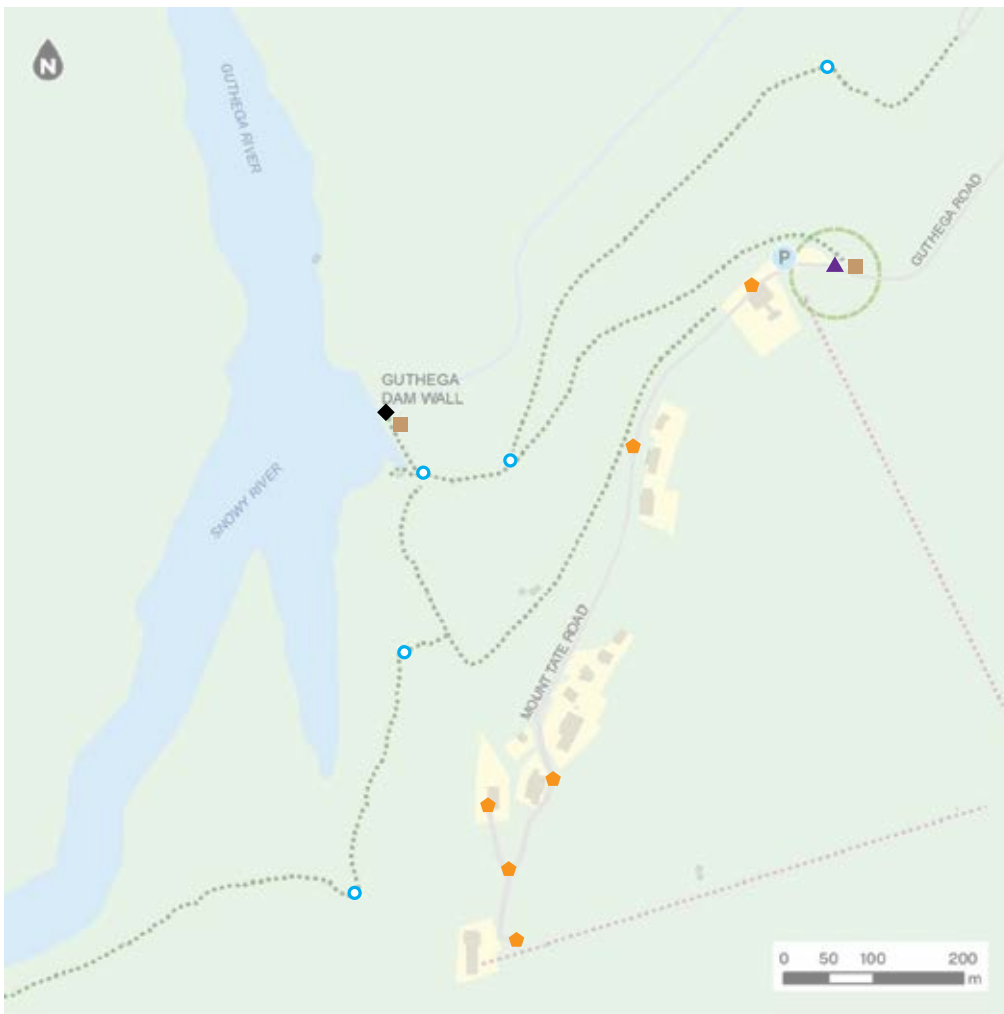
7.
Designed to comply with the applicable Australian Standards. In particular vehicular signage that may guide emergency services at night and require reflective surfaces.

SECTION 2

CONTROL PLAN AREA

CONTROL PLAN AREA GUTHEGA SUB-PRECINCT

This map shows the nominal wayfinding locations in the Guthega sub-precinct.



Legend

Parking

Ski lift

Trail

Road

Arrival gateway

Existing development

Development area

National park

Primary Vehicle Directional

Secondary Vehicle Directional - Horizontal

Secondary Vehicle Directional - Vertical

Primary Pedestrian Directional

Secondary Pedestrian Directional - Horizontal

Secondary Pedestrian Directional - Vertical

Tertiary Pedestrian Directional

Shared Trail Cautionary - Trail Based

Primary Identification Entrance

Secondary Identification Entrance

Tertiary Identification Entrance

Primary Interpretive - Point of Interest

Secondary Interpretive - Point of Interest

Tertiary Interpretive - Point of Interest

Primary Arrival/Information - Visitor Node

Secondary Arrival/Information - Visitor Node

Tertiary Arrival/Information - Visitor Node

CONTROL PLAN AREA

CHARLOTTE PASS SUB-PRECINCT

This map shows the nominal wayfinding locations in the Charlotte Pass sub-precinct.



Legend

- | | | | |
|-----------------|----------------------|---|--|
| Bus stop | Plaza | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Node | Key development site | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Parking | Development area | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Bus route | Existing development | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Ski lift | National park | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Road | | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Trail | | Tertiary Pedestrian Directional | |
| Arrival gateway | | Shared Trail Cautionary - Trail Based | |
| | | Primary Identification Entrance | |
| | | Secondary Identification Entrance | |
| | | Tertiary Identification Entrance | |

CONTROL PLAN AREA

THREDBO RANGER STATION SUB-PRECINCT

This map shows the nominal wayfinding locations in the Thredbo Ranger Station sub-precinct.



Legend

- Pedestrian bridge
- Bus route
- Road
- Trail
- Existing development
- Arrival gateway
- Development area
- National park

- Primary Vehicle Directional
- Secondary Vehicle Directional - Horizontal
- Secondary Vehicle Directional - Vertical
- Primary Pedestrian Directional
- Secondary Pedestrian Directional - Horizontal
- Secondary Pedestrian Directional - Vertical
- Tertiary Pedestrian Directional
- Shared Trail Cautionary - Trail Based
- Primary Identification Entrance
- Secondary Identification Entrance
- Tertiary Identification Entrance

- Primary Interpretive - Point of Interest
- Secondary Interpretive - Point of Interest
- Tertiary Interpretive - Point of Interest
- Primary Arrival/Information - Visitor Node
- Secondary Arrival/Information - Visitor Node
- Tertiary Arrival/Information - Visitor Node

CONTROL PLAN AREA SPONARS CHALET SUB-PRECINCT

This map shows the nominal wayfinding locations in the Sponers Chalet sub-precinct.



Legend

- | | | |
|----------------------|---|--|
| Parking | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Bus route | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Trail | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Road | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Water access | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Existing development | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Development area | Tertiary Pedestrian Directional | |
| National park | Shared Trail Cautionary - Trail Based | |
| | Primary Identification Entrance | |
| | Secondary Identification Entrance | |
| | Tertiary Identification Entrance | |

CONTROL PLAN AREA

SKI RIDER HOTEL SUB-PRECINCT

This map shows the nominal wayfinding locations in the Ski Rider Hotel sub-precinct.



Legend

- Bus route
- Road
- Sewage treatment ponds
- Existing development
- Development area
- National park

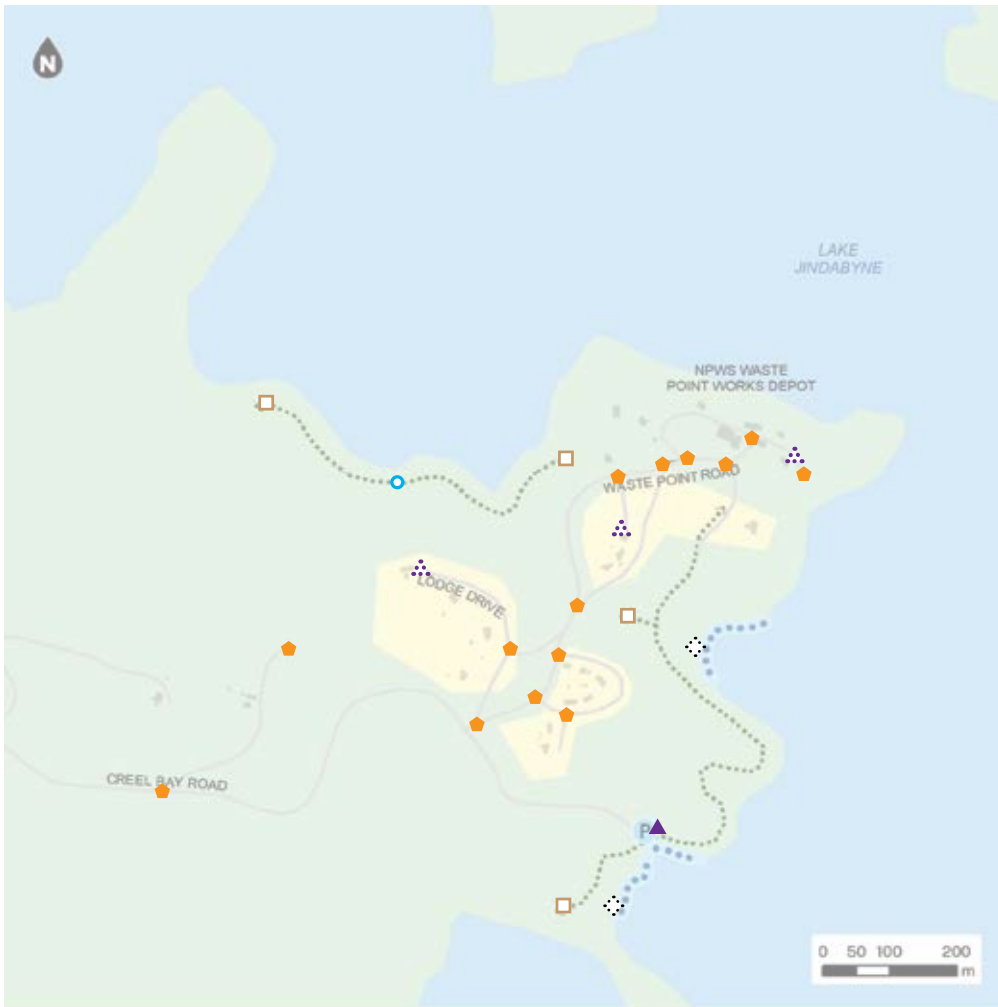
- Primary Vehicle Directional
- Secondary Vehicle Directional - Horizontal
- Secondary Vehicle Directional - Vertical
- Primary Pedestrian Directional
- Secondary Pedestrian Directional - Horizontal
- Secondary Pedestrian Directional - Vertical
- Tertiary Pedestrian Directional
- Shared Trail Cautionary - Trail Based
- Primary Identification Entrance
- Secondary Identification Entrance
- Tertiary Identification Entrance

- Primary Interpretive - Point of Interest
- Secondary Interpretive - Point of Interest
- Tertiary Interpretive - Point of Interest
- Primary Arrival/Information - Visitor Node
- Secondary Arrival/Information - Visitor Node
- Tertiary Arrival/Information - Visitor Node

CONTROL PLAN AREA

CREEL BAY SUB-PRECINCT

This map shows the nominal wayfinding locations in the Creel Bay sub-precinct.



Legend

- | | | |
|-------------------------|---|--|
| Parking | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Water access | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Trail | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Road | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Existing development | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Development opportunity | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| National park | Tertiary Pedestrian Directional | |
| | Shared Trail Cautionary - Trail Based | |
| | Primary Identification Entrance | |
| | Secondary Identification Entrance | |
| | Tertiary Identification Entrance | |

CONTROL PLAN AREA

ISLAND BEND SUB-PRECINCT

This map shows the nominal wayfinding locations in the Island Bend sub-precinct.



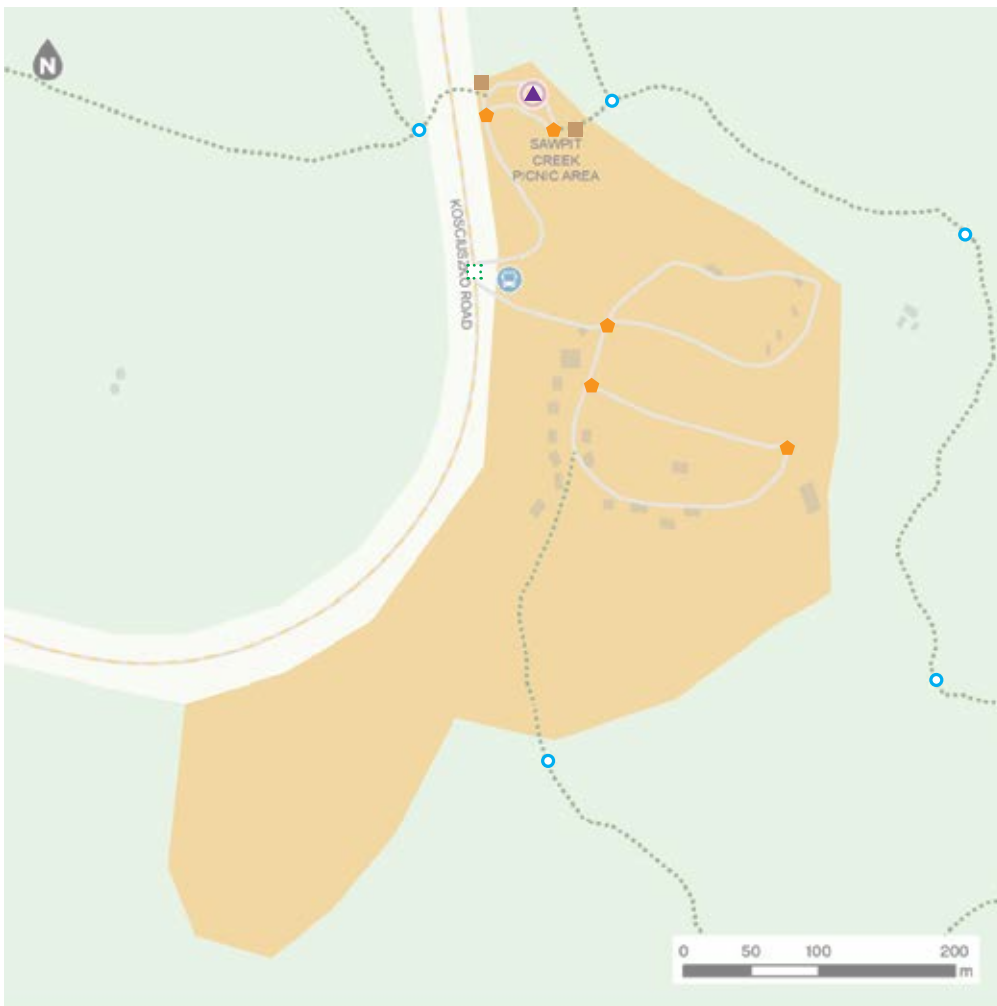
Legend

- | | | |
|----------------------------|---|--|
| — Road | ◆ Primary Vehicle Directional | ◆ Primary Interpretive - Point of Interest |
| ↔ Trail | ◊ Secondary Vehicle Directional - Horizontal | ◊ Secondary Interpretive - Point of Interest |
| Existing campground | ◊ Secondary Vehicle Directional - Vertical | ⊛ Tertiary Interpretive - Point of Interest |
| New campground opportunity | ◆ Primary Pedestrian Directional | ▲ Primary Arrival/Information - Visitor Node |
| Arrival gateway | ◊ Secondary Pedestrian Directional - Horizontal | ▲ Secondary Arrival/Information - Visitor Node |
| National park | ◊ Secondary Pedestrian Directional - Vertical | ⊛ Tertiary Arrival/Information - Visitor Node |
| | ○ Tertiary Pedestrian Directional | |
| | ● Shared Trail Cautionary - Trail Based | |
| | ■ Primary Identification Entrance | |
| | ◻ Secondary Identification Entrance | |
| | ⋯ Tertiary Identification Entrance | |

CONTROL PLAN AREA

KOSCIUSZKO TOURIST PARK SUB-PRECINCT

This map shows the nominal wayfinding locations in the Kosciuszko Tourist Park sub-precinct.



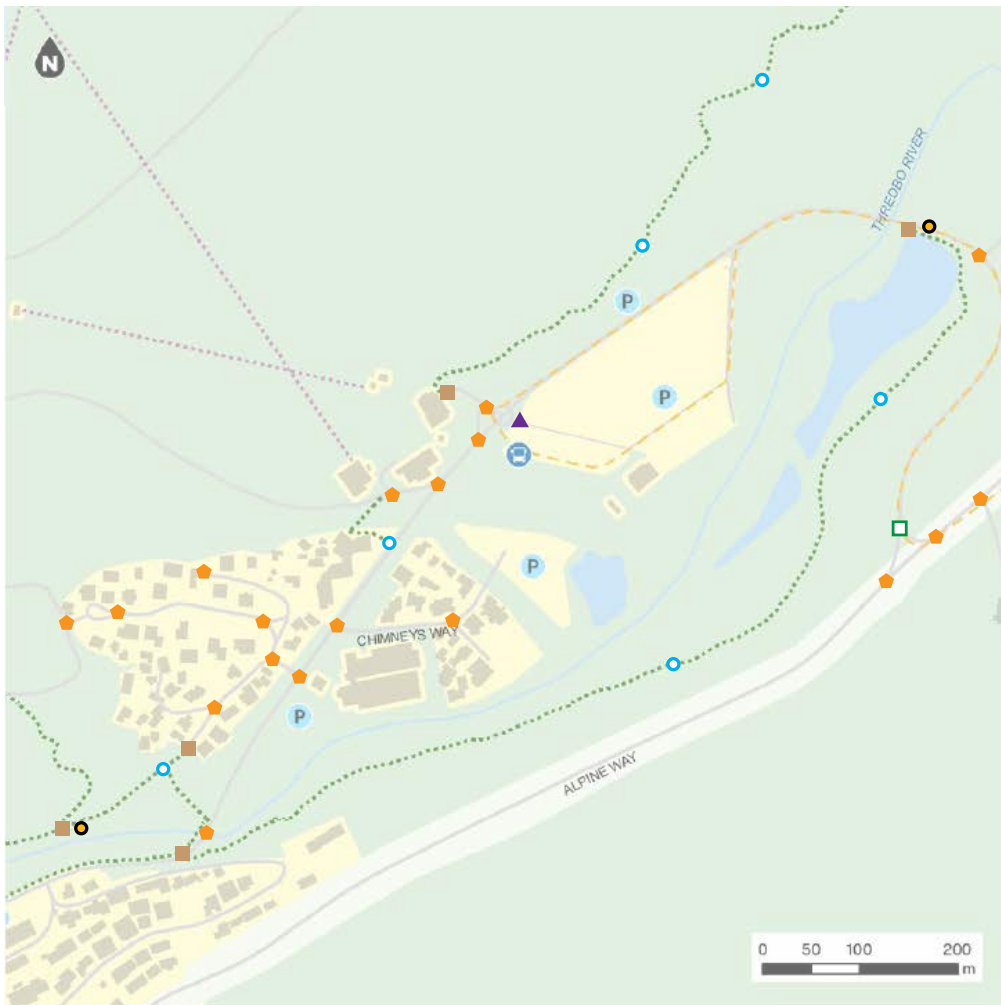
Legend

- | | | |
|-------------------------|---|--|
| Bus stop | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Node | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Bus route | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Trail | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Road | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Campground improvements | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Existing development | Tertiary Pedestrian Directional | |
| National park | Shared Trail Cautionary - Trail Based | |
| | Primary Identification Entrance | |
| | Secondary Identification Entrance | |
| | Tertiary Identification Entrance | |

CONTROL PLAN AREA

THREDBO VILLAGE EAST SUB-PRECINCT

This map shows the nominal wayfinding locations in the Thredbo Village East sub-precinct.



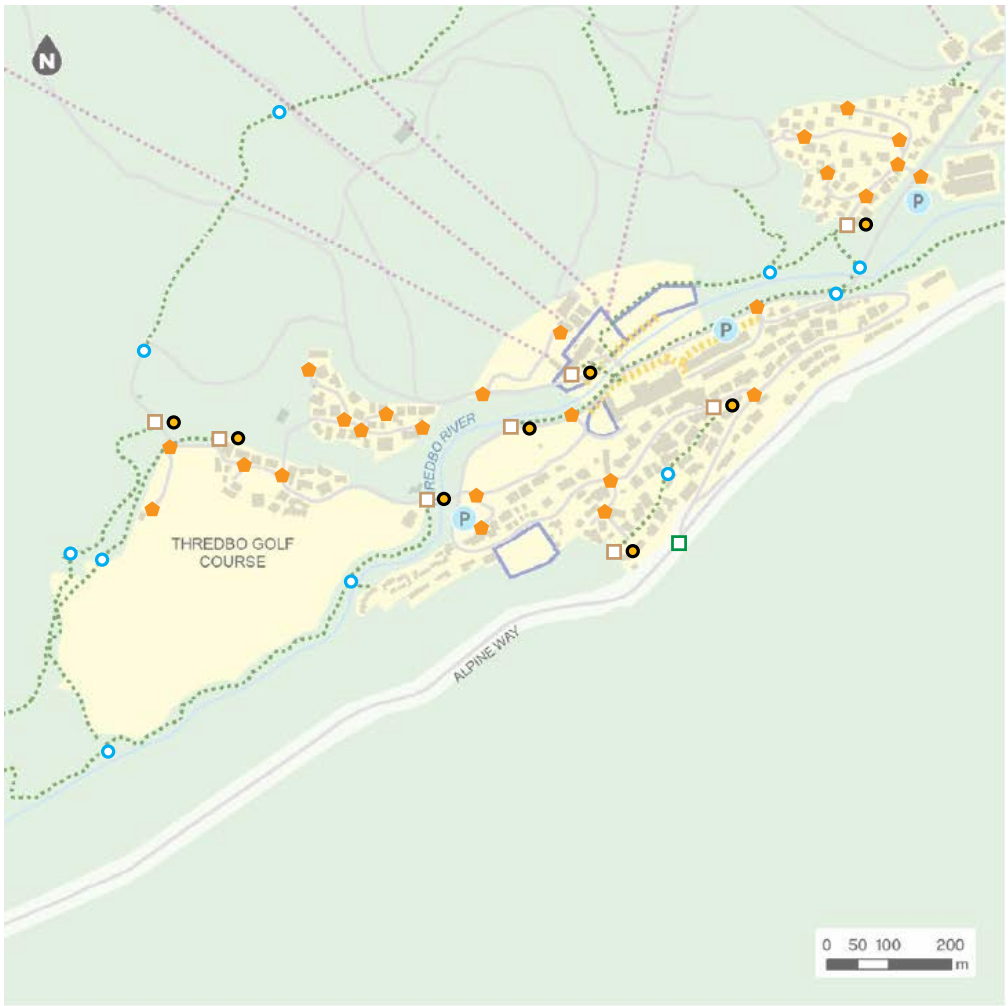
Legend

- | | | | |
|----------------------|---------------|---|--|
| Bus stop | National park | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Parking | | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Bus route | | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Ski lift | | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Trail | | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Road | | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Development area | | Tertiary Pedestrian Directional | Shared Trail Cautionary - Trail Based |
| Existing development | | Primary Identification Entrance | |
| | | Secondary Identification Entrance | |
| | | Tertiary Identification Entrance | |

CONTROL PLAN AREA

THREDBO VILLAGE WEST SUB-PRECINCT

This map shows the nominal wayfinding locations in the Thredbo Village West sub-precinct.

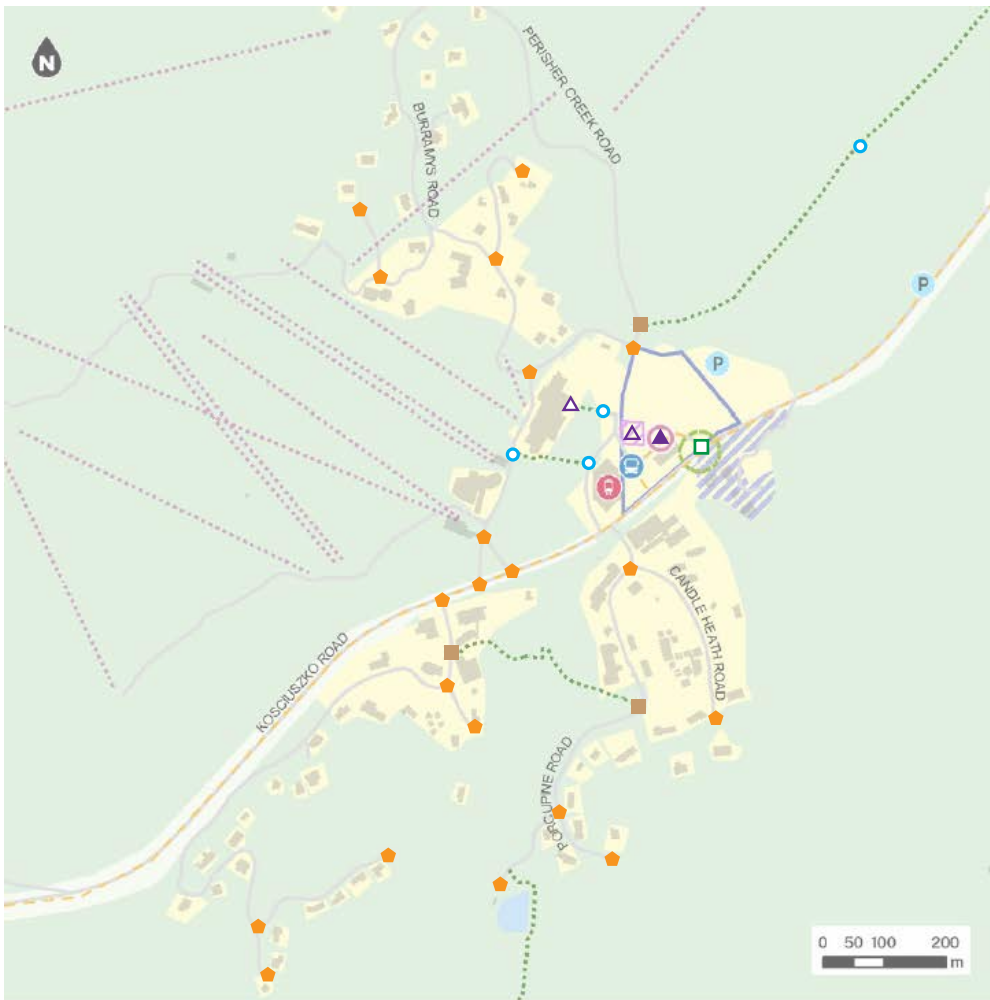


Legend

- | | | | |
|----------------------|---------------|---|--|
| Parking | National park | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Ski lift | | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Trail | | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Road | | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Active frontage | | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Existing development | | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Development area | | Tertiary Pedestrian Directional | |
| Key development site | | Shared Trail Cautionary - Trail Based | |
| | | Primary Identification Entrance | |
| | | Secondary Identification Entrance | |
| | | Tertiary Identification Entrance | |

CONTROL PLAN AREA PERISHER VALLEY SUB-PRECINCT

This map shows the nominal wayfinding locations in the Perisher Valley sub-precinct.

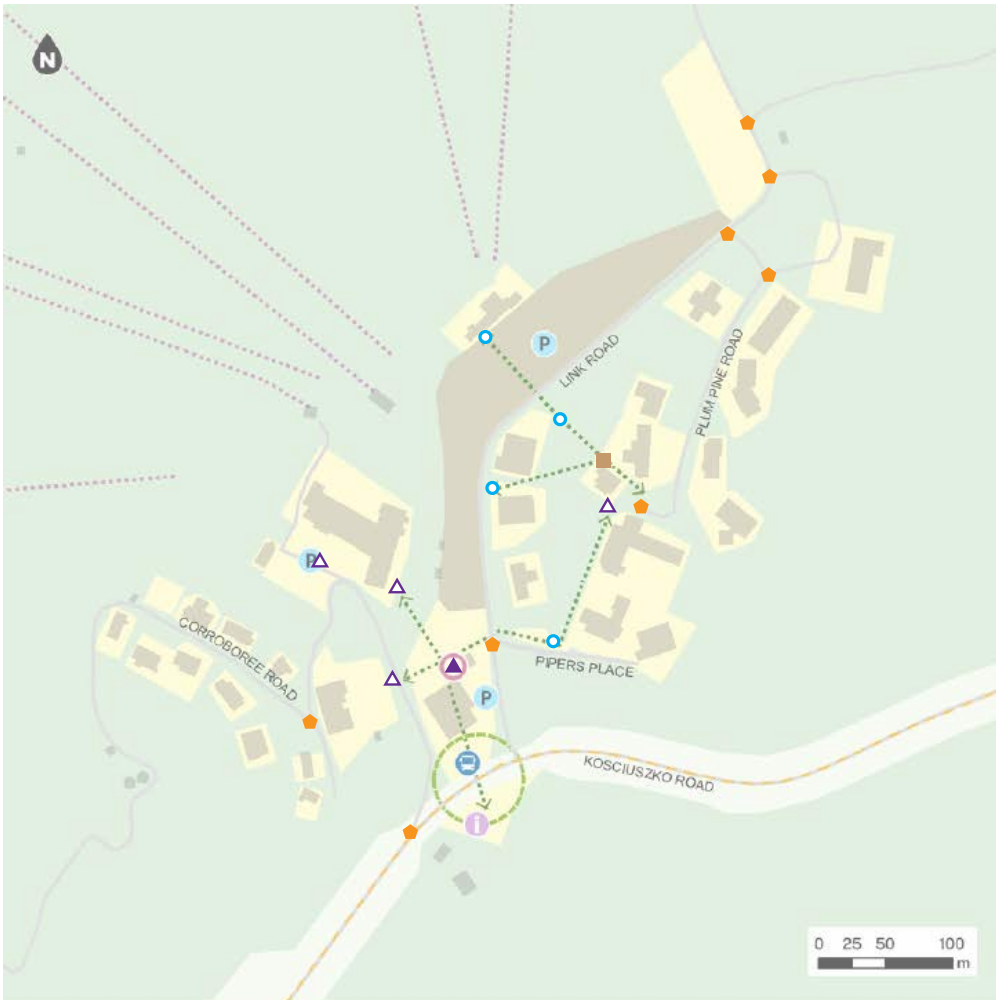


Legend

- | | | | |
|---------------|---------------------------------|---|--|
| Bus stop | Road | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Node | Plaza | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Parking | Arrival gateway | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Ski tube | Emergency Services Precinct | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Bus route | Key development site | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Ski lift | Development area | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Trail | Existing development | Tertiary Pedestrian Directional | Shared Trail Cautionary - Trail Based |
| National park | Primary Identification Entrance | Secondary Identification Entrance | Tertiary Identification Entrance |

CONTROL PLAN AREA SMIGGIN HOLES SUB-PRECINCT

This map shows the nominal wayfinding locations in the Smiggin Holes sub-precinct.



Legend

- | | | | |
|-------------|----------------------|---|--|
| Bus stop | Trail | Primary Vehicle Directional | Primary Interpretive - Point of Interest |
| Parking | Arrival gateway | Secondary Vehicle Directional - Horizontal | Secondary Interpretive - Point of Interest |
| Node | Development area | Secondary Vehicle Directional - Vertical | Tertiary Interpretive - Point of Interest |
| Information | Existing development | Primary Pedestrian Directional | Primary Arrival/Information - Visitor Node |
| Bus route | National park | Secondary Pedestrian Directional - Horizontal | Secondary Arrival/Information - Visitor Node |
| Ski lift | | Secondary Pedestrian Directional - Vertical | Tertiary Arrival/Information - Visitor Node |
| Road | | Tertiary Pedestrian Directional | |
| | | Shared Trail Cautionary - Trail Based | |
| | | Primary Identification Entrance | |
| | | Secondary Identification Entrance | |
| | | Tertiary Identification Entrance | |

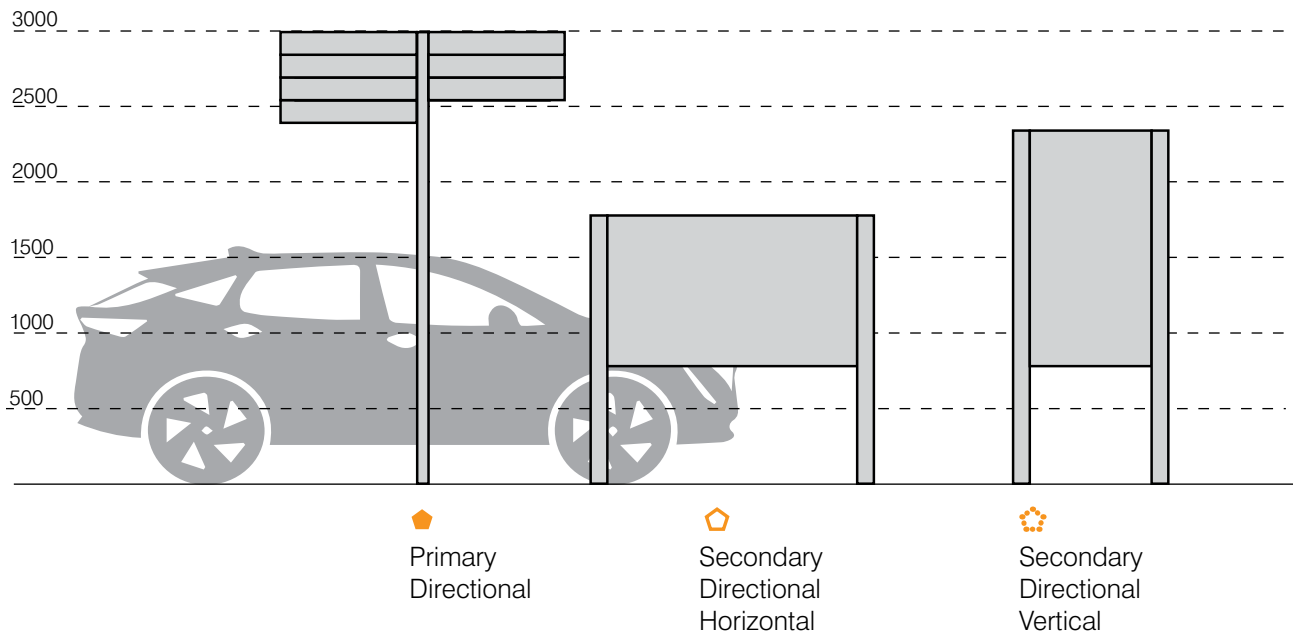
SECTION 3

SIGNAGE CONTROLS

SIGNAGE CONTROLS

SIGNAGE SUITE OVERVIEW

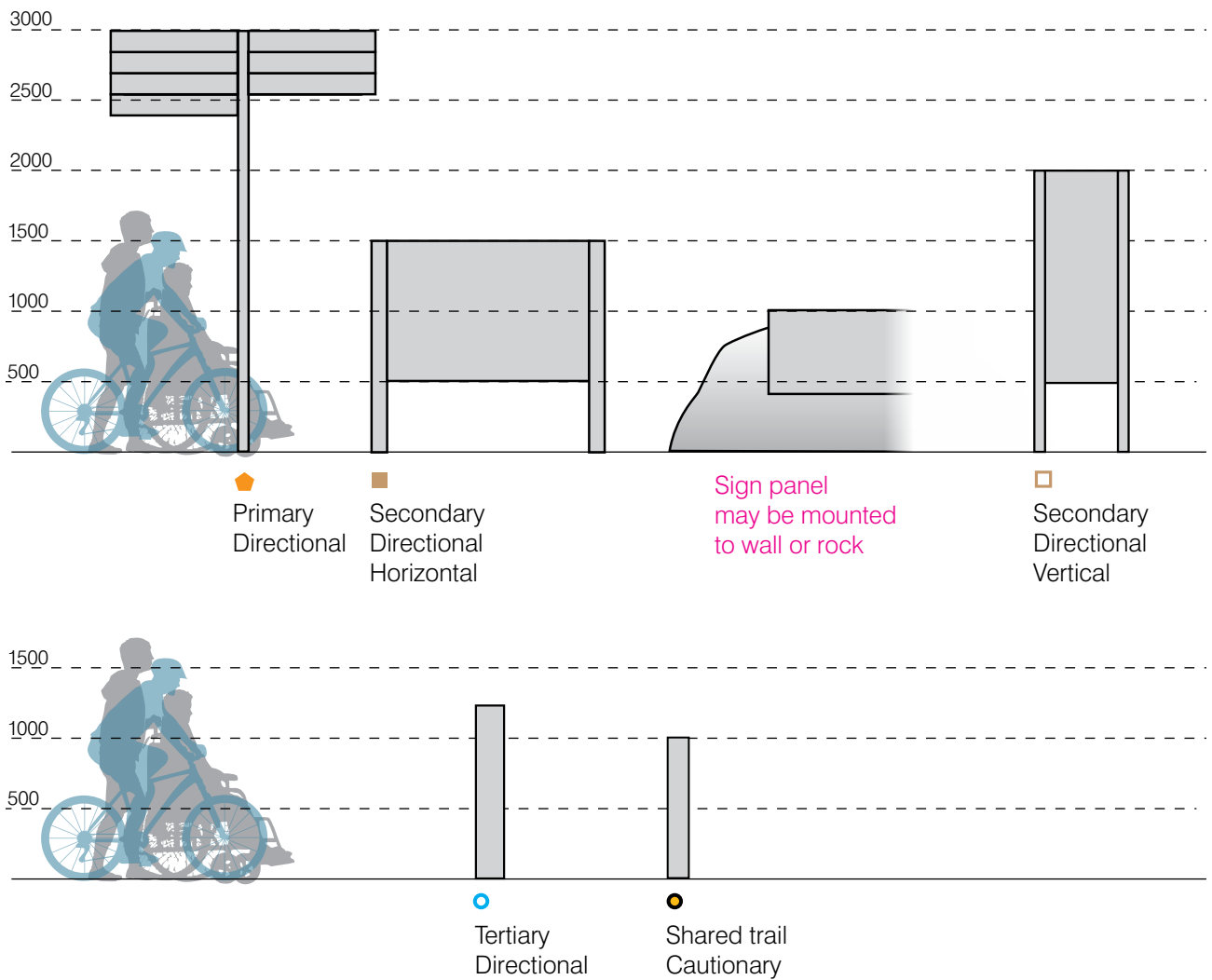
The diagram below illustrates nominal form and scale for Vehicle Wayfinding.



SIGNAGE CONTROLS

SIGNAGE SUITE OVERVIEW

The diagram below illustrates nominal form and scale for Pedestrian Wayfinding



SIGNAGE CONTROLS

SIGNAGE SUITE OVERVIEW

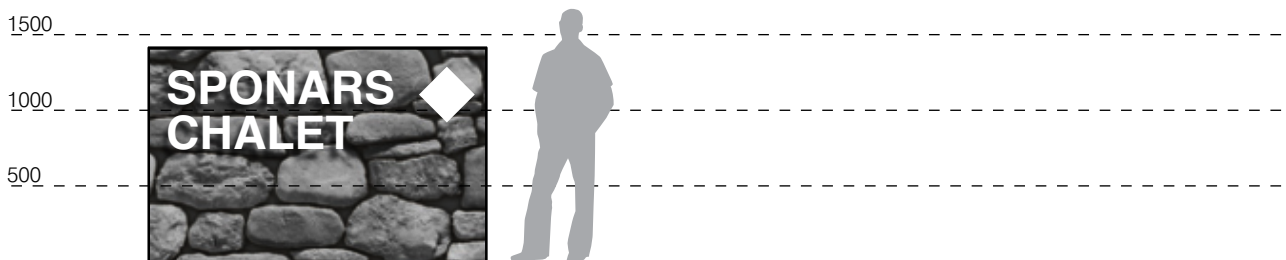
The diagram below illustrates nominal form and scale for Identification / Entrance Signage.



■ Primary Identification - Entrance



□ Secondary Identification - Entrance

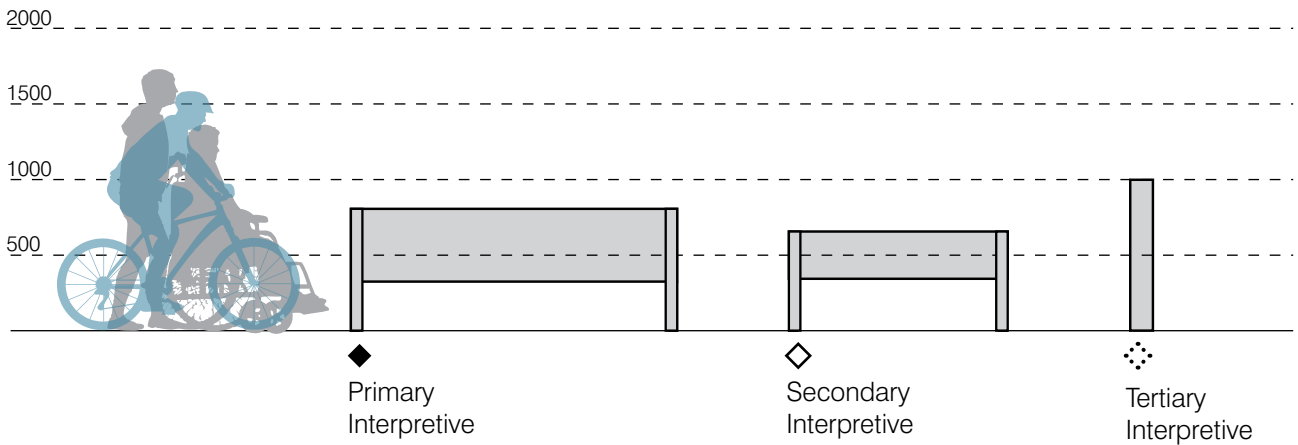


⋮ Tertiary Identification - Entrance

SIGNAGE CONTROLS

SIGNAGE SUITE OVERVIEW

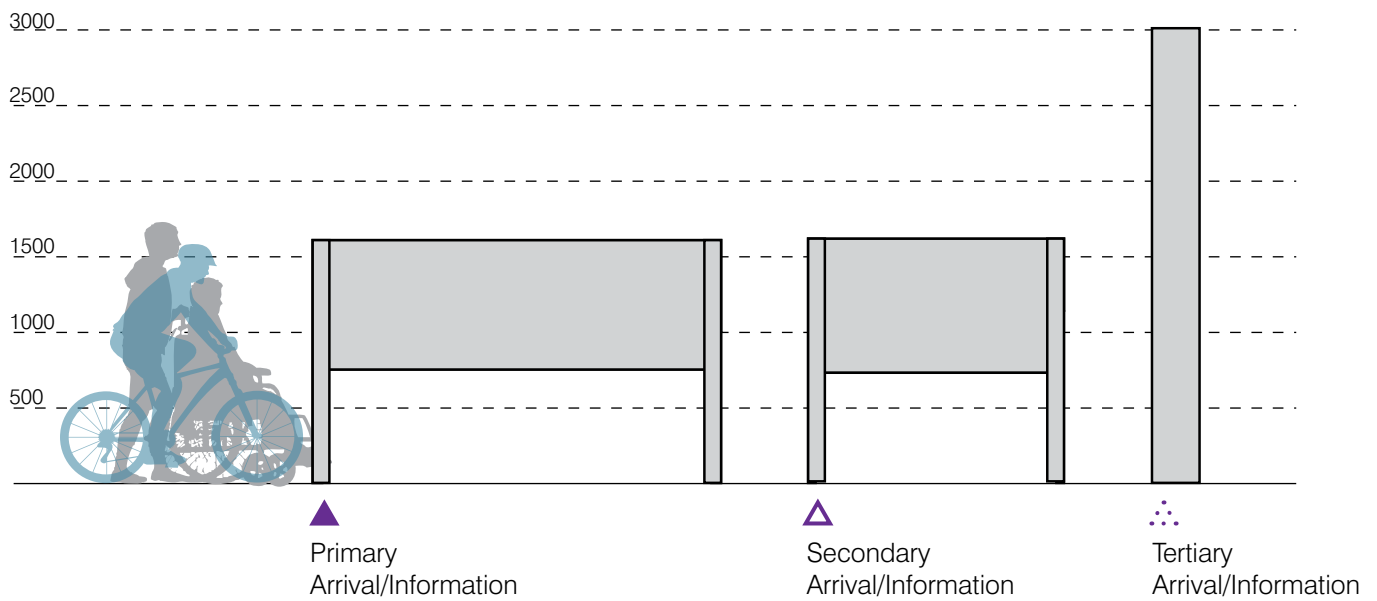
The diagram below illustrates nominal form and scale for Point of interest / Interpretive Signage.



SIGNAGE CONTROLS

SIGNAGE SUITE OVERVIEW

The diagram below illustrates nominal form and scale for Arrival / Information Signage at Visitor Nodes.



SIGNAGE CONTROLS

VEHICLE WAYFINDING – PRIMARY DIRECTIONAL

Function

To identify, inform and direct at road intersections.
 Improve the quality and connectedness of vehicle wayfinding.

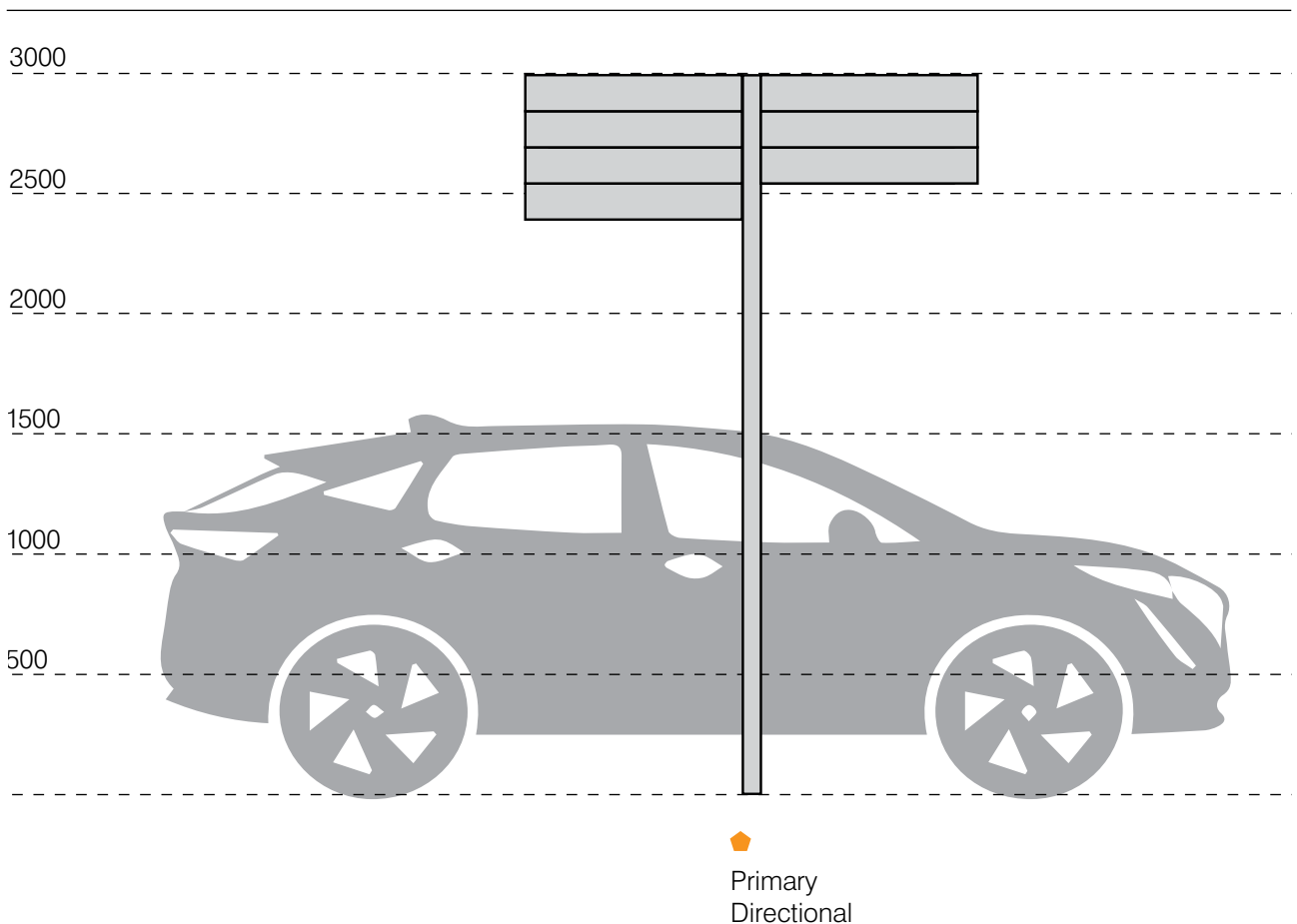
Content

Road name; Distances; Direction; Pictograms.

Controls

Vehicle wayfinding – primary directional signs should be no taller than 3000mm and blades should be no wider than 800mm.

Vehicle wayfinding – primary directional signs should be made from materials that are long lasting and should not be made from temporary materials.



SIGNAGE CONTROLS
 VEHICLE WAYFINDING
 SECONDARY DIRECTIONAL –
 HORIZONTAL

Function

To identify, inform and direct at road intersections.
 Improve the quality and connectedness of vehicle wayfinding.

Content

Road name; Distances; Direction; Pictograms.

Controls

Vehicle wayfinding – secondary directional – horizontal signs should be no taller than 2000mm and should be no wider than 1500mm.

Vehicle wayfinding – secondary directional – horizontal signs should be made from materials that are long lasting and should not be made from temporary materials.

Horizontal signs should be used where space allows for wider signage.

SIGNAGE CONTROLS
 VEHICLE WAYFINDING
 SECONDARY DIRECTIONAL –
 VERTICAL

Function

To identify, inform and direct at road intersections.
 Improve the quality and connectedness of vehicle wayfinding.

Content

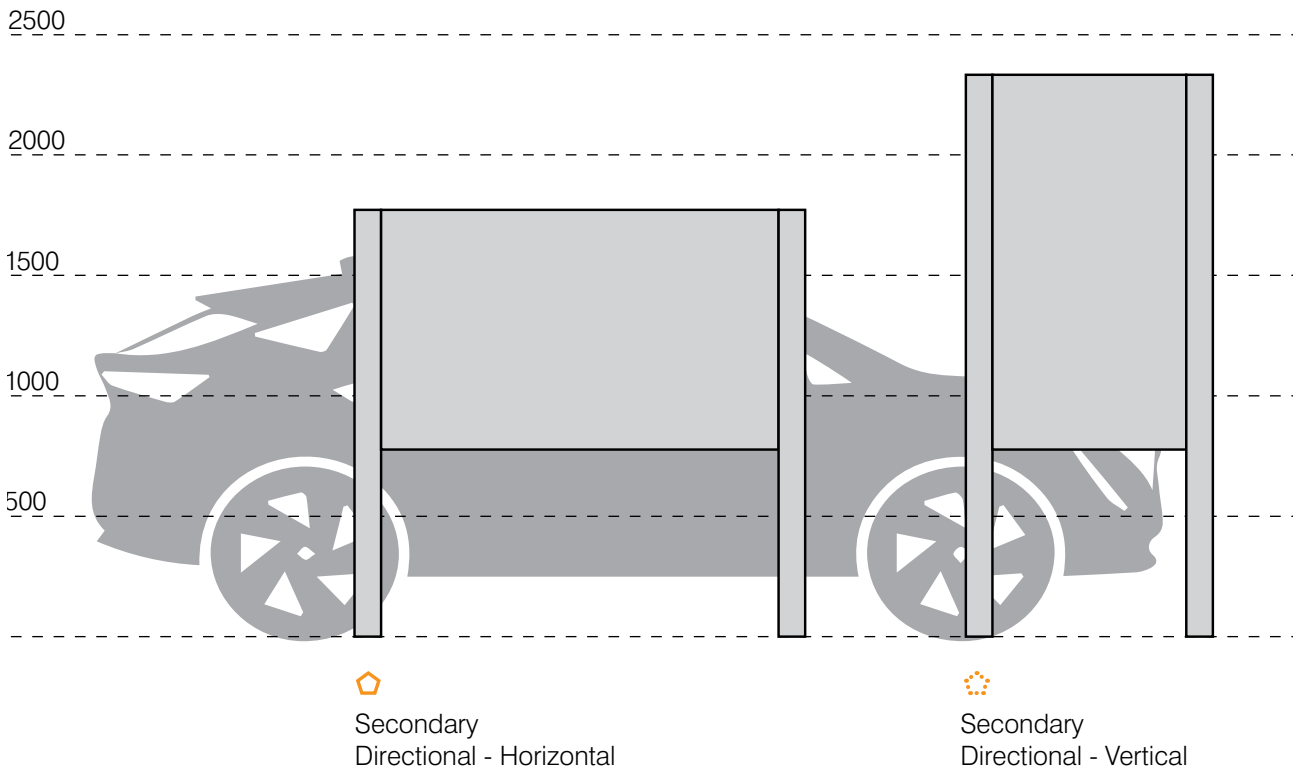
Road name; Distances; Direction; Pictograms.

Controls

Vehicle wayfinding – secondary directional – vertical signs should be no taller than 1800mm and should be no wider than 800mm.

Vehicle wayfinding – secondary directional – vertical signs should be made from materials that are long lasting and should not be made from temporary materials.

Vertical signs should be used where horizontal space is limited.



SIGNAGE CONTROLS

PEDESTRIAN WAYFINDING

PRIMARY DIRECTIONAL

Function

To identify, inform and direct at footpath intersections.

Improve the quality and connectedness of pedestrian wayfinding.

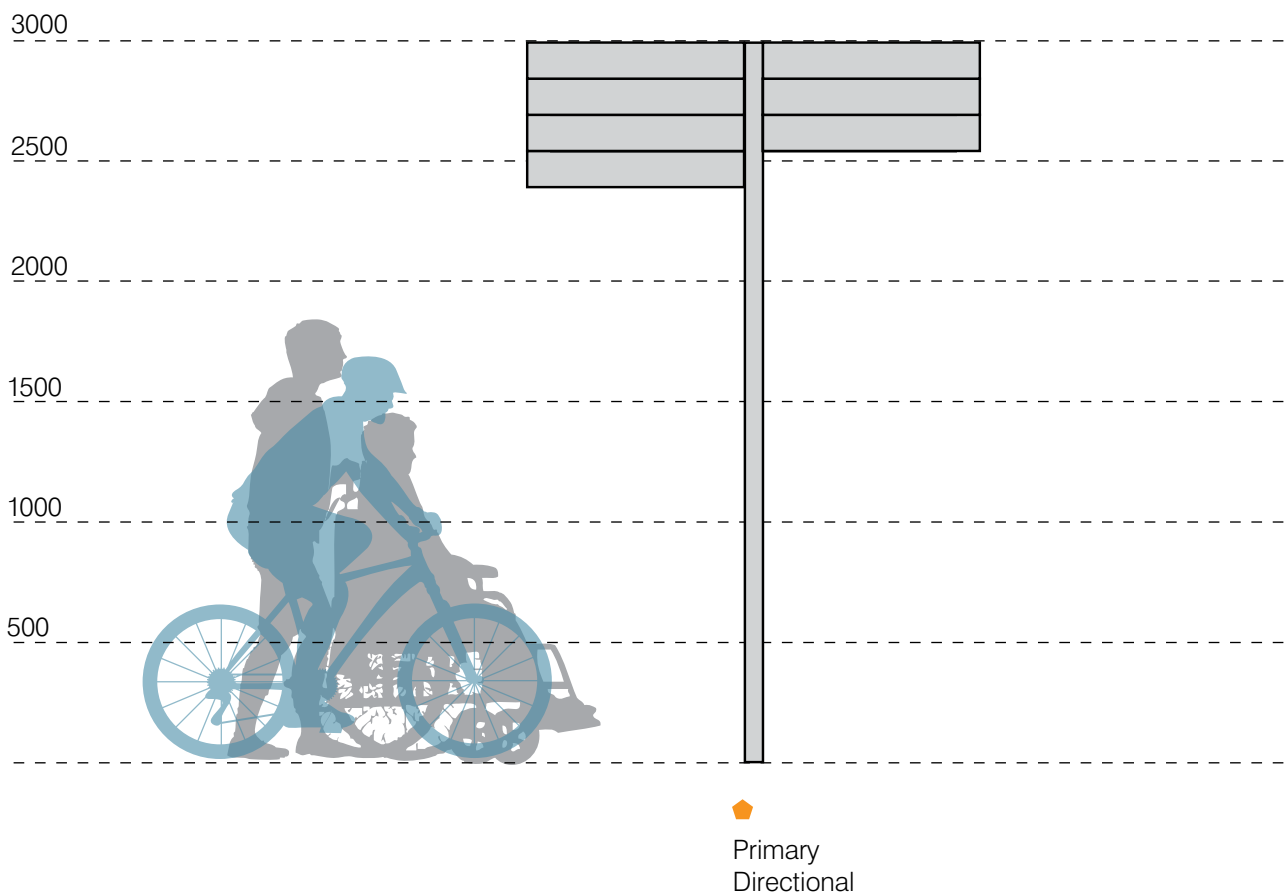
Content

Destination name; Distances; Direction; Pictograms.

Controls

Vehicle wayfinding – primary directional signs should be no taller than 3000mm and blades should be no wider than 800mm.

Vehicle wayfinding – primary directional signs should be made from materials that are long lasting and should not be made from temporary materials.



SIGNAGE CONTROLS

PEDESTRIAN WAYFINDING SECONDARY DIRECTIONAL – HORIZONTAL

Function

To identify, inform and direct at trail head locations.

Improve the quality and connectedness of pedestrian wayfinding.

Content

Trail / place name; Distances; Direction; Level of difficulty; Map – greater area; Gradient indicator; Places of Interest; Shared trail pictogram; Regulatory pictograms.

Controls

Pedestrian wayfinding secondary directional – horizontal signs should be no taller than

1500mm and no wider than 2500mm.

Pedestrian wayfinding secondary directional – horizontal signs should be made from materials that are long lasting and should not be made from temporary materials.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Pedestrian wayfinding secondary directional – horizontal signs should contain a map/s that illustrates the greater area and should include places of interests, distances, times and gradient levels.

Pedestrian wayfinding secondary directional – horizontal signs should provide transport and parking information.

A ‘you are here’ indicator should be included on all maps.

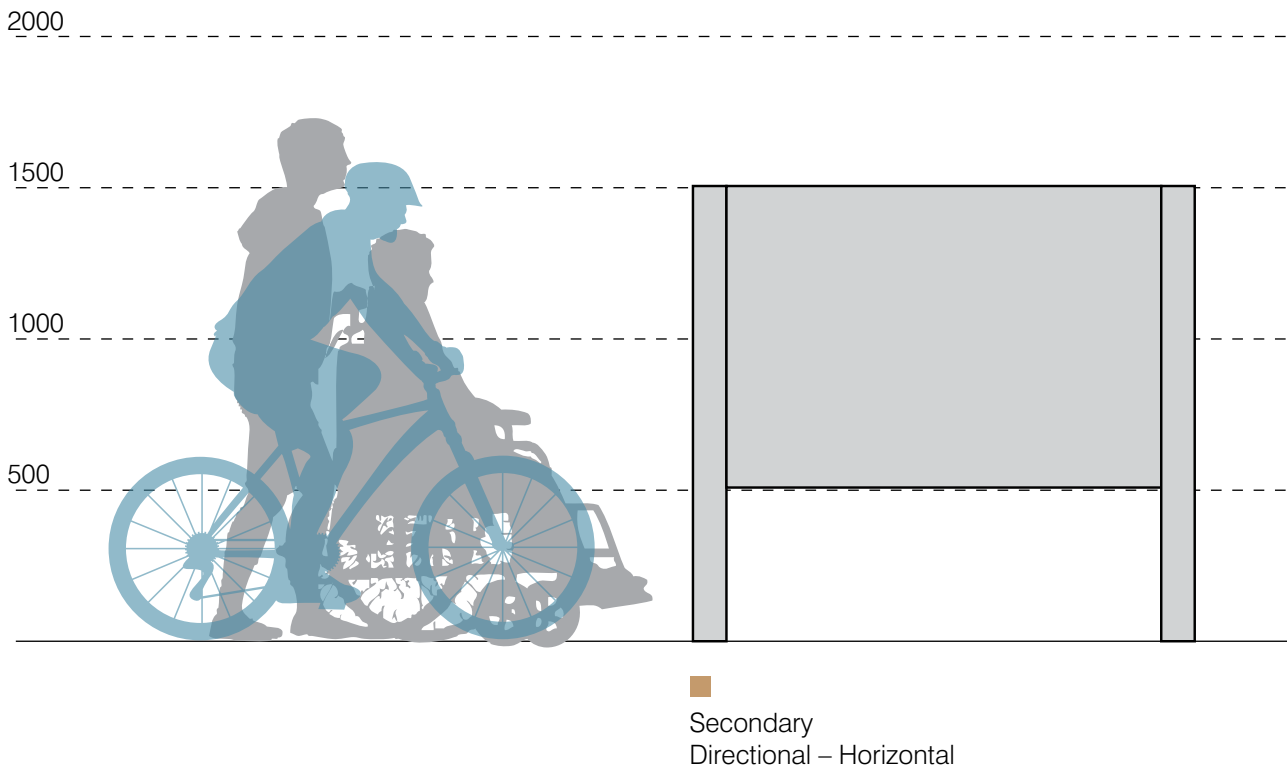
Maps should be ‘heads up’ orientated to the vantage of the viewer.

Pictograms should be used to express shared trail information.

Pictograms should be used to express shared regulatory information.

Where more than one sign type may exist in the same location, a hybrid sign type should be conceived to accommodate all information and minimise signage clutter.

Horizontal signs should be used where space allows for wider signage.



SIGNAGE CONTROLS

PEDESTRIAN WAYFINDING SECONDARY DIRECTIONAL – VERTICAL

Function

To identify, inform and direct at trail head locations.
 Improve the quality and connectedness of pedestrian wayfinding.

Content

Trail / place name; Distances; Direction; Level of difficulty; Map – greater area; Gradient indicator; Places of Interest; Shared trail pictogram; Regulatory pictograms.

Controls

Pedestrian wayfinding secondary directional – vertical signs should be no taller than 2000mm and no wider than 500mm.

Pedestrian wayfinding secondary directional – vertical signs should be made from materials that are long lasting and should not be made from temporary materials.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Pedestrian wayfinding secondary directional – vertical signs should contain a map/s that illustrates the greater area and should include places of interests, distances, times and gradient levels.

Pedestrian wayfinding secondary directional – vertical signs should provide transport and parking information.

A 'you are here' indicator should be included on all maps.

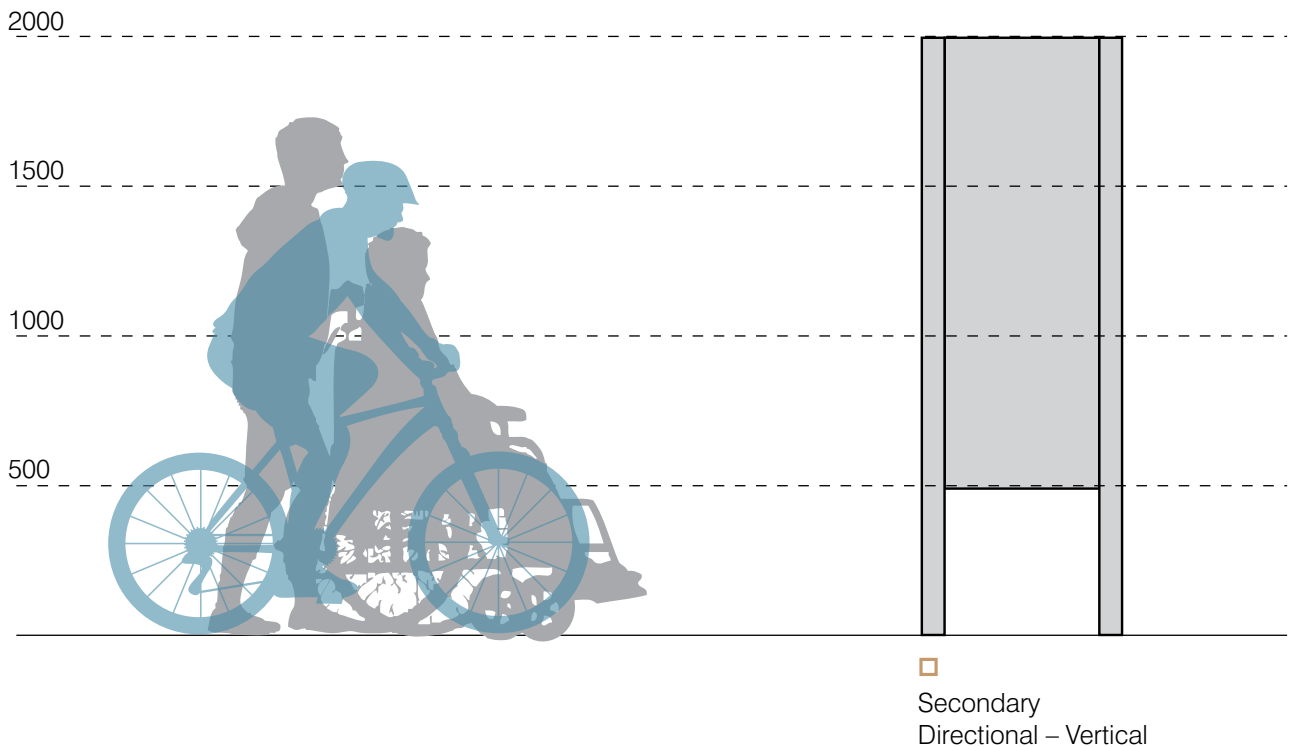
Maps should be 'heads up' orientated to the vantage of the viewer.

Pictograms should be used to express shared trail information.

Pictograms should be used to express shared regulatory information.

Where more than one sign type may exist in the same location, a hybrid sign type should be conceived to accommodate all information and minimise signage clutter.

Vertical signs should be used where horizontal space is limited.



SIGNAGE CONTROLS

PEDESTRIAN WAYFINDING TERTIARY DIRECTIONAL

Function

To direct and provide distance information.

Improve the quality and connectedness of open space and recreation.

Content

Directions and distances

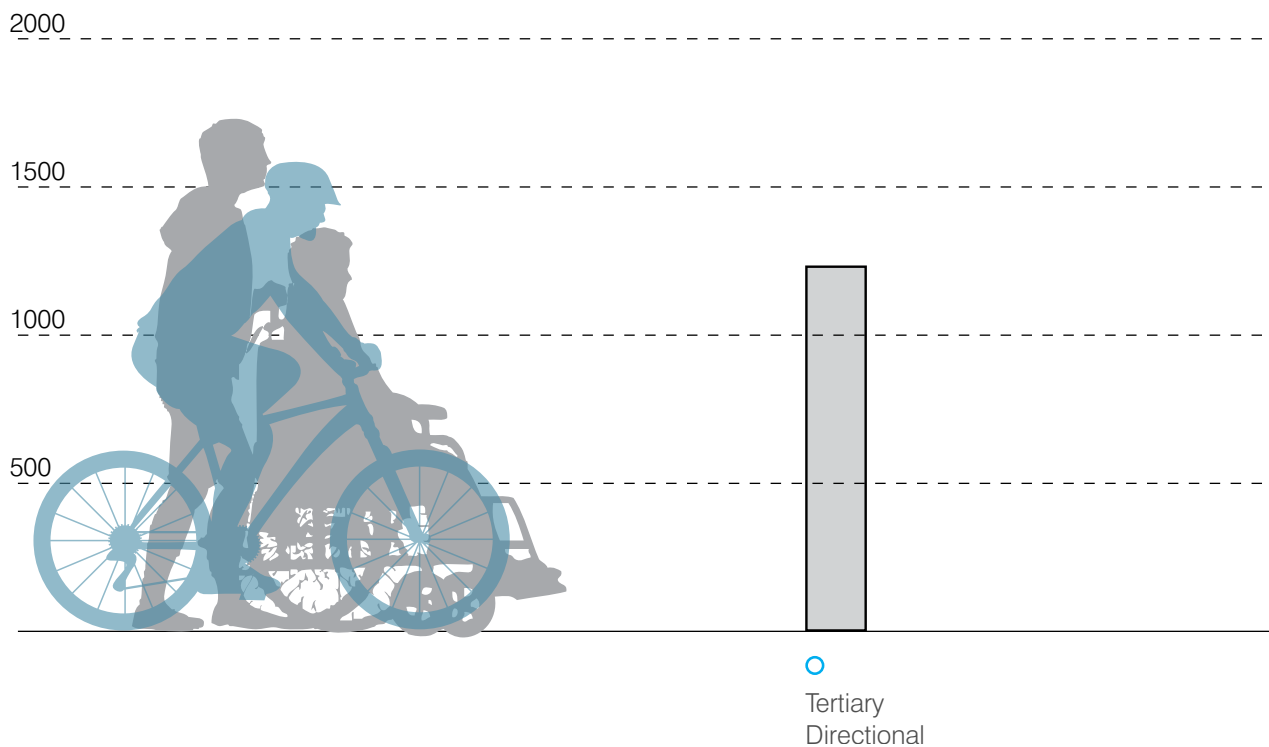
Controls

Pedestrian wayfinding tertiary directional signs should be no taller than 1500mm and no wider than 250mm.

Pedestrian wayfinding tertiary directional signs should be made from materials that are long lasting and should not be made from temporary materials.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Pedestrian wayfinding tertiary directional signs should contain directions, and distances.



SIGNAGE CONTROLS

PEDESTRIAN WAYFINDING – CAUTIONARY

Function

To provide cautionary and regulatory information.

Improve the quality and connectedness of open space and recreation.

Content

Shared trail pictogram

Regulatory and cautionary pictograms

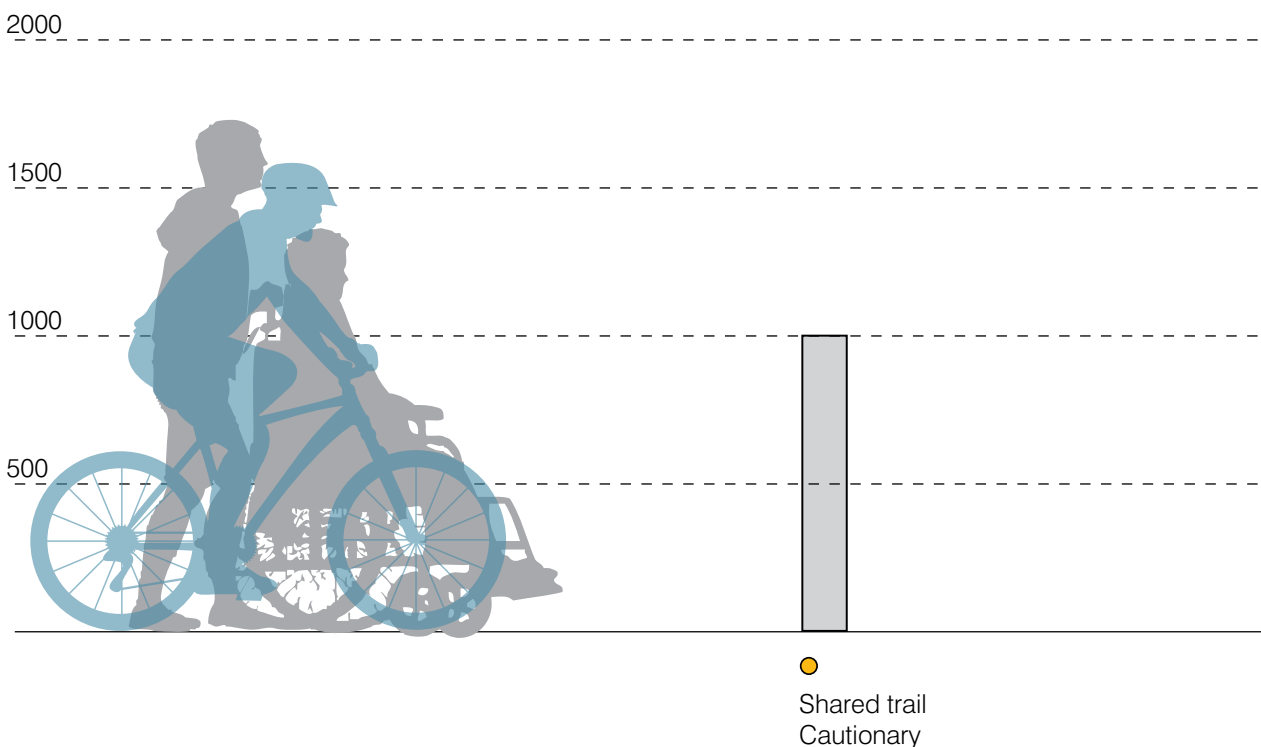
Controls

Shared Trail Cautionary signs should be no taller than 1500mm and no wider than 150mm.

Shared Trail Cautionary signs should be made from materials that are long lasting and should not be made from temporary materials.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Pictograms should be used to express shared trail cautionary and regulatory information.



SIGNAGE CONTROLS

IDENTIFICATION / ENTRANCE – PRIMARY

Function

Identify a primary destination

Content

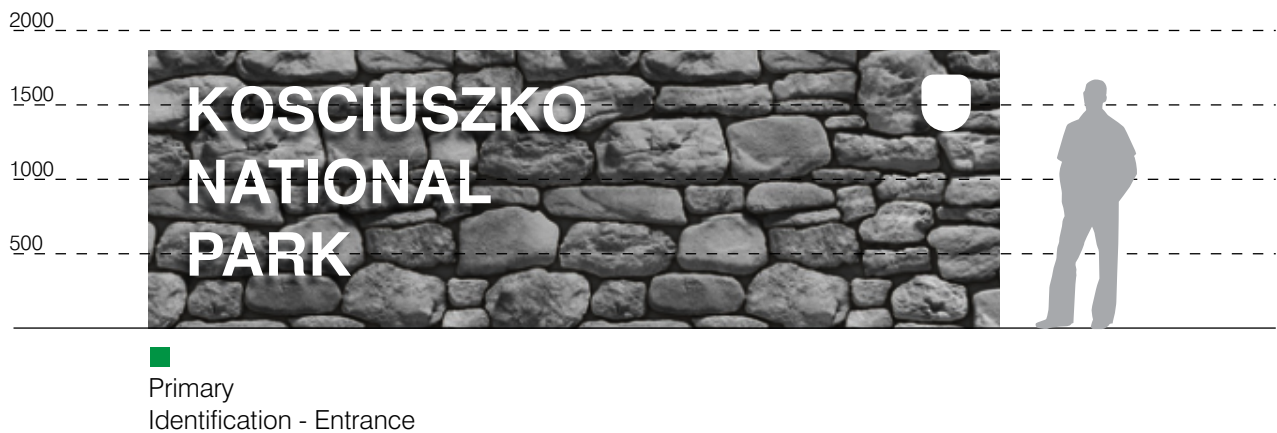
Place name; logo/branding

Controls

Identification / entrance primary signs should be no taller than 1800mm and no wider than 6000mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.

LED sign panels should NOT be incorporated into this sign type.



SIGNAGE CONTROLS

IDENTIFICATION / ENTRANCE – SECONDARY

Function

Identify a primary destination

Content

Place name; logo/branding

Controls

Identification / entrance secondary signs should be no taller than 1600mm and no wider than 4000mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.

LED sign panels should NOT be incorporated into this sign type.



Secondary
Identification - Entrance

SIGNAGE CONTROLS

IDENTIFICATION / ENTRANCE – TERTIARY

Function

Identify a primary destination

Content

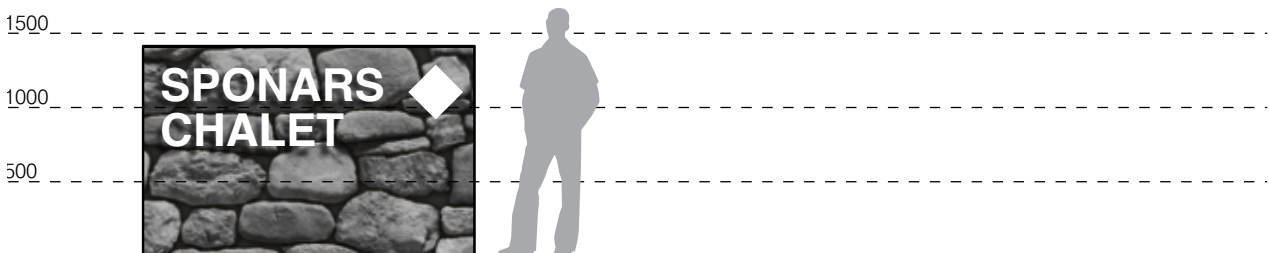
Place name; logo/branding

Controls

Identification / entrance tertiary signs should be no taller than 1450mm and no wider than 1600mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.

LED sign panels should NOT be incorporated into this sign type.



⋮
Tertiary
Identification - Entrance

SIGNAGE CONTROLS

PRIMARY INTERPRETIVE

Function

Large interpretive story, or multiple medium interpretive story's

Content

Point of Interest name / interpretive topic

Descriptive text

Images

Diagrams

Drawings

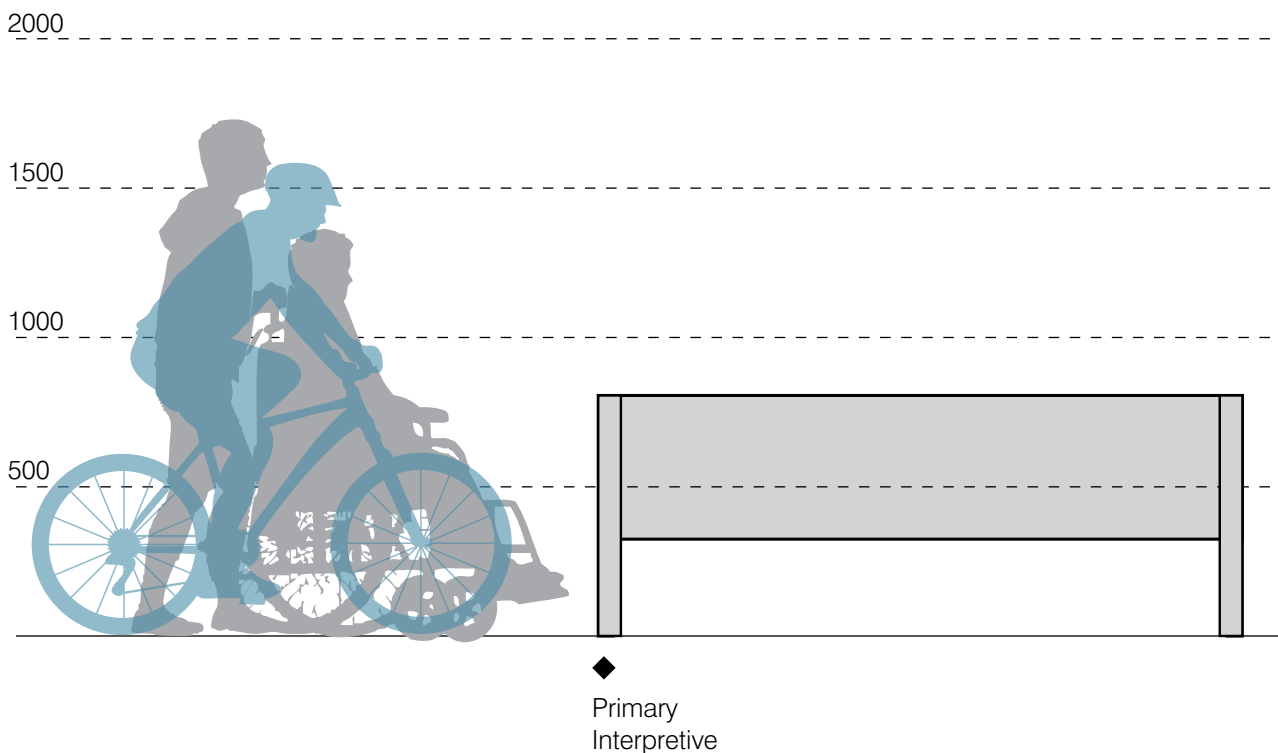
Controls

Primary Interpretive signs should be no taller than 800mm and no wider than 2000mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Angled signs should be considered for greater viewing accessibility. Ensure the angled viewing plane and associated panel angles are considered.



SIGNAGE CONTROLS SECONDARY INTERPRETIVE

Function

Medium interpretive story, or multiple minor interpretive story's

Content

Point of Interest name / interpretive topic

Descriptive text

Images

Diagrams

Drawings

Controls

Secondary Interpretive signs should be no taller than 600mm and no wider than 1200mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Angled signs should be considered for greater viewing accessibility. Ensure the angled viewing plane and associated panel angles are considered.

SIGNAGE CONTROLS TERTIARY INTERPRETIVE

Function

Small interpretive story, or single minor interpretive story

Content

Point of Interest name / interpretive topic

Descriptive text

Images

Diagrams

Drawings

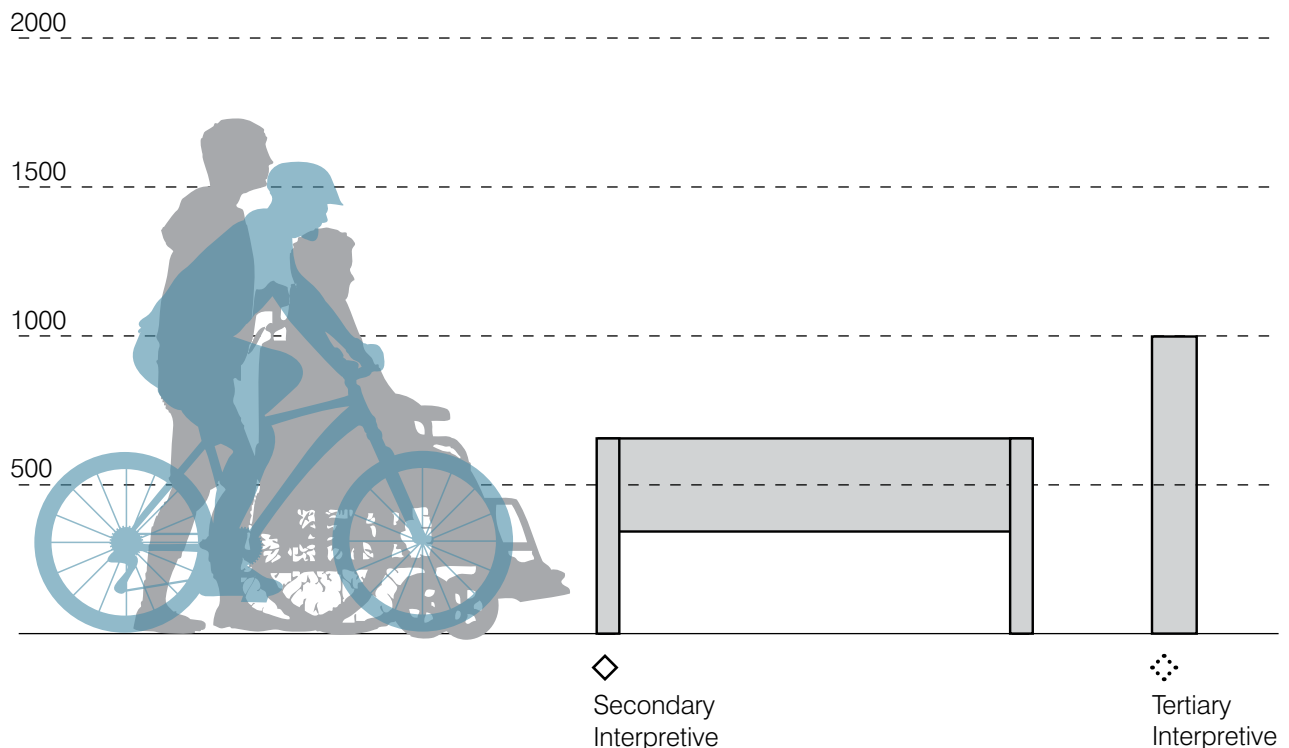
Controls

Tertiary Interpretive signs should be no taller than 1000mm and no wider than 200mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Angled signs should be considered for greater viewing accessibility. Ensure the angled viewing plane and associated panel angles are considered.



SIGNAGE CONTROLS

PRIMARY ARRIVAL / INFORMATION

Function

To identify, orientate, inform and direct at primary visitor nodes.

Improve the quality and connectedness of open space and recreation.

Content

Visitor node name; Distances; Direction; Map – greater area; Gradient indicator; Places of Interest; Shared trail pictogram; Regulatory pictograms.

Controls

Primary Arrival/Information signs should be no taller than 1600mm and no wider than 2200mm.

Primary Arrival/Information signs should be made from materials that are long lasting and should not be made from temporary materials.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Secondary Arrival/Information signs should contain a map/s that illustrates the greater area and should include places of interests, distances, times and gradient levels.

Primary Arrival/Information signs should provide transport and parking information.

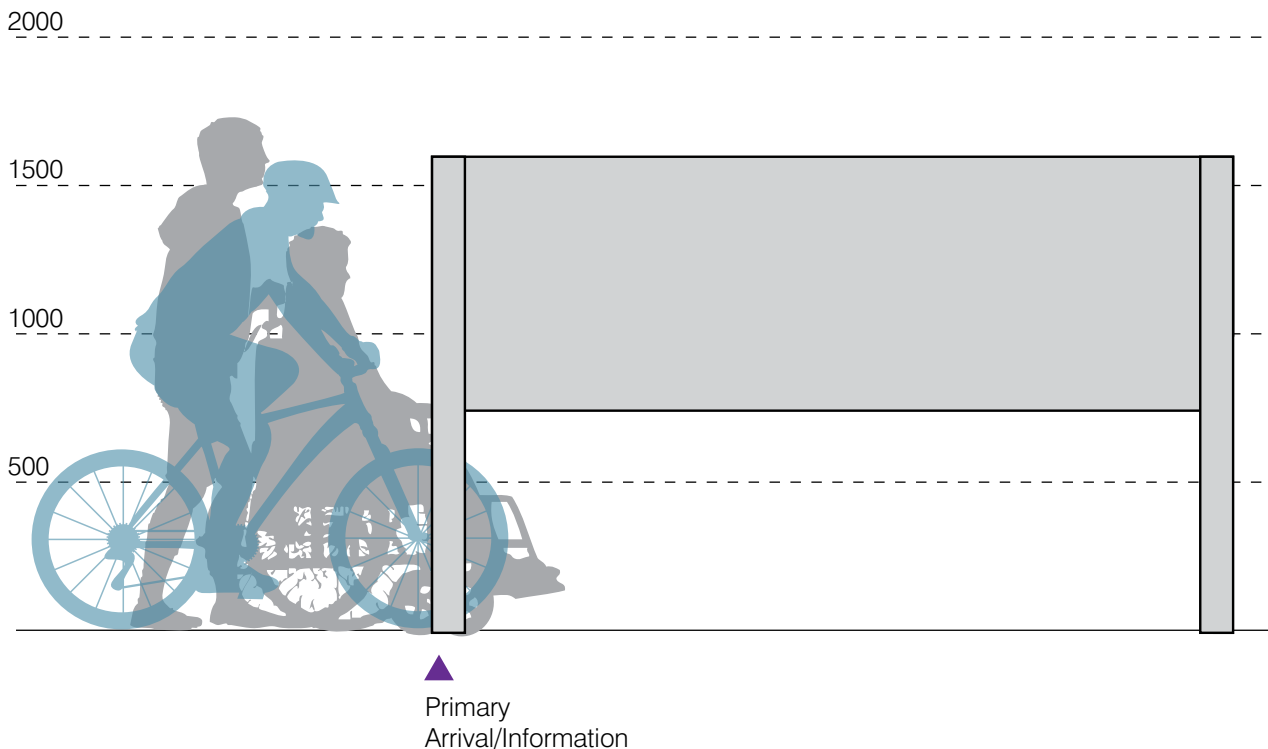
A 'you are here' indicator should be included on all maps.

Maps should be 'heads up' orientated to the vantage of the viewer.

Pictograms should be used to express shared trail information.

Pictograms should be used to express shared regulatory information.

Where more than one sign type may exist in the same location, a hybrid sign type should be conceived to accommodate all information and minimise signage clutter.



SIGNAGE CONTROLS

SECONDARY ARRIVAL / INFORMATION

Function

To identify, orientate, inform and direct at minor visitor nodes or when space restrictions do not permit the installation of a Primary Arrival/ Identification sign.

Improve the quality and connectedness of open space and recreation.

Content

Visitor node name; Distances; Direction; Map – greater area; Gradient indicator; Places of Interest; Shared trail pictogram; Regulatory pictograms.

Controls

Secondary Arrival/Information signs should be no taller than 1600mm and no wider than 1400mm.

Secondary Arrival/Information signs should be made from materials that are long lasting and should not be made from temporary materials.

The graphic content of the signs should demonstrate a clear hierarchy and order of information.

Secondary Arrival/Information signs should contain a map/s that illustrates the greater area and should include places of interests, distances, times and gradient levels.

Secondary Arrival/Information signs should provide transport and parking information.

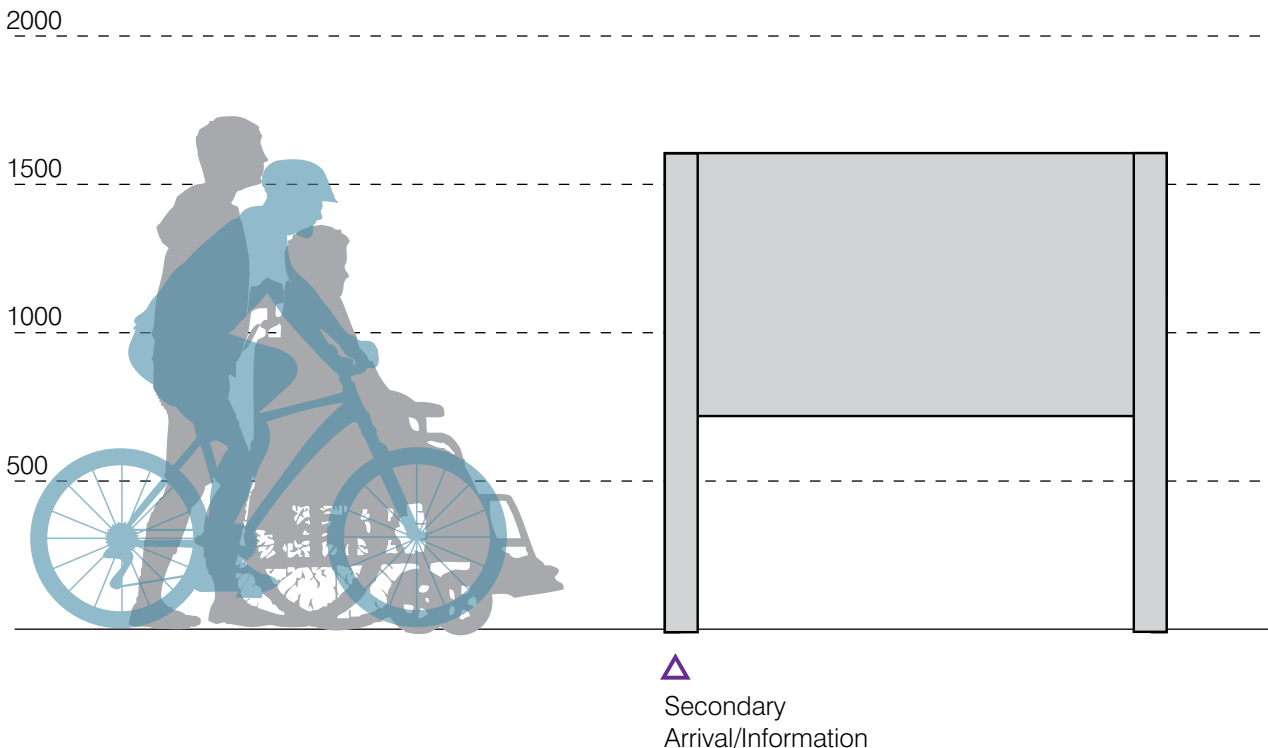
A 'you are here' indicator should be included on all maps.

Maps should be 'heads up' orientated to the vantage of the viewer.

Pictograms should be used to express shared trail information.

Pictograms should be used to express shared regulatory information.

Where more than one sign type may exist in the same location, a hybrid sign type should be conceived to accommodate all information and minimise signage clutter.



SIGNAGE CONTROLS

TERTIARY ARRIVAL/ INFORMATION

Function

Identify a tertiary destination.

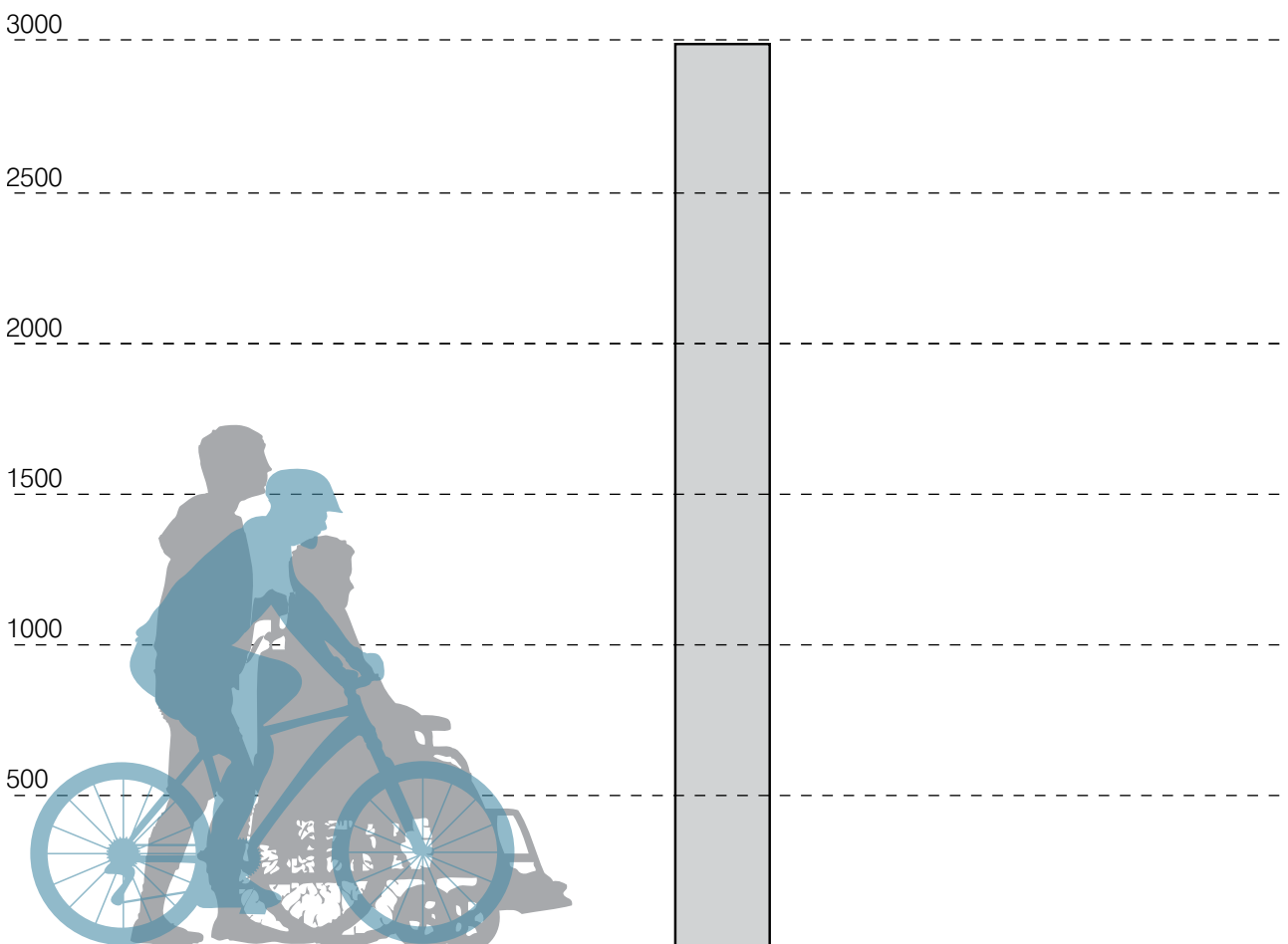
Content

Place name; Pictograms.

Controls

Tertiary Arrival / Information signs should be no taller than 3000mm and no wider than 300mm.

The form and materiality of individual design solutions should respond to the local landscape character and built form.




Tertiary
Arrival/Information

SIGNAGE CONTROLS

LED SIGN INCORPORATION

Function

LED sign panels engender high visual acuity in viewers through colour, brightness and movement.

They are well suited to the alpine environment as they work well in situations where low light or poor visibility may be prevalent.

LED sign panels are particularly useful from an operational perspective as they are instantly updatable and highly effective at presenting vehicular traffic control information.

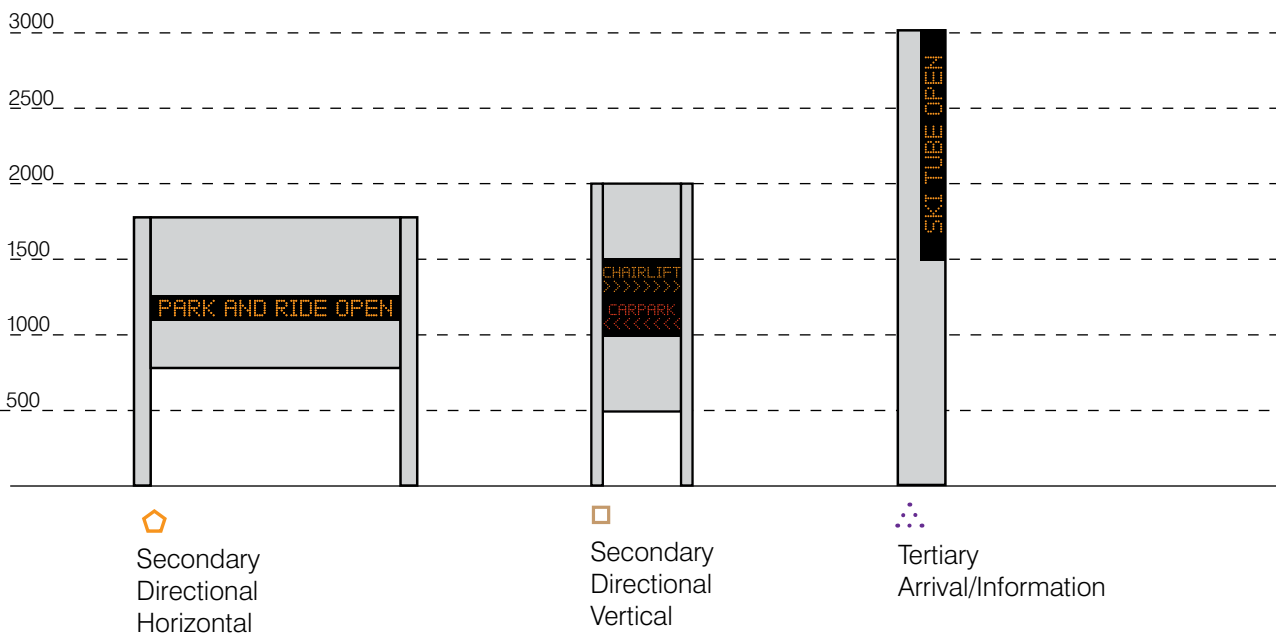
Controls

LED sign panels can be incorporated into any sign type from the proposed sign suite except for Primary, Secondary or Tertiary Identification / Entrance sign types.

LED sign panels should be integrated into the sign structure to provide both a visually cohesive and a manageable fabrication solution.

LED sign panels can be any required size which suits the communication needs and the sign type.

LED Sign Panel Incorporation



SIGNAGE CONTROLS

INDIVIDUAL BRAND INCORPORATION

Function

There are various operators, authorities and businesses within the Alpine Precinct, each with their own individual brand.

It is reasonable to expect that individual brands should be incorporated into the signage of the various operators.

While individual brands can be incorporated, it is a priority to maintain consistent and holistic look and feel across the Alpine Precinct.

Controls

Individual brands can be applied to the signage suite by utilising a 'top line' or 'header' approach, whereby the top of the sign is allocated to individual brand presentation.

Individual brands should be expressed through colour and logo only in the header area only.

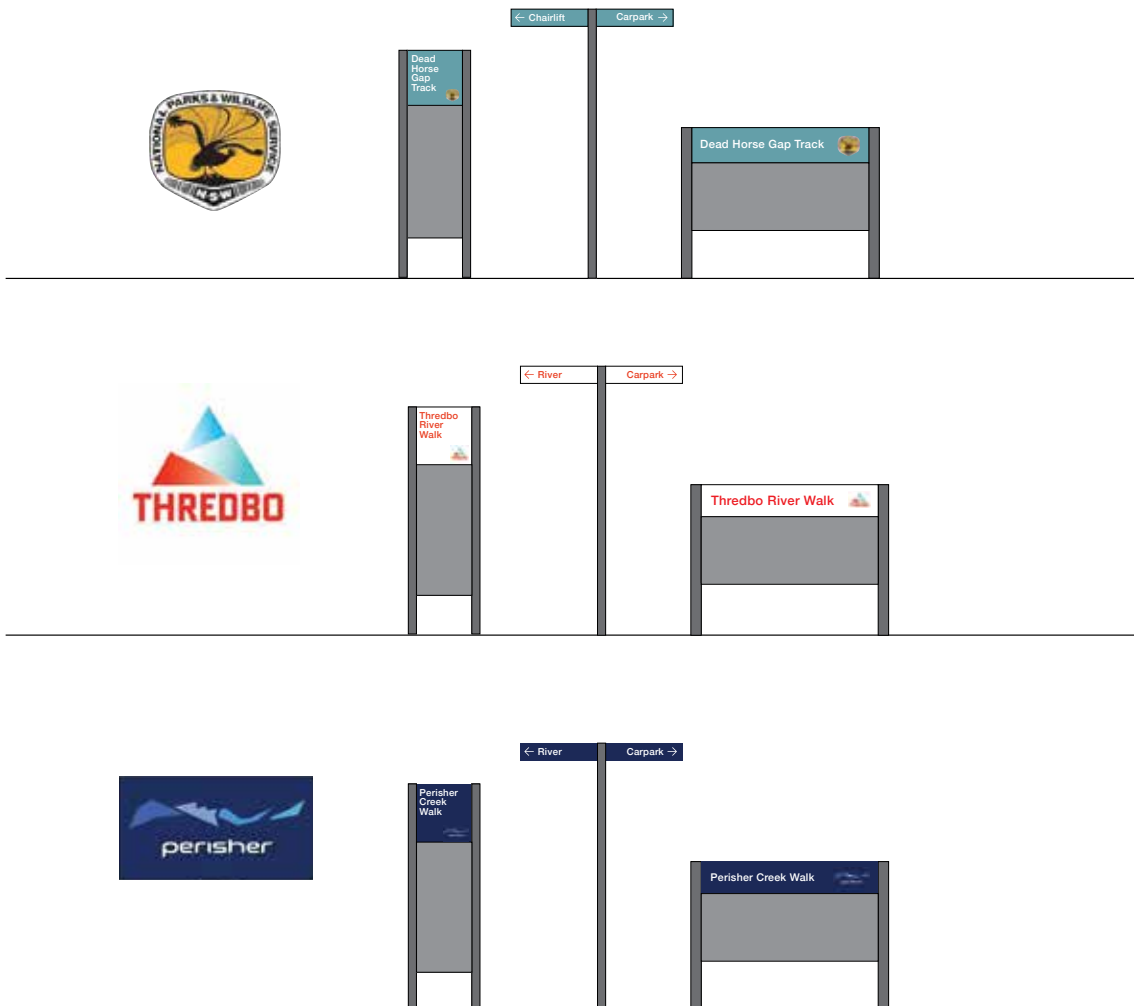
The remainder of the sign should be consistent across the Alpine Precinct, regardless of the operator, authority or business.

Accommodate views of resort operators.

Resort operator consultation should be included during the planning and development stage of all signage located within the resorts.

Signage in head lease resorts will depend on operator's brand portrayal.

Individual Brand Incorporation



This document has been
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Appendix C

Vegetation Management Strategy

Department of Planning and Environment

Vegetation Management Strategy

Alpine Precinct

April 2023



Question today Imagine tomorrow Create for the future

Vegetation Management Strategy Alpine Precinct

Department of Planning and Environment

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Rev	Date	Details
A	30/01/2023	Report
B	26/04/2023	Final report based on comments provided

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Appendix A Exotic species recorded

Appendix B Planting palates

Glossary

BAM	Biodiversity Assessment Method 2020
BC Act	NSW Biodiversity Conservation Act 2016
Biodiversity offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity values from the impacts of development.
DPE	Department of Planning and Environment
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
Ha	Hectares
Habitat	An area or areas occupied, or periodically or occasionally occupied, by a species, population or ecological community, including any biotic or abiotic component.
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 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 1m above the ground.
LGA	Local Government Area
Monero Ngarigo	Aboriginal linguistic group who traditionally occupied the eastern side of the Kosciuszko plateau and further north towards the Murrumbidgee River. The traditional custodians of the Snowy Mountains are the Monero Ngarigo People.
NPWS	National Parks and Wildlife Service
NSW	New South Wales
Plant community type	A NSW plant community type. Plant Community Types are the agreed foundation level for classifying vegetation in NSW and are intended to provide the most ecologically relevant grouping of plant species. Plant Community Types are described in the BioNet Vegetation Classification.
SAP	Special Activation Precinct
Snowy Mountains	The highest mountain range on the continent of mainland Australia, located in southern New South Wales and part of the larger Australian Alps and Great Dividing Range. The mountain range experiences large natural snowfalls every winter.
Threatened ecological community (TEC)	Means a critically endangered ecological community, an endangered ecological community or a vulnerable ecological community listed in Schedule 2 of the BC Act.

Acknowledgment of Country

WSP acknowledge the Monero Ngarigo people as the traditional custodians of the Snowy Mountains Special Activation Precinct area. We acknowledge their ongoing connection to country and pay our respects to elders, past and present. We recognise the significance of the region to the Monero Ngarigo people, and value their ongoing connection to country and their contribution to this project. WSP is committed to engaging with and honouring Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to the land and waters.

1 Project background

1.1 Snowy Special Activation Precinct

The Snowy Mountains are located in the southeast of NSW and the region is one of Australia's most iconic natural environments. In addition to hosting some of Australia's premier alpine destinations, the Snowy Mountains is home to over 35,000 people and Australia's highest peak, Mount Kosciuszko.

The Snowy Mountains region plays a crucial role within the regional and state economy, with its local population swelling with an additional 1.4 million international and domestic visitors each year. The region's unique natural environment allows locals and visitors to participate in a diverse array of recreational activities year-round, with many visitors still experiencing the region through the peak winter season.

The broad objectives and priorities for the Snowy Mountains Special Activation Precinct (SAP) are to capitalise on the unique cultural and environmental attributes and revitalise the Snowy Mountains into a year-round destination. The revitalisation is to focus on year-round adventure and eco-tourism, improving regional transport connectivity, shifting towards a carbon neutral region, increasing the lifestyle and wellbeing activities on offer, and supporting Jindabyne's growth as Australia's national winter sports training base.

The broad conservation objective of the SAP is to avoid, maintain or improve the biodiversity values in the region.

1.2 Study area

The Snowy Mountains SAP encompasses 72,211 hectares of land and within this investigation area are several 'development opportunity areas' including within the Alpine Precinct which occurs within the Kosciuszko National Park.

This report provides a Vegetation Management Strategy (VMS) for the Alpine Precinct within Kosciuszko National Park, namely:

- Thredbo Village Sub-Precinct
- Thredbo Ranger Station Sub-Precinct
- Perisher Village Sub-Precinct
- Piper's Gap Sub-Precinct
- Smiggin Holes Sub-Precinct
- Guthega Sub-Precinct
- Charlotte Pass Sub-Precinct
- Island Bend Sub-Precinct
- Sponars Chalet Sub-Precinct
- Ski Rider Hotel Sub-Precinct
- Kosciuszko Tourist Park Sub-Precinct
- Bullocks Flat Sub-Precinct.

1.3 Scope of report

The scope of this report is to provide a vegetation management strategy for the Alpine Precinct for inclusion in the Development Control Plan (DCP), including:

- Aims and objectives.
- Alignment with NPWS guidelines including Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park (Department of Environment and Climate Change 2007) and Southern Ranges Regional Pest Management Strategy (Office of Environment & Heritage 2013).
- Management, treatments, and plantings for active and passive open space, shared trails, and paths.
- Design guidance on:
 - integration of public space with the landscape
 - integration of stormwater management infrastructure with open spaces
 - connection to Country and cultural land management practices.

1.4 Baseline data

This VMS is based on findings of ecology surveys for the Snowy SAP master planning phase (WSP 2022). This included:

- Desktop review of available reports, mapping and data.
- Field surveys of each Sub-Precinct (undertaken between 8 to 18 December 2020 and from 28 November to 3 December 2021):
 - vegetation surveys, including a mixture of Vegetation Integrity Plots according to the method outlined in the Biodiversity Assessment Method 2020, and rapid data points used to aid in vegetation mapping and rapid identification of likely Plant Community Type and condition category
 - fauna surveys including:
 - habitat assessment
 - diurnal bird surveys
 - remote camera surveys
 - frog and reptile (herpetofauna) searches.

This strategy is also based on consultation with subject matter experts within the NPWS. Additional baseline data is recommended, ideally with a minimum of three monitoring events over the duration of the season, and at times to maximise survey during flowering time of sub-alpine species.

2 Connection to Country framework

The *Draft Connecting with Country Framework* advocates for connection to Country to inform planning, design, and delivery of built environments. This framework has been considered in the development of this strategy.

The framework's aspiration includes a commitment to help support the health and wellbeing of Country by valuing, respecting, and being guided by Aboriginal people. The long-term strategic goals of this approach are to:

- reduce the impacts of natural events such as fire, drought, and flooding through sustainable land and water use practices
- value and respect Aboriginal cultural knowledge with Aboriginal people co-leading design and development of all NSW infrastructure projects
- ensure Country is cared for appropriately and sensitive sites are protected by Aboriginal people having access to their homelands to continue their cultural practices.

The Connecting with Country Framework sets out four pathways for working with Aboriginal people to design with Country, in a Country centric way. These pathways are key aspects to develop successful Connection to Country for the SAP. This includes:

- 1 Learning from First Nation languages that tell us about the physical characteristics and purpose of Country.
- 2 Developing mutually beneficial relationships with Country – exploring and honouring the connection to nature. Aboriginal cultural practices honour this connection. Building long term relationships with the Aboriginal community, enabling leadership in understanding how if we look after Country, Country will look after us.
- 3 Reawakening memories of cultural landscapes, walking with Aboriginal knowledge-holders and Traditional Custodians.
- 4 Knowledge sharing and finding common ground to overcome barriers and allow for two way thinking.

The Monero Ngarigo people are acknowledged as the custodians of the SAP area. Caring for Country and conservation of biodiversity is a Cultural responsibility and the management of the biodiversity within the SAP area provides an opportunity for Monero Ngarigo to care for Country and also to practice Culture on Country.

This strategy seeks to:

- explore and honour Monero Ngarigo people connection to Country
- incorporate traditional land management techniques
- integrate Indigenous planting into public spaces and revegetation areas
- outline opportunities for the Monero Ngarigo community to guide the biodiversity management, share knowledge and care for Country.

3 Existing environment

3.1 Site context

Kosciuszko National Park is the largest national park in NSW and is also the central segment of the Australian Alps Bioregion, containing the highest mountains in Australia (NSW National Parks & Wildlife Service 2006). The park possesses exceptional diversity of alpine plant communities, containing threatened ecological communities (TECs) and provides habitat for a number of rare and threatened species (NSW National Parks & Wildlife Service 2006). The park contains most of the alpine endemic species found on the Australian mainland (NSW National Parks & Wildlife Service 2006).

The Alpine region is characterised by a subalpine climate and environment which is subjected to continuous snow cover for one to four months per year, with minimum temperature below zero degrees over six months of the year (Connell Wagner Pty Ltd 2000).

The vegetation is rich and diverse reflecting the range of climates, altitudes, landforms, soil, and geology present. Vegetation occurs in numerous formations including montane forest, wet sclerophyll forests, cool temperate rainforests, open alpine woodlands, alpine heathland, alpine grasslands, herbfields, and bogs. Vegetation communities within the national park are largely dominated by Eucalypt species, of which there are approximately 33 species which have been recorded (NSW National Parks & Wildlife Service 2006).

Kosciuszko National Park contains significant biodiversity and it known to provide habitat for approximately 300 vertebrate fauna species, over 800 plant species and high numbers of invertebrates, particularly for high altitude cold-climate specialists which require alpine and subalpine habitats (NSW National Parks & Wildlife Service 2006). Of the 204 species of alpine flowering plants recorded 21 are endemic and 22 are considered rare. Furthermore, 31 species recorded are endemic to the national park and there are numerous threatened flora species that have been recorded (NSW National Parks & Wildlife Service 2006).

The Alpine Precinct contains a wide variety of Plant Community Types. The lower altitude areas of Ski Rider Motel are dominated by the Grassy Woodlands from the Subalpine Woodlands vegetation class dominated by stands of *Eucalyptus pauciflora*, *Eucalyptus dalrympleana* and *Eucalyptus stellulata* with occasional *Eucalyptus delegatensis*. As altitude increases at Sponars Resort, Perisher, Charlottes Pass and Guthega, the vegetation changes to the lower Subalpine Woodlands dominated by *Eucalyptus niphophila* and tall heathy shrublands. At the Charlottes Pass subject land, the Alpine Complex is dominant with the presence of Alpine Heaths (including boulder fields) and Alpine Bogs and Fens (Upland Bog and Valley Bog complexes).

3.2 Threatened biodiversity

3.2.1 Threatened ecological communities

The Alpine Precinct supports threatened ecological communities:

- Alpine Sphagnum Bogs and Associated Fens- listed as endangered under the EPBC Act.
- Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands, and Australian Alps bioregions – listed as an Endangered Ecological Community under the BC Act.

These threatened ecological communities are broadly equivalent and are present at Charlottes Pass, Perisher, Guthega, Smiggin Holes, the Kosciuszko Tourist Park and Thredbo.



Photo 3.1 Alpine and sub-alpine peatlands, damp herbfields and fens at Perisher



Photo 3.2 Alpine and sub-alpine peatlands, damp herbfields and fens at Charlottes Pass

Photo credit: Lukas Clews

Photo credit: Lukas Clews

3.2.1.1 Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands, and Australian Alps bioregions TEC

Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions is listed as an Endangered Ecological Community under the BC Act.

This TEC is located within the Monaro subregion at the Kosciuszko Tourist Park and in the Snowy Mountains subregion at Guthega, Perisher and Charlottes Pass (see maps for each Sub-Precinct provided in Appendices).

The final determination to list Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands, and Australian Alps bioregions as a TEC (see NSW Threatened Species Scientific Committee, 2010), indicates that this plant community is associated with accumulated peaty or organic-mineral sediments on poorly drained flats in the headwaters of streams. It occurs on undulating tablelands and plateaus, above 400–500 m elevation, generally in catchments with basic volcanic or fine-grained sedimentary substrates or, occasionally, granite (NSW Threatened Species Scientific Committee, 2010). The examples of this TEC within the Alpine Precinct occur above 1,200 m elevation and are associated with accumulated peaty or organic-mineral sediments on poorly drained flats in the headwaters of streams on granitoid substrate.

The TEC within the subject lands has a variable structure with either a dense, open or sparse layer of shrubs with soft-leaved sedges, grasses and forbs as indicated by the NSW Threatened Species Scientific Committee (2010). The TEC also contains a significant amount of the moss *Sphagnum cristatum* which is a key component of the TECs. Characteristic assemblage of species (as listed in the final determination, occur including *Acaena novae-zelandiae*, *Baeckea gunniana*, *Brachyscome graminea*, *Callistemon pityoides*, *Carex appressa*, *Carex gaudichaudiana*, *Empodisma minus*, *Epacris microphylla*, *Epacris paludosa*, *Epilobium billardierianum*, *Lythrum salicaria*, *Myriophyllum sp.*, *Poa costiniana*, *Poa labillardierei*, *Ranunculus pimpinellifolius*, and *Sphagnum cristatum* as well as a range of other species characteristic of montane peatlands and swamps.

3.2.1.2 Alpine Sphagnum Bogs and Associated Fens

The Alpine Sphagnum Bogs and Associated Fens ecological community occurs primarily within the Australian Alps and is also found in a small area of the Bondo subregion of the South Eastern Highlands IBRA bioregion on mainland Australia. This TEC occurs at Charlottes Pass, Perisher, Guthega, Smiggin Holes, and Thredbo.

3.2.2 Threatened flora

Of the 204 species of alpine flowering plants recorded within Kosciuszko National Park, 21 are endemic and 22 are considered rare. Furthermore, 31 species recorded are endemic to the national park (NSW National Parks & Wildlife Service 2006). Thirteen threatened species are known or likely to occur within the Alpine Precinct (Table 3.1).

Targeted surveys for threatened flora are recommended before development approval. The specific seasonal requirements for these species are outlined in Table 3.1. BAM candidate threatened species list for each Sub-Precinct is provided in the Appendices.

Table 3.1 Threatened flora species known or likely to occur within the Alpine Precinct

Scientific name	Common name	BC Act ¹	EPBC Act ²	Survey seasonality
<i>Argyrotegium nitidulum</i>	Shining Cudweed	V	V	Dec-Apr
<i>Caladenia montana</i>	–	V	–	Nov
<i>Calotis glandulosa</i>	Gland Burr Daisy	V	V	Oct – Mar
<i>Carex raleighii</i>	Raleigh Sedge	E	–	Dec – Mar
<i>Discaria nitida</i>	Leafy Anchor Plant	V	–	Nov – Apr
<i>Euphrasia scabra</i>	Rough Eyebright	E	–	Feb – Apr
<i>Pterostylis alpina</i>	–	V	–	Aug – Nov
<i>Pterostylis foliata</i>	Slender Greenhood	V	–	Oct – Nov
<i>Pterostylis oreophila</i>	Blue-tongued Greenhood	CE	CE	Dec – Jan
<i>Ranunculus anemoneus</i>	Anemone Buttercup	V	V	Oct – Apr
<i>Rytidosperma vickeryae</i>	Perisher Wallaby Grass	E	–	Feb – Mar
<i>Thelymitra alpicola</i>	–	V	–	Nov – Jan
<i>Thesium australe</i>	Austral toadflax	V	V	Nov – Feb
<i>Xerochrysum palustre</i>	Bog everlasting	–	V	Sep – May

(1) E = Endangered, CE= Critically Endangered under the BC Act.

(2) E = Endangered, CE= Critically Endangered under the EPBC Act.

3.2.3 Threatened fauna

Kosciuszko National Park contains significant biodiversity and it known to provide habitat for approximately 300 vertebrate fauna species. Threatened species and significant habitat known to occur in the precinct include:

- A significant population of Mountain Pygmy Possum (*Burramys parvus*) which is known to occur at Blue Cow and at Charlotte Pass. This species is restricted to alpine and subalpine zones (Connell Wagner Pty Ltd 2000).
- Broad-toothed Rat (*Mastacomys fuscus*) has been recorded within all of the resort areas (NSW Parks and Wildlife Service 2020), and is restricted in NSW to areas above 1000 m.
- Guthega Skink (*Liopholis guthega*) is known to occur at Charlottes Pass, Thredbo and Perisher Range Alpine Resort areas (NSW Parks and Wildlife Service 2020)
- Southern Corroboree Frog (*Pseudophryne corroboree*) has been known to occur in the precinct in the Perisher Range area.

- Sphagnum bogs and fens area important components of the Alpine Complex. Bog and Fen communities offer breeding sites for many threatened and Migratory fauna which occur in the area, including the Alpine Tree Frog, Alpine Water Skink, Latham’s Snipe and Broad-toothed Rat (Connell Wagner Pty Ltd 2000).
- Habitat for numerous other threatened fauna species including Olive Whistler, Guthega Skink, Mountain Galaxias, Eastern False Pipistrelle, Large Bent-wing Bat, Greater Glider, Eastern Pygmy Possum, Smoky Mouse, Spotted-tailed Quoll, Koala, Gang-gang Cockatoo, Flame Robin, Scarlet Robin, Pink Robin, Diamond Firetail, Brown Treecreeper and Powerful Owl (Connell Wagner Pty Ltd 2000, Biosis 2017).

Targeted threatened species surveys have not been undertaken for the project and are recommended to inform future Development Applications. Many of the species have specific seasonal survey requirements which are restricted to spring and summer (Table 3.2). Fauna survey should be undertaken during appropriate conditions including seasonal requirements as listed but also considering snow cover. For example, there may still be snow in Guthega Skink habitat areas up until November and this may limit adequate survey.



Photo 3.3 Mountain Pygmy Possum

Photo credit: Alicia Palmer



Photo 3.4 Boulder field habitat at Charlotte Pass

Photo credit: Lukas Clews

Table 3.2 Threatened fauna known or likely to occur within the Alpine Precinct

Scientific name	Common name	BC Act ¹	EPBC Act ²	Survey timing
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo (breeding habitat only)	V	–	Dec – Jan
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle (Breeding)	V	–	July – Dec
<i>Hieraetus morphnoides</i>	Little Eagle (Breeding)	V	–	Aug – Oct
<i>Hirundapus caudacutus</i>	White-throated Needletail	–	V, M	All
<i>Petroica rodinogaster</i>	Pink Robin	V	–	All year
<i>Ninox connivens</i>	Barking Owl (breeding habitat only)	V	–	May – Dec
<i>Ninox strenua</i>	Powerful Owl (breeding habitat only)	V	–	May – Aug
<i>Tyto novaehollandiae</i>	Masked Owl (breeding habitat only)	V	–	May – Aug

Scientific name	Common name	BC Act ¹	EPBC Act ²	Survey timing
<i>Burramys parvus</i>	Mountain Pygmy-Possum	E	E	Oct – March / Species
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V	–	Oct – March / Species
<i>Mastacomys fuscus</i>	Broad-toothed Rat	V	V	Oct – May
<i>Pseudomys fumeus</i>	Smoky Mouse	CE	E	Sep – early Dec, then Feb – Apr
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	All year
<i>Litoria verreauxii alpina</i>	Alpine Tree Frog	E	V	Nov – Dec
<i>Pseudophryne corroboree</i>	Southern Corroboree Frog	CE	CE	January
<i>Cyclodomorphus praealtus</i>	Alpine She-oak Skink	E	E	Oct – April (survey when other skinks (e.g., Eulamprus) are active, difficult to survey and often assumed present)
<i>Liopholis guthega</i>	Guthega Skink	E	E	Oct – April

(1) E = Endangered, CE= Critically Endangered under the BC Act.

(2) E = Endangered, CE= Critically Endangered under the EPBC Act.

(3) The range of this species has been restricted and is likely now extinct from the Snowy SAP Alpine Precinct.

In addition to the candidate fauna species identified in the table above, habitat for two species listed under the *Fisheries Management Act 1994* (FM Act) has been mapped within the study area. These are the:

- Alpine Redspot Dragonfly (*Austropetalia tonyana*), listed as Vulnerable under the FM Act which only occurs amongst rocks, logs and moss within the splash zone of waterfalls or in the nearby stream edge. Distribution includes Thredbo River and riparian areas throughout the Alpine Precinct.
- River Blackfish (*Gadopsis marmoratus*), in which the Snowy River population is listed as Endangered. Distribution includes Thredbo River and Mowamba River.

Preservation of riparian corridors, including setbacks would protect and preserve habitat for these species.

3.3 Other significant values

3.3.1 Connectivity corridors

Development of the subject lands within the Alpine Precinct are unlikely to have any broad landscape scale impacts to connectivity as these areas are already ‘keyhole’ areas within the large expanse of surrounding habitats. There are unlikely to be new barriers to landscape movement as a result of developing these areas. However, small scale habitat connectivity has been heavily impacted in ski resorts and the cumulative impacts have not been well addressed in the past. The Precinct-Regional SEPP amendment (December 2022) includes a requirement to consider cumulative impacts.

Small scale habitat connectivity for small less mobile threatened mammal species such as Broad-toothed Rat, Mountain Pygmy-possum and Smoky Mouse, reptile species including Alpine She-oak Skink and Guthega Skink, and the Alpine Tree Frog will be a consideration as the design of the various precinct developments. Protection of habitat and preservation of small scale connectivity for these species needs to be maintained and the cumulative effect of numerous small scale developments considered in the assessment process.

3.3.2 Old growth Snow Gum woodland

In the 2002–2003 summer period, a series of wildfires burnt approximately 486,000 ha of the 673,542 ha National Park (NSW National Parks & Wildlife Service 2006). The ecological impact of such an event can be significant, resulting in changes to vegetation community distribution and age classes, loss of habitat, localised species extinctions, and impacts to soil and water (NSW National Parks & Wildlife Service 2006). Woodland habitats provide critical habitat resources for a variety of fauna, including tree-hollows which are only present in mature woodland vegetation (ng environmental 2008). Unburnt areas of old growth Snow Gum woodland are therefore of high conservation value across the park. A large unburnt area of Snow Gum (*Eucalyptus niphophila*) extends along the Perisher Ranges from Charlottes Pass to Perisher Resort which is reported to be the largest area of unburnt woodland in the park (ng environmental 2008, NSW Parks and Wildlife Service 2020).



Photo 3.5 Example of Snow Gum Woodland at Perisher showing *Eucalyptus niphophila* trees



Photo 3.6 Example of Snow Gum Woodland at Perisher showing large *Eucalyptus niphophila* trees



Photo 3.7 Example of Snow Gum Woodland at Charlottes Pass showing large *Eucalyptus niphophila* trees



Photo 3.8 Example of Snow Gum Woodland at Charlottes Pass showing young tree regrowth

Photo credit: Lukas Clews

3.3.3 Boulder fields

The boulder fields are known to provide habitat for threatened mammal species including Broad-toothed Rat (*Mastacomys fuscus*), Mountain Pygmy-possum (*Burramys parvus*) and Smoky Mouse (*Pseudomys fumeus*). Monitoring sites for Mountain Pygmy-possum are present in the rocky habitats at Charlotte Pass and within the Perisher Range. This habitat is also potentially suitable for threatened reptile species including Alpine She-oak Skink (*Cyclodomorphus praealtus*) and Guthega Skink (*Liopholis guthega*). Alpine Tree Frog (*Litoria verreauxii alpina*) is also known to be associated with these areas. Granite substrate and decomposing granite soils and rocky areas including sub-surface boulders is a habitat constraint for Guthega Skink.

Charlotte Pass contains boulder fields. Steep scree slopes and boulder fields are also present within the broader Assessment Area at Guthega and Perisher.



Photo 3.9 Example of alpine boulder field at Charlottes Pass, Kosciuszko National Park



Photo 3.10 Boulder field at Charlottes Pass, Kosciuszko National Park

4 Vegetation management strategy

4.1 Aims and objectives

The objectives for vegetation management within the Alpine Precinct is to avoid, conserve and enhance biodiversity values of the region. Specifically, the objectives are to:

- preserve, maintain and improved the Precinct’s unique biodiversity values
 - avoid impacts to threatened ecological communities, threatened species and their habitats
 - minimise the removal of existing native vegetation wherever possible
 - preserve and rehabilitate natural waterways, which contribute to the area’s character and biodiversity
 - improve water quality and reduce stormwater run-off particularly to sensitive habitats
 - minimise impacts within undisturbed areas of Kosciuszko National Park
 - maintain and improve condition of important habitats such as rocky boulder fields, unburnt areas of old growth Snow Gum woodland, bogs and fens
 - maintain and improve condition and extent of endemic alpine biodiversity with highly restricted distributions: Mountain Pygmy Possum, Alpine Skink and Guthega Skink.
-

4.2 Management, treatments, and plantings active and passive open space, shared trails, and paths

The Kosciuszko National Park Plan of Management outlines a management objective for native flora, that native plant species and communities are maintained and/or rehabilitated and include a representative range of successional stages and age classes (Department of Planning Industry and Environment 2021). Accordingly, native flora species used for planting and landscaping will utilise native species found in surrounding plant communities, and aim to re-establish biodiversity appropriate to the area and maintain the landscape character.

Revegetation within Sub-Precincts will target species consistent with field-verified vegetation communities and would aim to provide an integration of public areas and open space with the natural features of the landscape. Revegetation within each landscape treatment will vary and be dependent on the existing conditions and level of disturbance to existing vegetation communities. Around open space and public use areas this will include mass planting of understorey species (groundcover and shrub species). Key locations for understorey species include the edges of native habitats (to provide a disturbance buffer for high value biodiversity areas), and around the boundaries of paths and tracks (to provide visual cues to these areas).

Planning for revegetation will require consideration of both the natural (i.e., propagation and establishment of plants) and operational (i.e., budgeting, planning and approvals processes) factors involved. As outlined in the ‘Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park’ (Department of Environment and Climate Change 2007), the best times for planting in the alpine areas include November and March, with October and April also favourable depending on snow falls. Planting may be undertaken during summer; however consistent watering is likely to be required in these circumstances due to dry conditions. Site preparation, availability of source material and viability of species used must also be carefully considered during revegetation planning and palette selection.

4.3 Weed control

Weed control in all high biodiversity areas will be undertaken to increase vegetation integrity.

Weed management in Kosciuszko National Park is governed by the provisions of the *Noxious Weeds Act 1993*, the *National Parks and Wildlife Act 1974* and national, state and regional weed control strategies (Department of Planning

Industry and Environment 2021). The Plan of Management for the park outlines that weed control programs should aim to reduce (or eradicate where possible) existing weed species within the park, ensure no new weed species or populations are introduced, and undertake weed control in ways that protect the natural values of the park. In order to prevent weed spread and reduce the possibility of weed introduction into these areas a number of protocols must be put in place to protect biodiversity values during the development process including (Department of Environment and Climate Change 2007, Department of Planning Industry and Environment 2021):

- Ensure materials and equipment are clean and weed free and wash-down/disinfect between sites to remove possibility of cross-site contamination.
- Use of clearly defined access routes for vehicles and machinery, access via disturbed areas and avoidance of high-sensitivity biodiversity value areas.
- Designated storage and stockpile areas during construction in existing disturbed, weed-free areas to reduce possibility of contamination.
- Appropriate disposal of waste material, including excess soils, weeds, planting material or erosion controls.
- Limit possibility of weed growth through measures such as minimising bare ground exposure (minimise soil disturbance area, establish rapid plant growth through mulching).
- Avoid importation of any materials that may have weed contamination (collected seed, soils or plant matter such as straw mulch).
- Use plant species of local provenance for revegetation and soil stabilisation work
- Advise all relevant workers on weed hygiene procedures including park employees, contractors, lessees, construction staff, and visitors.

Weed control methods will be informed by the physical and chemical control options published by the Department of Primary Industries using the NSW WeedWise database (Department of Primary Industries 2023) and in accordance with ‘The Regional Pest Management Strategy 2012-17: Southern Ranges Region’ (Office of Environment & Heritage 2013) which outlines priorities for control and method options for a number weed species targeted during prioritised regional pest programs in Kosciuszko and the surrounding region . A list of the main weed species found within Kosciuszko National Park is also outlined in the ‘Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park’ (Department of Environment and Climate Change 2007) with the guidelines identifying a number of common weeds that should be controlled within Kosciuszko ski resort areas.

Field investigations identified 63 exotic species across the 12 alpine Sub-Precincts (detailed in Appendix A), one of which is listed as a Weed of National Significance (Department of Primary Industries 2023) and 24 of which are listed under the ‘Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park’ as either (1) most significant weeds of Kosciuszko Ski resort areas (eight species) (2) other common and important weeds occurring in Kosciuszko National Park (13 species) or (3) weeds that are common but should be controlled (three species) (Department of Environment and Climate Change 2007). Weed control will be undertaken for all high biodiversity areas, disturbed and revegetated areas including open space, shared trails and paths and bushfire protection zones. Weed control is required prior to planting (at least 6 months in advance) and as part of ongoing management of these areas.

4.4 Revegetation

Revegetation will be undertaken for areas temporarily disturbed during construction work. This has been recommended in general accordance with the Biodiversity Conservation Trust’s *Restoring Native Vegetation Guidelines* (2020), the *Kosciuszko National Park Plan of Management* (Department of Planning Industry and Environment 2021) and the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (Department of Environment and Climate Change 2007).

Key objectives for successful revegetation efforts include (Department of Environment and Climate Change 2007):

- tailoring approach to individual site characteristics and conditions
- use of indigenous plant species which are suited to conditions, and benefit local biodiversity

- management continuity (i.e., consistency of personnel used to oversee the planning, planting, maintaining and monitoring of site)
- skilled rehabilitation crews that are well trained in appropriate use of resources and revegetation process
- advanced consideration of timing and constraints (availability of resources, natural processes (i.e., seed availability, propagation timing, planting timing))
- ongoing monitoring (monitoring revegetated sites for several years to ensure success and lessons learned).

Revegetation planning, site preparation and techniques should follow the latest approved rehabilitation guidelines for the Kosciuszko National Park. Current guidelines are the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (Rehab Guidelines) (Department of Environment and Climate Change 2007).

4.4.1 Planting palate

Species planting lists for rehabilitation are provided in *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (Rehab Guidelines) (Department of Environment and Climate Change 2007). The planting palate should follow these (or updated) guidelines and aim to recreate plant community types known to occur or likely to occur based on field verified vegetation, adjoining remnant native vegetation, landscape position and existing mapping. The species planting lists could be supplemented with locally occurring native species recorded within the site or listed as occurring within the relevant plant community type (e.g., as listed in the Department of Planning and Environment’s Vegetation Classification Database (2023)).

The soil landscape must be worked with to ensure the correct species are used to ensure survival of plantings and maintain the landscape character.

Rehabilitation of ski slopes with tough, low growing alpine shrubs helps to bind soils providing erosion controls and benefits biodiversity without interfering with slope management. A shrub layer more than 20 centimetres high provides valuable habitat for shelter and connectivity for native fauna such as Mountain Pygmy Possums and Broad-toothed Rats.

4.4.2 Planting densities

Planting densities will be informed by existing site conditions. Planting densities should follow the latest approved rehabilitation guidelines for the Kosciuszko National Park. Current guidelines are the *Rehabilitation Guidelines for the Resort Areas of Kosciuszko National Park* (Rehab Guidelines) (Department of Environment and Climate Change 2007).

Revegetation and rehabilitation must be undertaken including supplementary maintenance planting to reach benchmark values for the target Plant Community Type in cover, richness and other biodiversity values as outlined in the Vegetation Classification Database (Department of Planning and Environment 2023).

4.5 Habitat augmentation

Habitat augmentation refers to creating habitat for native fauna. Opportunities to create fauna habitat should be taken wherever possible.

Conservation measures for threatened species include the following habitat augmentation actions:

- within woodland areas:
 - retain hollows from impact areas and relocate to areas to be retained
 - plant native hollow-producing species
 - install artificial hollows (nest boxes) in areas currently lacking hollows
- retain coarse woody debris (i.e., fallen logs) as habitat
- stockpile and re-use of bushrock and bedrock as habitat
- planting of heath species near waterways or wet areas may create Broad-toothed Rat habitat.

Length of fallen timber, hollows and litter are function attributes measured using BAM 2020 and will be captured during baseline data collection and monitoring and compared to benchmarks provided in Vegetation Classification database (Department of Planning and Environment 2023).

4.6 Traditional land management

4.6.1 *What is traditional land management?*

The practice of traditional land management includes a wide range of environmental, natural resource, commercial, economic and cultural resource management activities undertaken by individuals, groups and organisations across Australia. (Hill et al. 2013). These practices have evolved within Aboriginal and Torres Strait Islander societies as a part of their custodian responsibilities to land, sea, water and sky. Since the colonisation of this continent, the European concept of ‘wilderness’ persists in Australian thinking, however it fails to recognise the involvement of Aboriginal and Torres Strait Islander people in curating and maintaining ecological systems for a prolonged period of time which have evolved over at least 50,000 years (University of Melbourne). The colonisation process has changed the landscape to what it is today, with significant concerns over declining ecosystem health, unsustainable land and water management practices, numerous species on the brink of extinction, and climate change (University of Melbourne).

Traditional land practices and management originated from a reciprocal relationship between Aboriginal and Torres Strait Islander societies and their kinship connections to their Country. The activities are diverse and relate to the conditions and features of the place where people belong. Activities can include customary or cultural resource management (e.g., hunting, gathering, burning, ceremony, knowledge sharing) and actions to improve conditions in settlements. Some examples include: dust mitigation, firewood collection, and management of water supplies. They also include commercial economic activities such as bush harvest for sale, pastoral, management, art; and threat abatement for example: weed and feral animal control, fire management, threatened species management and revegetation (Hill, R., et al. 2013).

In contemporary times the involvement of Aboriginal and Torres Strait people in land management has increased and the understanding that they hold different aims, goals and outcomes across the landscape according to the location of cultural sites, contemporary land tenure arrangements and the availability of funding to engage in particular activities is slowly being understood by the broader community (University of Melbourne). Today there is a shift to recognise that Aboriginal and Torres Strait people have sophisticated sustainable land management systems and there is growing adoption of these practices to repair the damage done by European farming activities (Gillies, 2017).

4.6.2 *Cultural fire practices*

Cultural fire management has a long history of use in the Australian Alps, with the eastern part of the NSW Alps (extending from Kiandra south to the upper Buchan River in Victoria) managed by the Ngarigo people. Cultural fire use has a number of purposes including for access, warmth, to clear ceremonial pathways, tool-making and food. Fire can be used as a hunting mechanism to drive animals into certain areas and to promote the growth of new grasses and other plants which attract animals to hunting grounds (Zylstra 2006).

The knowledge of when to burn the different ecosystems, the interval between fires, the extent of each burn and the type of fire (e.g., a cool burn that trickles through the undergrowth removing small saplings, reducing fuel loads and encouraging grasses to flourish) is a part of the knowledge that Aboriginal people hold and have maintained throughout generations. This created a mosaic of different vegetation types with differing structures and levels of combustion resulting in ecosystems that were robust and able to reduce the possibility of the hot wildfires we have seen in recent years.

Since colonisation the fire regime established by using these traditional methods was disrupted as fire was regarded as something to fear and be prevented by the settler societies. This has created a different ecosystem moving away from open grassy forest systems to become thicker bush and scrub and bushland that is more prone to hot wildfires (Gillies, 2017).

Cultural fire management is a complementary management pathway for looking after Country, including waterways and habitat by using the right fire at the right time for that type of Country. The alpine environment has a long history of management by the native Ngarigo people, and fire management may be a key tool to promote vegetation growth in these areas. Native grasses and groundcover species are encouraged through the appropriate use of fire, which in turn encourage native animals to use and access resources they provide. Areas adjacent to waterways, road reserves and other open space can be managed in a culturally appropriate way that inevitably reduces erosion, wildfire damage and habitat degradation while fostering a healthy relationship with community by providing meaningful work opportunities and a sense of pride and value.

Any burns, including as part of a cultural burning program, would be undertaken by NPWS and/or RFS in conjunction with Traditional Owners.

4.6.3 *Traditional water management*

Aboriginal people have been observing and working with natural systems across this continent for millennium and understanding water and how to care for it has played a significant part in their survival on the driest inhabited continent. Water helped in defining language boundaries and ceremonial places and also underpins many land management practices (Rose, DB, 1996).

Aboriginal people have a cultural obligation to protect both surface and ground water sources. Over many centuries Aboriginal people have evolved their water storage practises and evidence of Aboriginal people using and protecting precious water sources is still found in many places despite the ongoing effects of colonisation (Queensland Government, undated).

The presence of particular birds, animals and plants can help to find water, as it is understood by Aboriginal people that in particular areas many species of bird, animal and plant life could not exist without a constant water source. Following certain species during seasonal movements of animals would lead the trackers directly to water (Queensland Government, undated).

The act of sharing cultural knowledge through Dreaming stories shows the connection of ancestors to water sources. Many of these stories highlight the role of spirits in creating sources of water—rivers, creeks, rock wells, lakes, lagoons, seas and springs—and the ongoing supply and control of these watercourses by ancestral spirits and creation beings. Adults memorised the sequence and locations of water supplies and taught their children while travelling along the chain of water sources (Bayley, 1999).

Many traditional rites and activities are triggered by water-related phenomena, such as particular species of fish spawning, or particular types of plant going into flower. It is through observations and awareness of these changes made over millennia that provide insight into changes of the health of rivers and groundwater systems.

4.6.4 *Opportunities*

Creating opportunities to employ Monero Ngarigo rangers, land managers and Knowledge Holders to be a part of the restoration process is an offering which can have a myriad of potential benefits beyond the project lifetime. The sense of ownership, value and respect which can come out of such employment opportunities can result in empowering the Monero Ngarigo community to have a sense of belonging, custodianship and responsibility to look after these parts of their Country that they have historically be restricted from.

In accordance with the Kosciuszko National Park Plan of Management, landscape restoration offers the opportunity to provide cooperative ongoing management of sites and within this promote understanding and appreciation of the cultural values of the park and natural features through interpretation and education (Department of Planning Industry and Environment 2021). Cooperative management may also include revegetation and landscaping with traditional food species, and ‘naming’ of features or areas using traditional Aboriginal names for places.

4.7 Management for bushfire protection

All prescribed burning and other fire management activities within the Alpine Precinct must adhere to the biodiversity fire regime threshold which is the time between a series of fire events that a suite of plants and animals within the defined community requires to recover after a fire, before being at risk from a decline in biodiversity. This includes accounting for minimum fire interval (i.e., the length of time required between fires necessary to avoid species extinctions) and the maximum fire interval (i.e., time since fire that species may be expected to be lost from a community due to absence of fire). In sensitive alpine areas, such as sub-alpine grasslands and heathlands, fire should be actively excluded where possible, as recovery in these vegetation formations can be extremely slow due to low productivity at higher elevations (Department of Environment and Climate Change 2008).

Fire control, suppression and containment activities must be undertaken in a way that minimises environmental impacts. This would include minimising vegetation removal or impact in high biodiversity value areas, particularly areas containing threatened ecological communities or threatened species, areas with erosion potential and sensitive riparian areas. Specified guidelines on the for priority habitat management during burning and suppression operations are outlined in the Kosciuszko fire management strategy, along with other general guidelines for catchment and erosion impacts, regeneration/rehabilitation area impacts, and weed and pest management. In general, bushfire containment operations must make use of existing constructed or natural fire controls or previous control lines, with wet-lines used preferentially to create as temporary advantage in sensitive environmental areas. In addition, all fire management areas such as helipads, temporary trails and control lines must be rehabilitated wherever possible (Department of Environment and Climate Change 2008).

4.8 Offsets

Offset rules govern the types of offsets that can be used to meet an offset obligation under the Biodiversity Offsets Scheme (BOS) and these rules are established by the Biodiversity Conservation Regulation 2017. A key aspect of the BOS is the like-for-like offset rules requiring a biodiversity conservation action that benefits the entity impacted. The Alpine Precinct contains unique species and biodiversity values that are largely restricted to within Kosciuszko National Park. In order to meet the like-for-like offset rule, any impacts to these unique values would require offsets to be developed within the National Park.

Direct like-for-like offsets for impacts within the Alpine Precinct will be developed following the approved offset strategies of Snowy 2.0 and Snowy Transmission. In these strategies, residual biodiversity impacts have been offset within the National Park through the development of direct land management actions for impacted species and vegetation using equivalent areas to generate offset liabilities under BAM.

As a first preference, this will be managed on a Sub-Precinct basis to ensure offset results in management and improvement of the biodiversity impacted within the locality and provides the opportunity for a more consolidated and strategic approach. Biodiversity offset arrangements within Kosciuszko National Park must be tailored to deliver appropriate outcomes for this unique sensitive environment and will require further consultation and investigation with National Parks and Wildlife Service, and the Department of Planning and Environment.

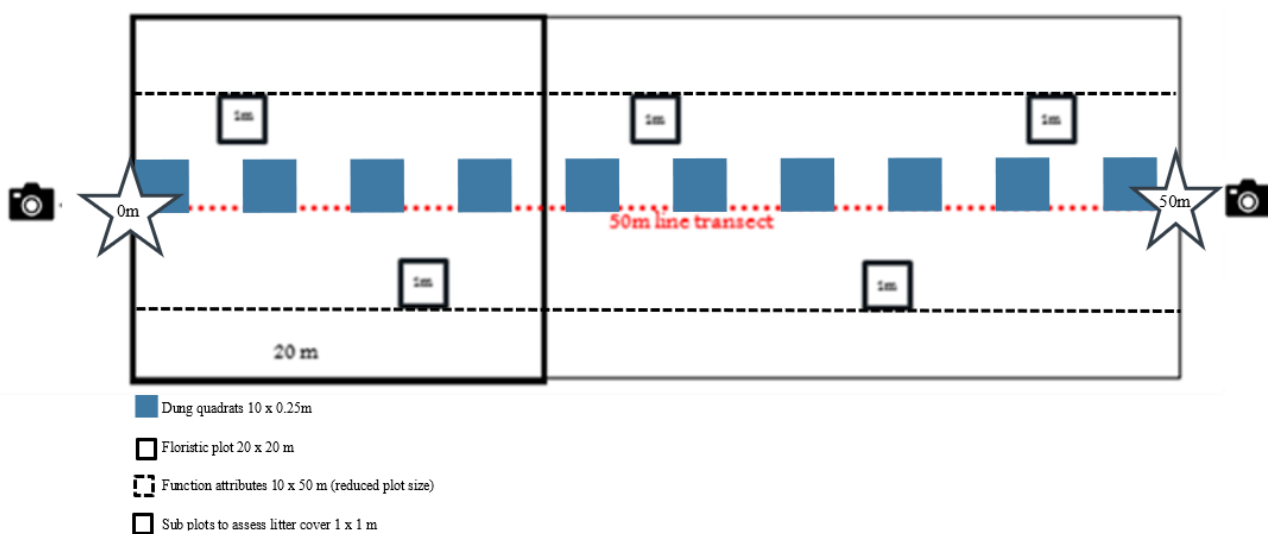
4.9 Monitoring

Monitoring of remnant vegetation has been designed in general accordance with the Biodiversity Conservation Trust's Ecological Monitoring Module (2020) and Operational manual (2021).

Monitoring using BAM 2020 through permanent monitoring plots established during baseline data collection is the preferred approach. Monitoring must be carried out yearly within the Alpine Precinct until year 10 (when plantings are assumed to be established) and then at 5-yearly intervals.

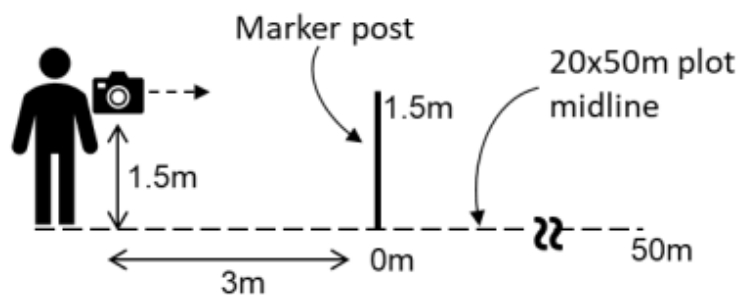
Data will be collected at each monitoring location including:

- vegetation integrity plot data in accordance with BAM 2020 (refer to Figure 4.1):
 - location
 - vegetation structure and dominant species and vegetation condition
 - native and exotic species richness (within a 400-metre squared quadrat)
 - number of trees with hollows (in reduced 500 metre squared quadrat)
 - number of large trees and stem size diversity (in reduced 500 metre squared quadrat)
 - total length of fallen logs (in reduced 500 metre squared quadrat)
 - litter cover
 - evaluation of regeneration
- photo points at 0 m and 50 m (refer to Figure 4.2)
- dung assessment.



Source: BCT, 2021

Figure 4.1 Layout for monitoring plot and sub plots



Source: BCT, 2021

Figure 4.2 Set up for photo points at monitoring plots

5 Design guidance

The Alpine Precinct contains significant biodiversity and is of high conservation value. Within the Alpine Precinct, the opportunities are to improve visitor experiences to allow greater engagement with the unique environment, including:

- low impact sustainable development
- focussing development within already disturbed areas as far as possible
- locating development near to existing infrastructure to limit the need for additional impacts associated with creation of infrastructure and services (e.g., roads and utilities).
- co-locating (and infill) developments as to minimise the spread of impacts on biodiversity values
- biodiversity offset arrangements within the Kosciuszko National Park that are tailored to deliver appropriate outcomes for this unique sensitive environment. The potential for biodiversity offset arrangements within the Kosciuszko National Park requires further consultation and investigation with National Parks and Wildlife Service, and the DPIE.

General design principles for Alpine Precinct include:

- Development should be concentrated in and around already disturbed areas. Wherever possible, development will provide a buffer between areas of high ecological values and buildings and structures.
- Development will be focused on colocation and redevelopment to minimise the impact to biodiversity conservation values.
- Locating development nearby existing infrastructure to limit the need for additional impacts associated with creation of infrastructure and services (e.g., roads and utilities).
- Development within the Kosciuszko National Park will minimise its impact to the environmental and natural landscape, implement sustainable development and consider the impacts of bushfire asset protection zones (APZ).
- Development within areas of high conservation value (Montane Peatlands and Swamps and good condition vegetation) is avoided or minimised and offset.
- Riparian corridors must be preserved and revegetated. Setbacks to the corridors are to be provided in accordance with the Guidelines for Controlled Activities on Waterfront Land (2018, NRAR).
- Any revegetation or planting within the National Park will utilise locally occurring native species, with seed or tubestock sourced locally from a licensed supplier with the relevant collection licences.
- Development must offset any impacts to biodiversity through direct management measures within Kosciuszko National Park and should be related to the biodiversity impacted.

Design guidance is provided below to identify how these unique biodiversity values will be protected during the short-term construction phase of development and in the long-term use of the area.

5.1 Minimising impacts to Native vegetation and habitats

5.1.1 *Native vegetation*

The Alpine Precinct and 12 associated Sub-Precincts all occur within the Snowy Mountains alpine and sub-alpine areas of Kosciuszko National Park. These alpine environments are extremely unique, occupying less than 0.15% of Australia's landmass and receive an estimated one third of Australia's rainfall, which is slowly released into the lowland ecosystems via peaty soils and unique ecological communities such as bogs which act as natural reservoirs. The Australian Alps also support unique and diverse flora and fauna assemblages, many of which are locally or regionally endemic. The alpine environments of Kosciuszko are under ongoing threat from loss of vegetation and habitats, weed and pest invasion and ongoing pressures from climate change. For these reasons, all remaining areas of native vegetation that fall within the Alpine Precinct are significant and intrinsic to the unique character and value of the national park.

Impacts to native vegetation must be avoided wherever possible during project design, with particular emphasis on avoiding areas of sensitive biodiversity value (i.e., threatened ecological communities). These communities are often important for wildlife corridors and habitat refuges for many plant and animal species, including threatened species and other flora or fauna that are in decline.

The Alpine Precinct includes threatened ecological communities at Charlottes Pass, Perisher, Guthega, Smiggin Holes, Thredbo and the Kosciuszko Tourist Park.

(see section 3.2):

- Alpine Sphagnum Bogs and Associated Fens- listed as endangered under the EPBC Act.
- Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions – listed as an Endangered Ecological Community under the BC Act.

Revegetation of understorey species around native vegetation threatened ecological community, and significant habitat areas must be undertaken to provide a buffer and mitigate potential impacts in high-use areas.

5.1.2 *Significant habitats*

A number of key areas are identified for having significant habitat value and must be avoided wherever possible during the design process. These areas are significant due to the important habitat resources they provide, their known habitat value for threatened alpine species, and the landscape connectivity value they provide. These habitats include:

- unburnt and mature Snow Gum woodland
- alpine boulder fields.

5.1.3 *Connectivity corridors*

The cumulative effect of small-scale development impacts require consideration during the design process and protection of habitat and design must ensure that small scale connectivity for threatened species is maintained. Small scale habitat connectivity has been heavily impacted in ski resorts and the cumulative impacts have not been well addressed historically but removal of this habitat type may have significant implications for threatened alpine mammal and reptile species which are less mobile such as Broad-toothed Rat, Mountain Pygmy-possum and Smoky Mouse, reptile species including Alpine She-oak Skink and Guthega Skink, and the Alpine Tree Frog. This must be of particular consideration during design of Alpine Precincts near known habitat areas, such as Charlottes Pass, Blue Cow, Thredbo and Perisher.

In planning infill development, an important aspect to consider is retaining or rehabilitating areas that provide habitat connectivity to undisturbed remnant vegetation islands throughout the village area and into surrounding National Park. This enhances the biodiversity value of those islands and is especially important for small, threatened fauna species (e.g., Broad Toothed Rat, Mountain Pygmy Possum, Alpine She-oak Skink).

5.1.4 *Sub-Precinct biodiversity values and areas for retention*

Across the Alpine Precinct, a number of areas have been identified as containing high biodiversity value and are recommended as areas to be retained, during design planning. These areas include patches of threatened ecological communities, riparian areas and remnant native vegetation containing habitat for threatened alpine fauna. A summary of the specific biodiversity constraints (and recommended areas for retention during development design) for each alpine Sub-Precinct are provided in the sections below.

5.1.4.1 *Thredbo Village Sub-Precinct*

The Thredbo Village Sub-Precinct contains vegetation of various condition, including some areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas (i.e., areas around buildings or previously occupied by old buildings) with no or limited native vegetation.

Areas of high biodiversity value within the Sub-Precinct include:

- areas of threatened ecological communities including:
 - ‘Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion’ which is listed as a Critically Endangered Ecological Community under the BC Act’. Redevelopment of the golf course should be done in a manner that retains the existing stands of this community.
 - ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act.
- Thredbo River riparian zone.

5.1.4.2 Thredbo Ranger Station Sub-Precinct

The Thredbo Ranger Station Sub-Precinct contains vegetation of various condition, including some areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation.

Areas of high biodiversity value within the Sub-Precinct include:

- areas of the threatened ecological community ‘Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion’ which is listed as a Critically Endangered Ecological Community under the BC Act’
- a riparian area along the Thredbo River.

Where the threatened community occurs as shrubland along the Thredbo River could be sensitively developed for low impact eco-tourism if planned and constructed carefully to minimise the overall footprint and indirect impacts.

5.1.4.3 Perisher Village Sub-Precinct

The Perisher Village Sub-Precinct is dominated by areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. These areas are dispersed throughout the Sub-Precinct around existing buildings and in areas that were previously occupied by old buildings.

Areas of high biodiversity value within the Sub-Precinct include:

- Areas of the threatened ecological community ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act. This community occurs in various riparian and low lying areas within the sub-precinct including to the north of the existing carpark. Impacts to this community should be avoided wherever possible.
- Snow Gum Woodland, particularly areas in good condition, which provide potential habitat for threatened species.
- A population of the threatened *Rytidosperma vickeryae* (Perisher Wallaby Grass) to the north of the existing Perisher car park and this site should be avoided. Indirect impacts to this species and the surrounding vegetation must be minimised through design and construction controls, particularly indirect/post-construction impacts that might result from sediment laden stormwater and snow push containing gravel and other contaminants.

5.1.4.4 Piper’s Gap Sub-Precinct

Similar to the adjacent Perisher Village, the Piper’s Gap Sub-Precinct contains areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation.

Areas of high biodiversity value within the Sub-Precinct include:

- Areas of the threatened ecological community ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act. 7.
- Snow Gum Woodland which provides potential habitat for threatened species.
- The population of the threatened *Rytidosperma vickeryae* (Perisher Wallaby Grass) to the north of the existing Perisher car park and this site should be avoided. Indirect impacts to this species and the surrounding vegetation must be minimised through design and construction controls, particularly indirect/post-construction impacts that might result from sediment laden stormwater and snow push containing gravel and other contaminants.

5.1.4.5 Smiggin Holes Sub-Precinct

Similar to Perisher Village, the Smiggin Holes Sub-Precinct contains areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. These areas are dispersed throughout the Sub-Precinct around existing buildings and there is a large grassy area in the north of the precinct suitable for development.

Areas of high biodiversity value within the Sub-Precinct include:

- Areas of the threatened ecological community ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act.
- Snow Gum Woodland which provides potential habitat for threatened species.

5.1.4.6 Guthega Sub-Precinct

Similar to Perisher Village, the Guthega Sub-Precinct contains areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. These areas are dispersed throughout the Guthega Sub-Precinct around existing buildings and roadsides with a larger area towards the Guthega Pondage.

Areas of high biodiversity value within the Sub-Precinct include:

- Areas of the threatened ecological community ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act.
- Snow Gum Woodland which provides potential habitat for threatened species.

5.1.4.7 Charlotte Pass Sub-Precinct

The Charlottes Pass Sub-Precinct is dominated by areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. These areas are dispersed throughout the Charlottes Pass Sub-Precinct around existing buildings and roadsides.

Areas of high biodiversity value within the Sub-Precinct include:

- Large areas of the threatened ecological community ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act.

- Alpine Shrubland and Snow Gum Woodland which provide potential habitat for threatened species.

5.1.4.8 Island Bend Sub-Precinct

The Island Bend Sub-Precinct contains vegetation of various condition, including some areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. Exotic dominant grassland areas and highly disturbed areas with no or limited native vegetation are the most suitable areas for future development. There are also likely to be smaller pockets or clearings within other areas of the better condition patches of vegetation too small to map that would be suitable for camping areas or cabins. Existing roads should be used wherever possible.

Areas of high biodiversity value within the Sub-Precinct include:

- Areas of threatened ecological community ‘Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion’ which is listed as a Critically Endangered Ecological Community under the BC Act’.
- Forested areas which provide potential habitat for threatened species.

5.1.4.9 Sponars Chalet Sub-Precinct

The Sponar’s Chalet Sub-Precinct is predominantly dominated by exotic vegetation with little biodiversity value. There are a few patches of native vegetation, however, that are likely to provide habitat for threatened species and these should be retained wherever possible, with development design restricted to existing highly disturbed areas including exotic dominant grassland, though the scattered trees and small stands of trees within the grasslands should be retained.

Areas of biodiversity value within this Sub-Precinct include:

- Areas of Snow Gum Woodland to the west of the chalet, and shrublands between the chalet and the lake which provide potential habitat for threatened species.

5.1.4.10 Ski Rider Hotel Sub-Precinct

The Ski Rider Hotel Sub-Precinct contains vegetation of various condition, including some areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. This includes the disturbed areas around buildings, car parks, and internal access roads.

Areas of biodiversity value within the Sub-Precinct include:

- Large trees around existing buildings and the car park are potential habitat for native fauna and threatened species and should be retained if possible.
- Areas of vegetation outside of the existing disturbed area which provide potential habitat for threatened species.

5.1.4.11 Kosciuszko Tourist Park Sub-Precinct

The Kosciuszko Tourist Park Sub-Precinct contains vegetation of various condition, including some areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas or areas with no or limited native vegetation. This includes the existing camping ground which contains buildings, camping areas, car parks, and internal access roads. Renewal of the old camping area in the south of the Sub-Precinct should be done in a manner that minimises the footprint and therefore minimises impacts to biodiversity.

Areas of biodiversity value within the Sub-Precinct include:

- Large trees providing canopy over the internal access roads and the campground are potential habitat for native fauna and threatened species and should be retained if possible.
- Areas of Snow Gum – Mountain Gum shrubby open forest in moderate condition (in the south of the Sub-Precinct) which provide potential habitat for threatened species.

Areas of sub-alpine peatland within this Sub-Precinct form part of the threatened ecological community ‘Montane Peatlands 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 listed under the BC Act and the Alpine Sphagnum Bogs and Associated Fens’ which is listed as an Endangered Ecological Community under the EPBC Act. However, these areas occur in poor condition and do not pose a significant constraint to development, though the areas are wet and are therefore unlikely to provide suitable conditions for camping.

5.1.4.12 Bullocks Flat Sub-Precinct.

The Bullock’s Flat Sub-Precinct is made up of predominantly disturbed areas though does contain some small areas of high biodiversity value which should be retained wherever possible, with development design restricted to existing highly disturbed areas which include the Ski Tube and car parks.

Areas of biodiversity value within the Sub-Precinct include:

- Trees within the existing disturbed areas may represent potential habitat for native fauna and threatened species and should be retained if possible.
- Areas of threatened ecological community ‘Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion’ which is listed as a Critically Endangered Ecological Community under the BC Act’.

5.2 Development design controls

Development will be set up to integrate with the natural environment through design controls. These include:

- Development design is to be setback from significant landscape features and habitats, including existing creeks, bogs, wetlands, rock outcrops and boulder fields to provide an appropriate buffer zone. Exceptions include where development is located within an existing building footprint and disturbed areas.
- Development design is created to conserve existing significant natural landform features including rock outcrops.
- Development is to respond to the topography, stepping down with the gradient of the slope and minimising the need for earthworks, cut and fill.
- Building design will minimise impacts from lighting on the natural environment and wildlife through measures such as orientating design to optimise sunlight into public spaces, use of motion sensor lighting, positioning to minimise light spill and glare.

5.3 Integration of public space with the landscape

Integration of landscape character into development within the Alpine Precinct is likely to be achieved through a combined approach of incorporating existing vegetation communities into landscaped areas, using landscape treatment approaches that provide benefit to both community and the environment, and by promoting meaningful connection to characteristic environmental features.

This will include measures such as:

- Using locally indigenous plants and materials that reflect the surrounding landscape and are suited to the local climatic conditions, robust and resilient to the long-term climate.
- Ensuring connected shade is provided in suitable locations, including adjacent to woodland vegetation communities in areas of high walking and cycling activity, car parking and communal spaces. Plantings must be tailored to local environments, with tree planting avoided in areas with potential to impact on grassland, bogs or fens.
- Minimising the removal of remnant vegetation, and impact to riparian areas and high biodiversity value areas, and improving their condition wherever possible.

- Undertaking mass planting of understorey species (groundcover and shrub species) around the edges of native habitats (to provide a disturbance buffer) and around the boundaries of paths and tracks (to provide visual cues).
- Designing to maximise micro-climate opportunities, including solar access during winter and shading in summer.
- Utilising green infrastructure for stormwater management, protecting and increasing biodiversity and mitigating climate change impacts.
- Bushfire protection is an important consideration in carrying out rehabilitation, revegetation and landscaping adjacent to lodges, public buildings and other important assets.
- Areas adjacent to buildings are often subject to heavy use. Rehabilitation or landscape planning must attempt to identify routes that are likely to be used for access to the building or service points around the building and provide appropriate surfaces. For heavily used routes hardened surfaces would be required, while for occasional access to services grassed areas would be reasonably resilient and provide space for equipment to be laid down if necessary.
- Areas adjacent to hardened surfaces, below cuttings and adjacent to buildings are often poorly drained, while other areas may be very dry. Rehabilitation planning needs to take into consideration these areas and improve drainage, where possible, or ensure that species that can tolerate these areas are used.

5.4 Riparian areas

The Alpine Precinct contains, or falls near a number of riparian corridors including:

- The Thredbo River (4th order river) and associated Friday Flat Creek (3rd order stream, No. 2 Creek (2nd order stream) and several unnamed first order streams (ephemeral).
- The Snowy River (4th order River) and several associated unnamed first order streams (ephemeral) that flow into the Snowy River.
- Perisher Creek (3rd order stream) and associated an unnamed 2nd order stream and Rock Creek (first order stream).
- Pipers Creek (2nd order stream) and Smiggin Creek (1st order stream – ephemeral).
- Guthega Dam where Guthega River (2nd order stream), Snowy River (4th order river) and Blue Cow Creek (3rd order stream) combine.
- Spencers Creek (first order stream).
- Diggers Creek (3rd order stream) and its associated dammed water.
- Sawpit Creek (2nd order stream) and unnamed first order stream (ephemeral).

The strategy to identify riparian corridors requiring revegetation must be based on Strahler order of waterways. Riparian buffers would align to riparian buffers outlined in Appendix E of BAM 2020.

In accordance with BAM 2020 and Water Management Act 2000, riparian corridor width is based on a buffer being applied to each side of the waterway with no development within this buffer area. Riparian buffer distances as outlined in the BAM are outlined in Table 5.1. The riparian buffer zone width is applied to both sides of the waterbody, from the outer edge of the bank.

Table 5.1 Riparian buffer distances

Water body type	Riparian buffer (from outer edge of bank)
Unmapped and 1 st order streams	10
2 nd order streams	20
3 rd order streams	30
4 th and 5 th order streams	40
6 th order streams and above	50

Water body type	Riparian buffer (from outer edge of bank)
Wetlands	20
Important wetland	50

Source: BAM 2020, Appendix E (Department of Planning Industry and Environment 2020)

Biodiversity focused revegetation of riparian corridors to recreate plant community types known to occur or likely to occur based on field verified mapping, adjoining remnant vegetation and landscape position is the preferred approach for any disturbance or rehabilitation of these areas. Planting lists for revegetation around riparian areas must refer to the field verified mapping of surrounding or likely Plant Community Types which occur within these areas, with species planting lists provided in Appendix B.

5.5 Integration of stormwater management infrastructure with open spaces

In order to mitigate environmental impacts, water-sensitive design including stormwater management measures must be integrated into the design of landscaped areas. Indirect impacts to adjacent areas should be minimised through design and construction controls, particularly indirect/post-construction impacts that might result from sediment laden stormwater and snow push containing gravel and other contaminants. Water sensitive design will include measures such as:

- Design to avoid sensitive and water-dependent ecosystems such as bogs and fens. Within the Alpine Precinct, this includes all areas of Alpine and sub-alpine peatlands, damp herbfields, and fens.
- Design of development and water-sensitive infrastructure to avoid erosion or hydrological impacts to native plant communities, particularly sensitive peatland, herbfields, and fens.
- Provide stormwater detention facilities to capture rainwater and surface runoff to ensure post development flows do not exceed pre-development flows, for storm events up to and including the 1 in 100-year storm event with climate change.
- Stormwater runoff from communal areas is to be treated through communal water sensitive urban design measures to ensure water pollution is avoided.
- Storage and melting arrangements for sediment laden snow-push from clearing operations.
- Minimising use of salts or using alternative products or methods for de-icing of roads and paved areas.
- The need for further investment in road paving and stormwater infrastructure to reduce run-off turbidity.
- The use of storm-ceptors and other measures to prevent pollution from carparks and other paved areas.

5.6 Connection to Country and co-design

All remnant vegetation holds potential cultural significance and it is the Traditional Owners that will know which areas to improve, maintain and restore to enhance significance and care for Country. Appropriate engagement will uncover the areas of high cultural importance. Identifying such areas will allow for a targeted approach with most benefit to Country and people.

To understand cultural needs engagement with Monero Ngarigo People is crucial to obtaining results that are meaningful and sustainable.

It is recommended to establish and follow a co-design methodology where opportunities are made for a variety of voices from Monero Ngarigo community members to decide on what, where and how the restoration and cultural land and water practices will take place. Engagement should occur throughout the project, as part of the development of the DCP, ongoing vegetation management and where there are opportunities in development approvals. Engaging an expert in Aboriginal community consultation and engagement is recommended if these services are not available within the program delivery team, along with the above recommendation to engage Aboriginal cultural land managers to help mentor and train the local practitioners.

Meetings on Country and in workshop settings allow for the co-design process to unfold where information regarding the needs of community are realised and understood. An iterative review process with the Traditional Owner Groups allows for fine-tuning of information shared ensuring that it has been translated into plans and actions that have the best outcomes for all stakeholders.

The key steps are:

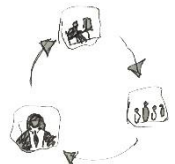
1 Engagement:

The first step will be to engage with the relevant Aboriginal group (elder, Lands Council etc), early and often, through a series of ‘yarns’ or conversations about the potential opportunities to incorporate the values contained within the SAP into delivery outcomes.



2 Co-design:

To kick off the co-design process delivery teams are given time to integrate the values and information into the scope of the project.



3 Co Design workshops:

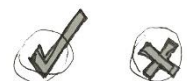
Engagement with the Traditional Owner Groups to provide opportunities for co-design cultural solutions to project outcomes. In this process Monero Ngarigo voices should be given preference to ensure they are heard.



Allowing sufficient time for these collaborative activities to take place is important for capturing important information that will inform future Development Applications and land management activities.

4 Endorsement and Cultural IP:

All content that uses local Aboriginal information will need to be endorsed by the Traditional Owner Group. Through this process it is important that Cultural Intellectual Property is identified and protected.



5 Other opportunities:

Other opportunities should be highlighted and put forward to ensure the Monero Ngarigo community has opportunities, economic outcomes and better connections to their Country, throughout the project lifecycle from design to implementation and to ongoing maintenance.



6 Conclusions

This Vegetation Management Strategy has been prepared to support the Development Control Plan (DCP) that focuses on the protection of high biodiversity values within the Alpine Precinct of the Snowy SAP.

This Vegetation Management Strategy satisfies the requirements of the BC Act and the EPBC Act in terms of planning to avoid, minimise or offset within the precinct including areas of high biodiversity value such as remnant vegetation, threatened ecological communities, and threatened species habitats.

Importantly, this strategy follows the *draft Connection to Country Framework* and honours the Monero Ngarigo peoples ongoing connection to Country, outlining opportunities for the Monero Ngarigo community to guide the biodiversity management, share knowledge and care for Country.

The strategy outlines weed control, revegetation and habitat augmentation and design guidelines to ensure protection and enhancement of the unique biodiversity values of the Alpine Precinct.

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Appendix A

Exotic species recorded

Table A.1 Common or important weeds occurring in Alpine Precinct

Scientific name	Common name	WONS ^A	Significant weeds of Kosciuszko Ski Resort ^B
<i>Acetosella vulgaris</i>	Sheep Sorrel	No	Yes ³
<i>Achillea millefolium</i>	Common Yarrow	No	Yes ¹
<i>Agrostis capillaris</i>	Browntop Bent	No	Yes ¹
<i>Aira elegantissima</i>	Delicate Hair-grass	No	No
<i>Alopecurus pratensis</i>	Meadow Foxtail	No	No
<i>Anagallis arvensis</i>	Scarlet Pimpernel	No	No
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	No	Yes ¹
<i>Arrhenatherum elatius</i>	Bulbous Oatgrass	No	No
<i>Barbarea verna</i>	Early Wintercress	No	Yes ¹
<i>Betula pendula</i>	Silver Birch	No	No
<i>Bromus diandrus</i>	Great Brome	No	No
<i>Bromus hordeaceus</i>	Bull Grass	No	No
<i>Cerastium balearicum</i>	Lesser Mouse-ear Chickweed	No	No
<i>Cerastium glomeratum</i>	Sticky Chickweed	No	No
<i>Cerastium vulgare</i>	Mousear Chickweed	No	No
<i>Cirsium vulgare</i>	Spear Thistle	No	Yes ²
<i>Conium maculatum</i>	Hemlock	No	No
<i>Cotoneaster spp.</i>	Cotoneaster	No	Yes ²
<i>Crataegus monogyna</i>	Hawthorn	No	No
<i>Dactylis glomerata</i>	Cocksfoot	No	Yes ¹
<i>Echium plantagineum</i>	Patterson's Curse	No	Yes ²
<i>Echium vulgare</i>	Viper's Bugloss	No	Yes ¹
<i>Erophila verna subsp. verna</i>	Whitlow Grass	No	No
<i>Festuca arundinacea</i>	Tall Fescue	No	No
<i>Festuca rubra</i>	Creeping Fescue	No	No
<i>Galium aparine</i>	Catchweed Bedstraw	No	No
<i>Geranium molle</i>	Dove's-foot Crane's-bill	No	No
<i>Hieracium aurantiacum</i>	Hawkweed	No	Yes ²
<i>Holcus lanatus</i>	Yorkshire Fog	No	Yes ²
<i>Hypericum perforatum</i>	St John's Wort	No	Yes ¹
<i>Hypochaeris radicata</i>	Catsear	No	Yes ³
<i>Juncus effusus</i>	Soft Rush	No	Yes ¹

Scientific name	Common name	WONS ^A	Significant weeds of Kosciuszko Ski Resort ^B
<i>Ligustrum vulgare</i>	Common Privet	No	No
<i>Linaria arvensis</i>	Corn Toadflax	No	No
<i>Lotus corniculatus</i>	Common Bird's-foot Trefoil	No	Yes ²
<i>Lotus uliginosus</i>	Big Trefoil	No	Yes ²
<i>Lupinus polyphyllus</i>	Russell Lupin	No	Yes ²
<i>Malus pumila</i>	Apple	No	No
<i>Medicago lupulina</i>	Black Medic	No	No
<i>Modiola caroliniana</i>	Red-flowered Mallow	No	No
<i>Myosotis discolor</i>	Forget-me-not	No	No
<i>Narcissus pseudonarcissus</i>	Daffodil	No	No
<i>Plantago lanceolata</i>	Ribwort	No	No
<i>Poa annua</i>	Annual Bluegrass	No	No
<i>Poa pratensis</i>	Kentucky Bluegrass	No	No
<i>Prunella vulgaris</i>	Common Self-heal	No	No
<i>Rosa rubiginosa</i>	Sweet Briar	No	Yes ²
<i>Rubus fruticosus</i> agg.	Blackberry	Yes	Yes ²
<i>Rubus ulmifolius</i>	Elmleaf Blackberry	No	Yes ²
<i>Rumex crispus</i>	Curly Dock	No	No
<i>Sonchus asper</i>	Prickly Sowthistle	No	No
<i>Sonchus oleraceus</i>	Common Sow-thistle	No	No
<i>Spergularia rubra</i>	Red Sandspurry	No	No
<i>Stellaria graminea</i>	Grass-like Starwort	No	No
<i>Taraxacum officinale</i>	Dandelion	No	Yes ³
<i>Tragopogon porrifolius</i>	Common Salsify	No	No
<i>Trifolium arvense</i>	Hair-foot Trefoil	No	No
<i>Trifolium repens</i>	White Clover	No	No
<i>Verbascum thapsus</i>	Common Mullein	No	No
<i>Verbascum virgatum</i>	Twiggy Mullein	No	Yes ²
<i>Veronica peregrina</i>	Purslane Speedwell	No	No
<i>Vinca spp.</i>	Periwinkle	No	Yes ²
<i>Vulpia myuros</i>	Silver Grass	No	No

Notes: (A) Weeds of National Significance (Department of Primary Industries 2023) (B) 1) Most significant weeds of Kosciuszko ski resorts 2) Other common and important weeds occurring in Kosciuszko National Park and 3) Weeds that are common but should be controlled (Department of Environment and Climate Change 2007)

Appendix B

Planting palates



Table B.1 Species planting lists

Alpine Sub-Precinct	Bogs, fens, and herbfields	Alpine shrubland	Alpine snow gum shrubby woodland	Black Sallee – Snow gum woodland	Snow Gum – Mountain Gum shrubby open forest
Thredbo Village	X			X	
Thredbo Ranger station				X	
Bullocks Flat				X	
Kosciuszko Tourist Park	X				X
Island Bend				X	X
Ski Rider				X	X
Sponars Chalet			X		
Pipers Gap	X		X		
Smiggin Holes	X		X		
Perisher	X		X		
Guthega	X		X		
Charlotte Pass	X	X	X		
PLANTING PALATE					
Trees					
<i>Eucalyptus dalrympleana</i> subsp. <i>dalrympleana</i>	Mountain Gum			X	X
<i>Eucalyptus pauciflora</i>	Snow Gum			X	X
<i>Eucalyptus pauciflora</i> subsp. <i>niphophila</i>	Alpine Snow Gum		X		
<i>Eucalyptus stellulata</i>	Black Sallee			X	

Alpine Sub-Precinct		Bogs, fens, and herbfields	Alpine shrubland	Alpine snow gum shrubby woodland	Black Sallee – Snow gum woodland	Snow Gum – Mountain Gum shrubby open forest
Shrubs						
<i>Baeckea gunniana</i>	Alpine Baeckea	X				
<i>Baeckea utilis</i>	Mountain Baeckea			X	X	X
<i>Bossiaea foliosa</i>	Leafy Bossiaea			X		
<i>Daviesia ulicifolia</i>	Gorse Bitter-pea			X		
<i>Epacris paludosa</i>	Swamp Heath	X				
<i>Grevillea australis</i>	Alpine Grevillea		X	X		
<i>Hakea microcarpa</i>	Small-fruit Hakea				X	X
<i>Hovea montana</i>	Alpine Hovea			X		
<i>Leucopogon hookeri</i>	Mountain Beard-heath					X
<i>Leucopogon montanus</i>	Snow Beard-Heath		X		X	
<i>Nematolepis ovatifolia</i>	Ovate Phebalium		X			
<i>Olearia phlogopappa</i>	Dusty Daisy-bush		X	X		
<i>Ozothamnus secundiflorus</i>	Cascade Everlasting			X		
<i>Oxylobium ellipticum</i>	Common Shaggy-pea		X	X		
<i>Podocarpus lawrencei</i>	Mountain Plum Pine		X			
<i>Podolobium alpestre</i>	Alpine Shaggy Pea	X		X		
<i>Prostanthera cuneata</i>	Alpine Mint Bush			X		
<i>Tasmannia xerophila</i>	Alpine Pepperbush			X		

Alpine Sub-Precinct		Bogs, fens, and herbfields	Alpine shrubland	Alpine snow gum shrubby woodland	Black Sallee – Snow gum woodland	Snow Gum – Mountain Gum shrubby open forest
Groundcover						
<i>Asperula gunnii</i>	Mountain Woodruff		X	X		
<i>Asperula scoparia</i>	Prickly Woodruff				X	X
<i>Austrodanthonia alpicola</i>	Alpine Grass		X			
<i>Baloskion australe</i>	Mountain Cordrush	X			X	X
<i>Brachyscome obovata</i>	Baw Baw Daisy	X				
<i>Carex appressa</i>	Tall Sedge				X	X
<i>Carex gaudichaudiana</i>	Fen Sedge	X				
<i>Empodisma minus</i>	Wire Rush	X			X	X
<i>Epilobium billardierianum</i>	Glabrous Willow Herb		X			
<i>Goodenia hederacea</i> subsp. <i>alpestris</i>	Forest Goodenia			X		
<i>Helichrysum scorpioides</i>	Button Everlasting					
<i>Hydrocotyle peduncularis</i>	Pennywort				X	X
<i>Oreobolus distichus</i>	Fan Tuft-rush	X				
<i>Oreomyrrhis ciliata</i>	Bog Carraway	X		X		
<i>Oreomyrrhis eriopoda</i>	Australian Carraway		X	X		
<i>Poa costiniana</i>	Bog Snow-grass	X				
<i>Poa ensiformis</i>	Purple-sheath			X		
<i>Poa fawcettiae</i>	Smooth Blue Snowgrass		X			

Alpine Sub-Precinct		Bogs, fens, and herbfields	Alpine shrubland	Alpine snow gum shrubby woodland	Black Sallee – Snow gum woodland	Snow Gum – Mountain Gum shrubby open forest
<i>Poa hiemata</i>	Soft Snowgrass			X		
<i>Poa sieberiana</i>	Grey Tussock-grass				X	X
<i>Poa</i> spp.	Meadow-grass	X	X	X	X	X
<i>Polystichum proliferum</i>	Mother Shield Fern		X			
<i>Stellaria pungens</i>	Prickly Starwort			X		

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DRAFT



Appendix D

Aboriginal Cultural Heritage and Historic Heritage Maps

Figure 5-1: Registered AHIMS locations within the Alpine Precinct

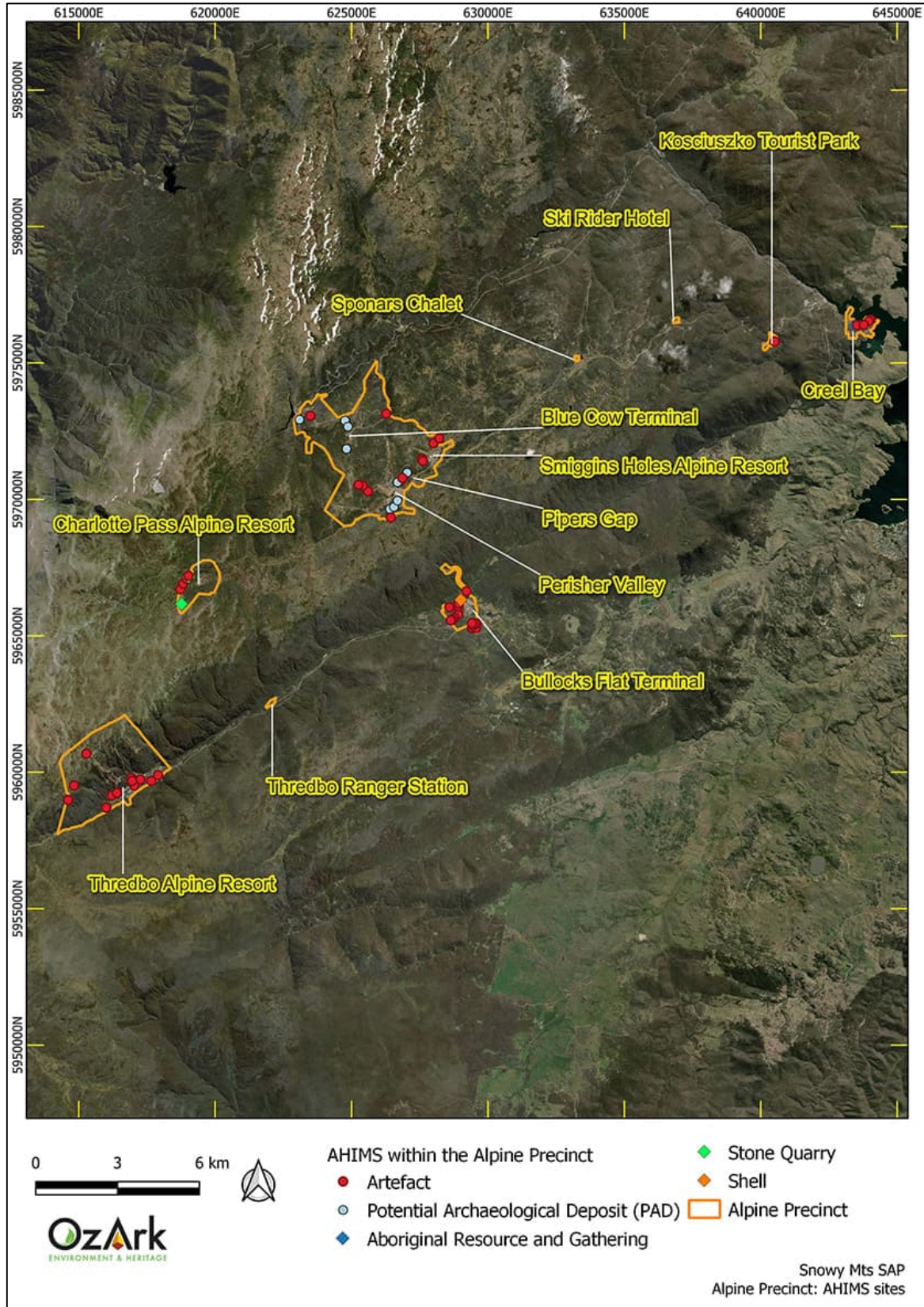


Figure 6-1: Heritage management zones within the Thredbo Alpine Resort.

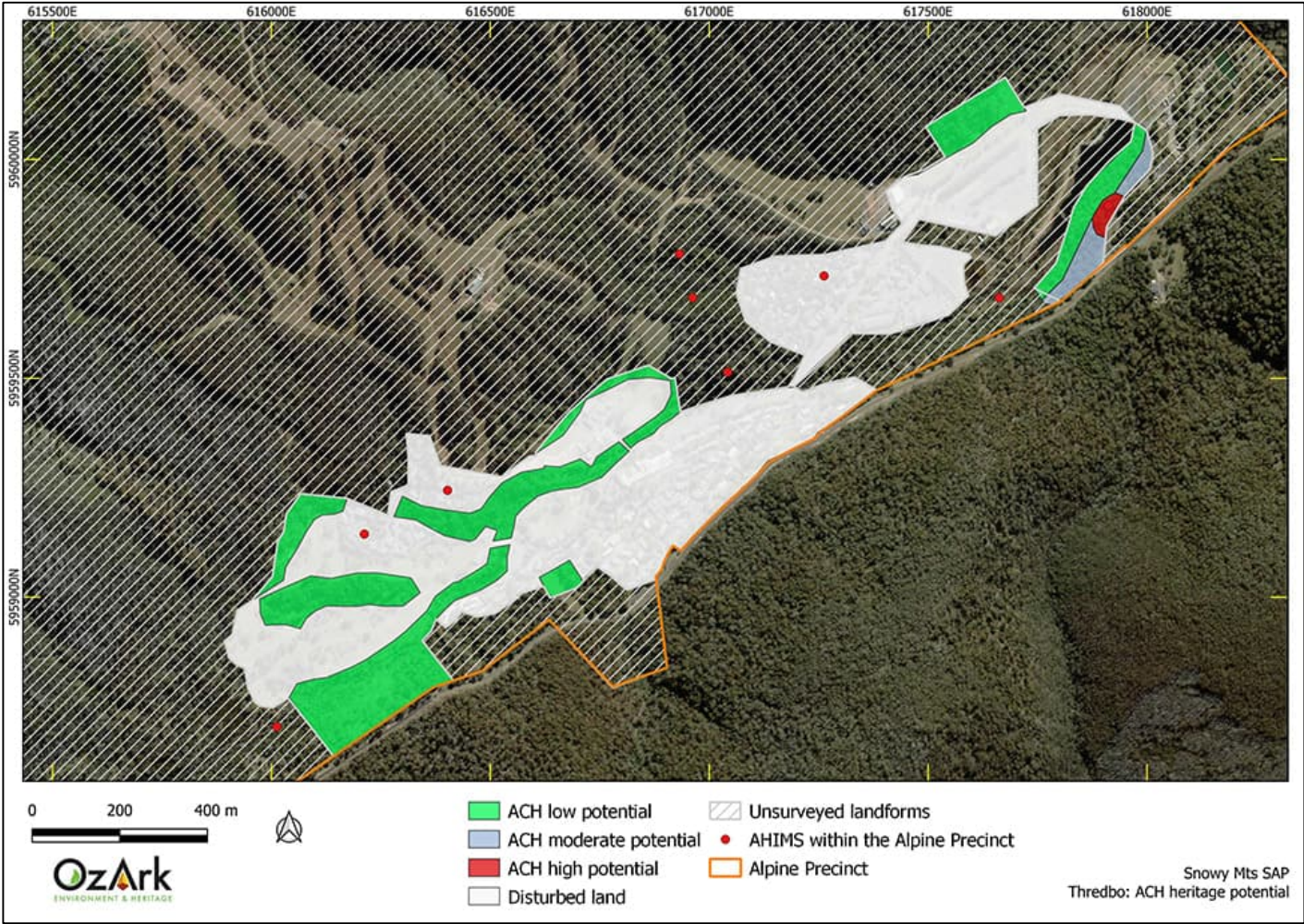


Figure 6-2: Heritage management zones within the Thredbo Ranger Station.



Figure 6-3: Heritage management zones within the Bullocks Flat Terminal.

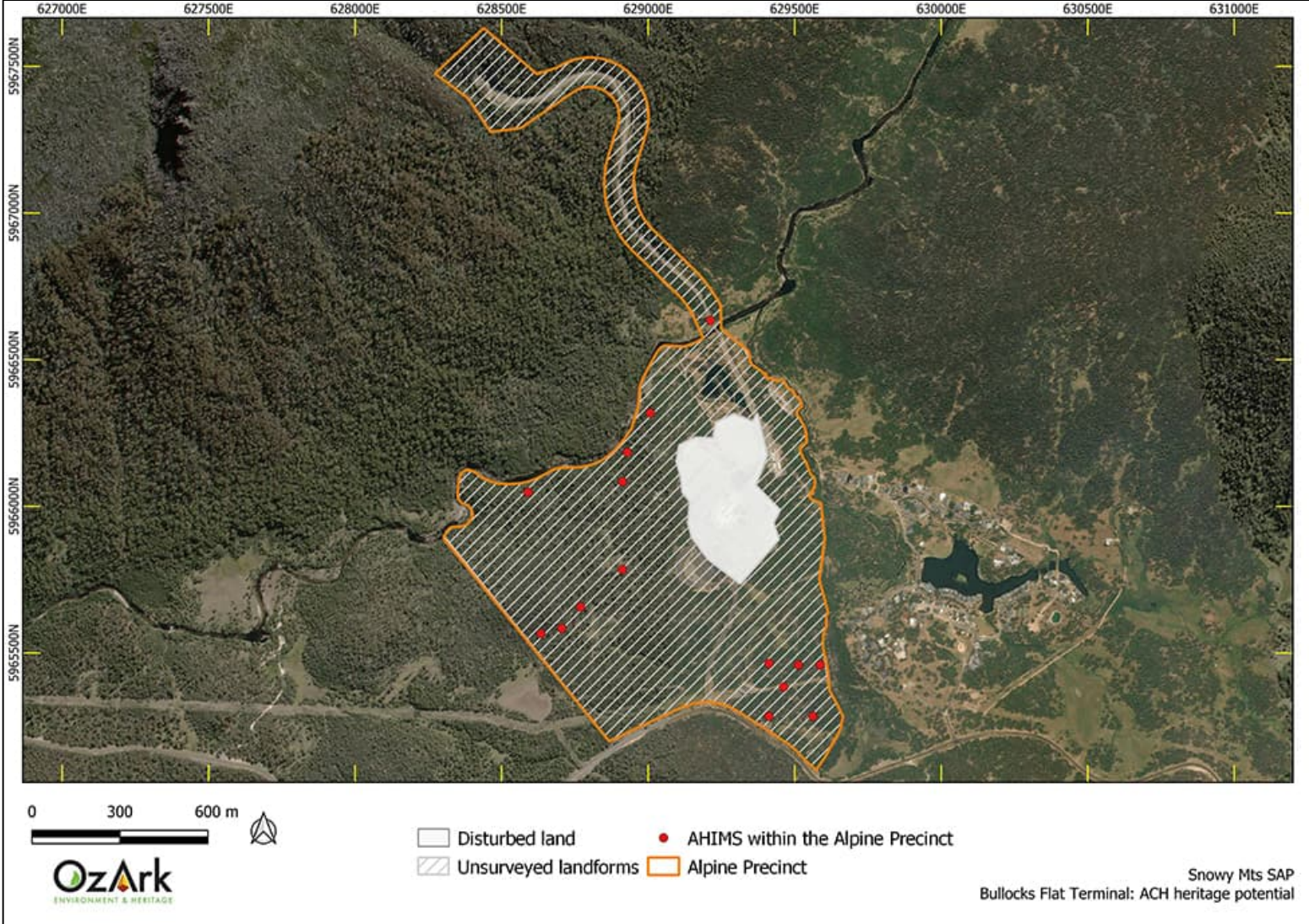


Figure 6-4: Heritage management zones within the Creel Bay area.

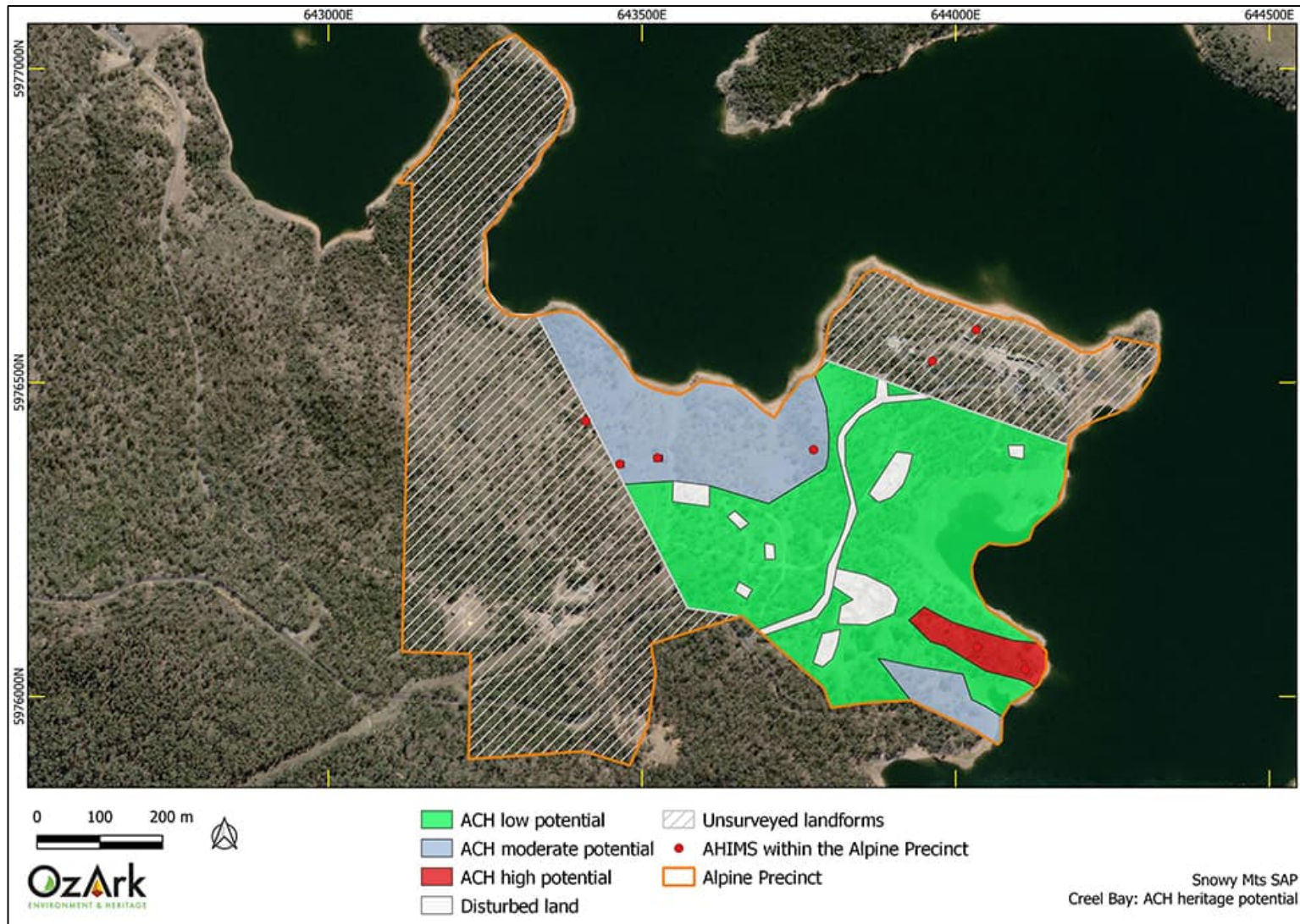


Figure 6-5: Heritage management zones within the Kosciusko Tourist Park.

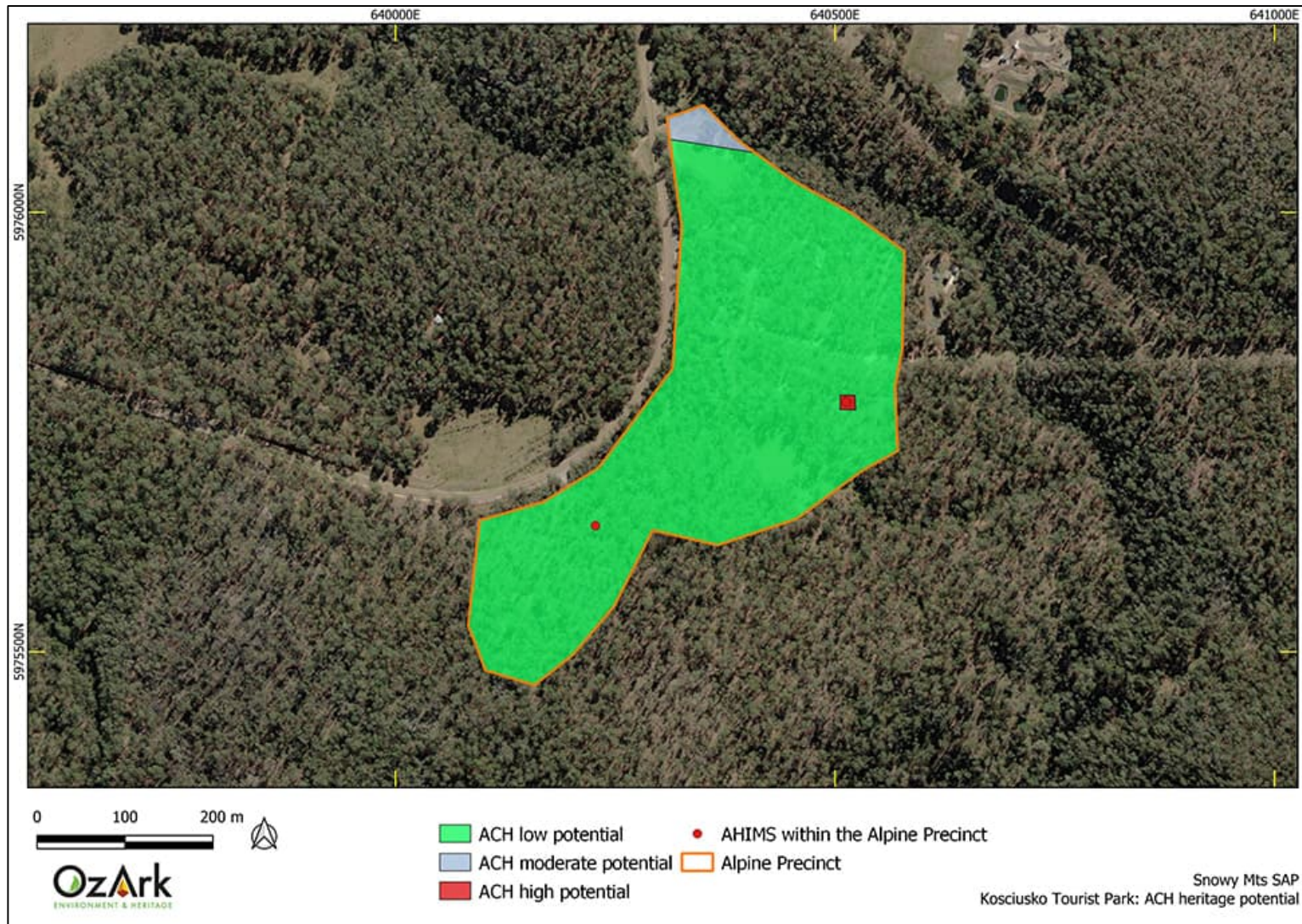


Figure 6-6: Heritage management zones within the Ski Rider Alpine Resort.



Figure 6-7: Heritage management zones within the Sponars Chalet Alpine Resort.



Figure 6-8: Heritage management zones within the Perisher Range area.

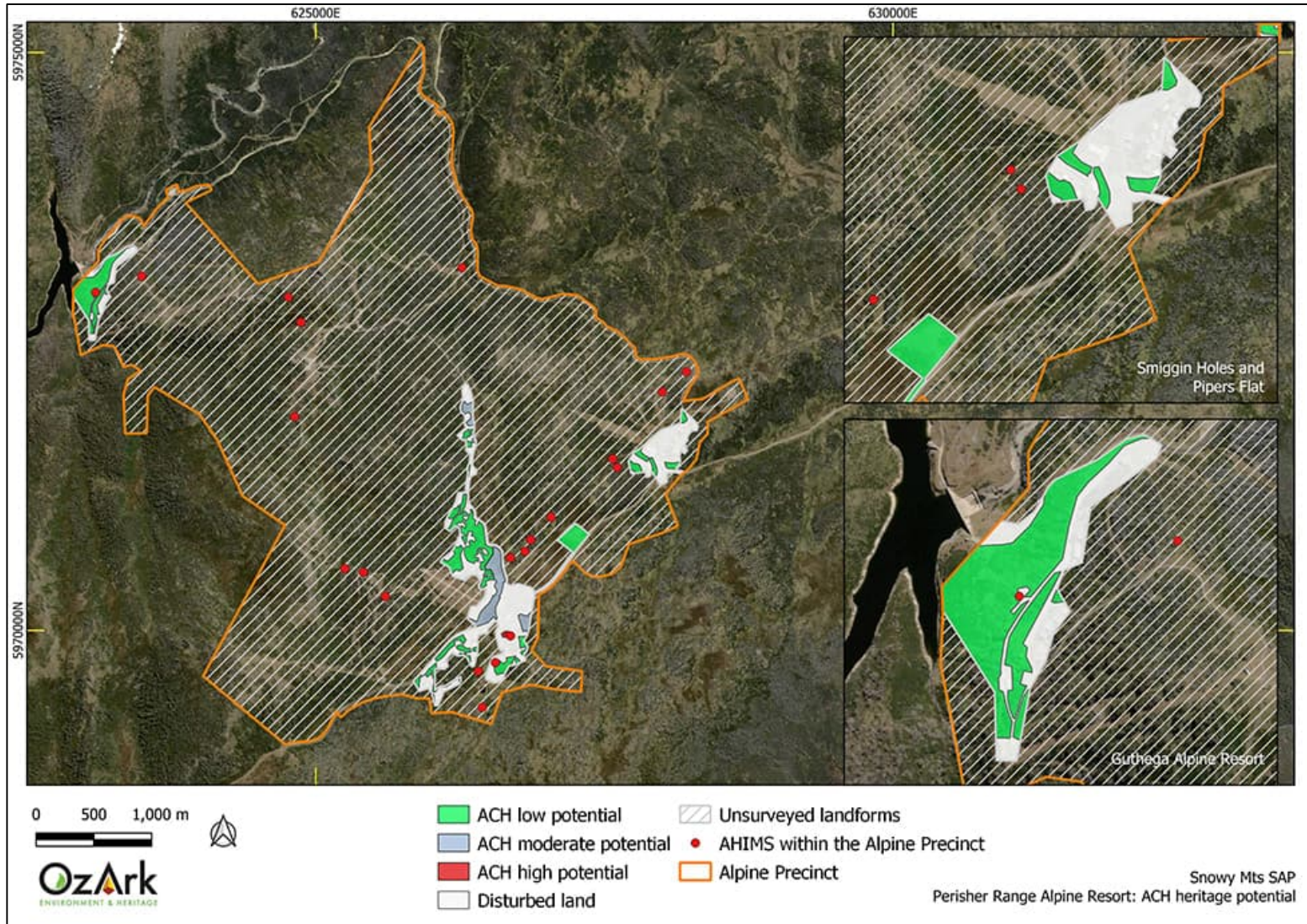


Figure 6-9: Heritage management zones within the Perisher Alpine Resort.

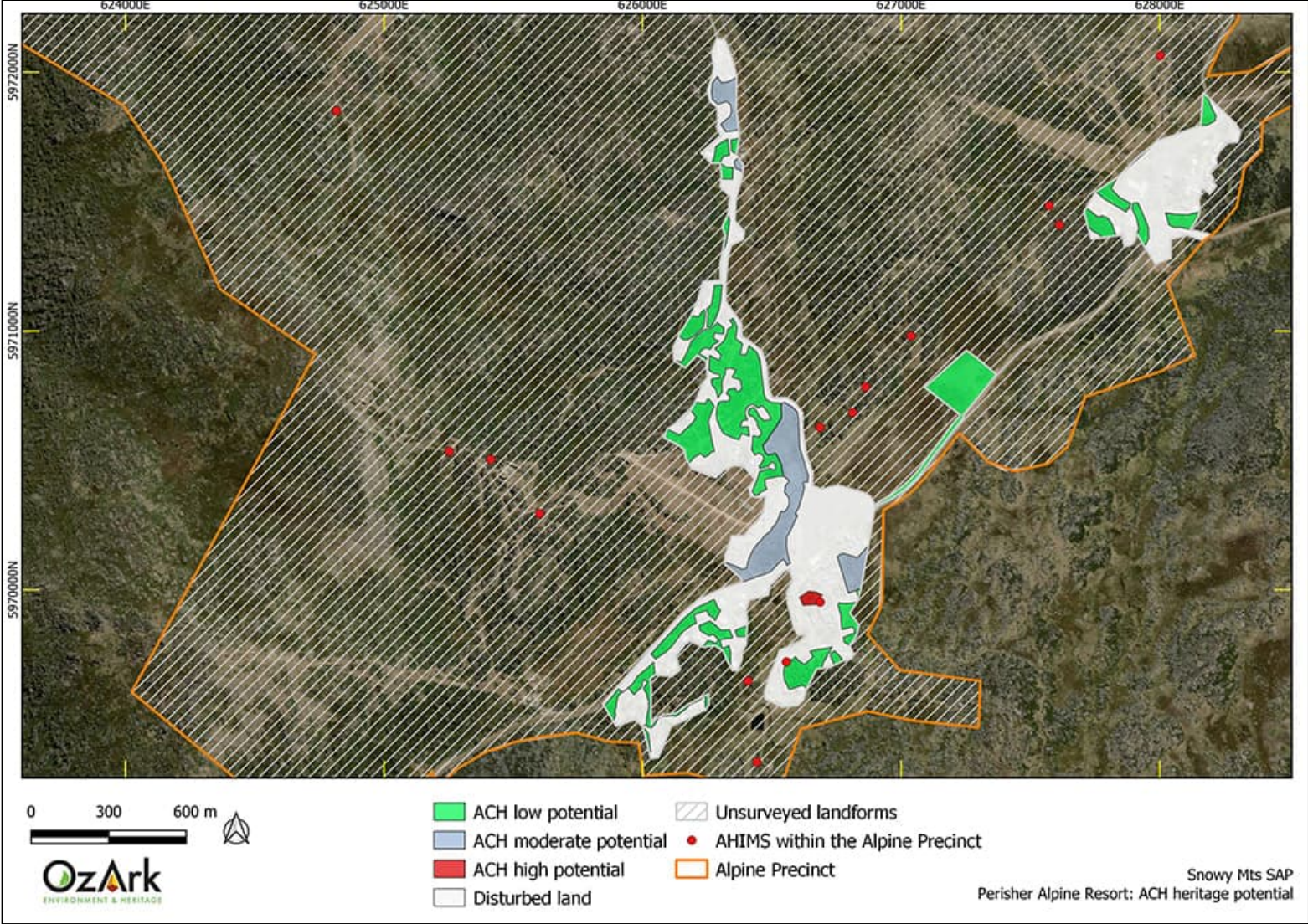
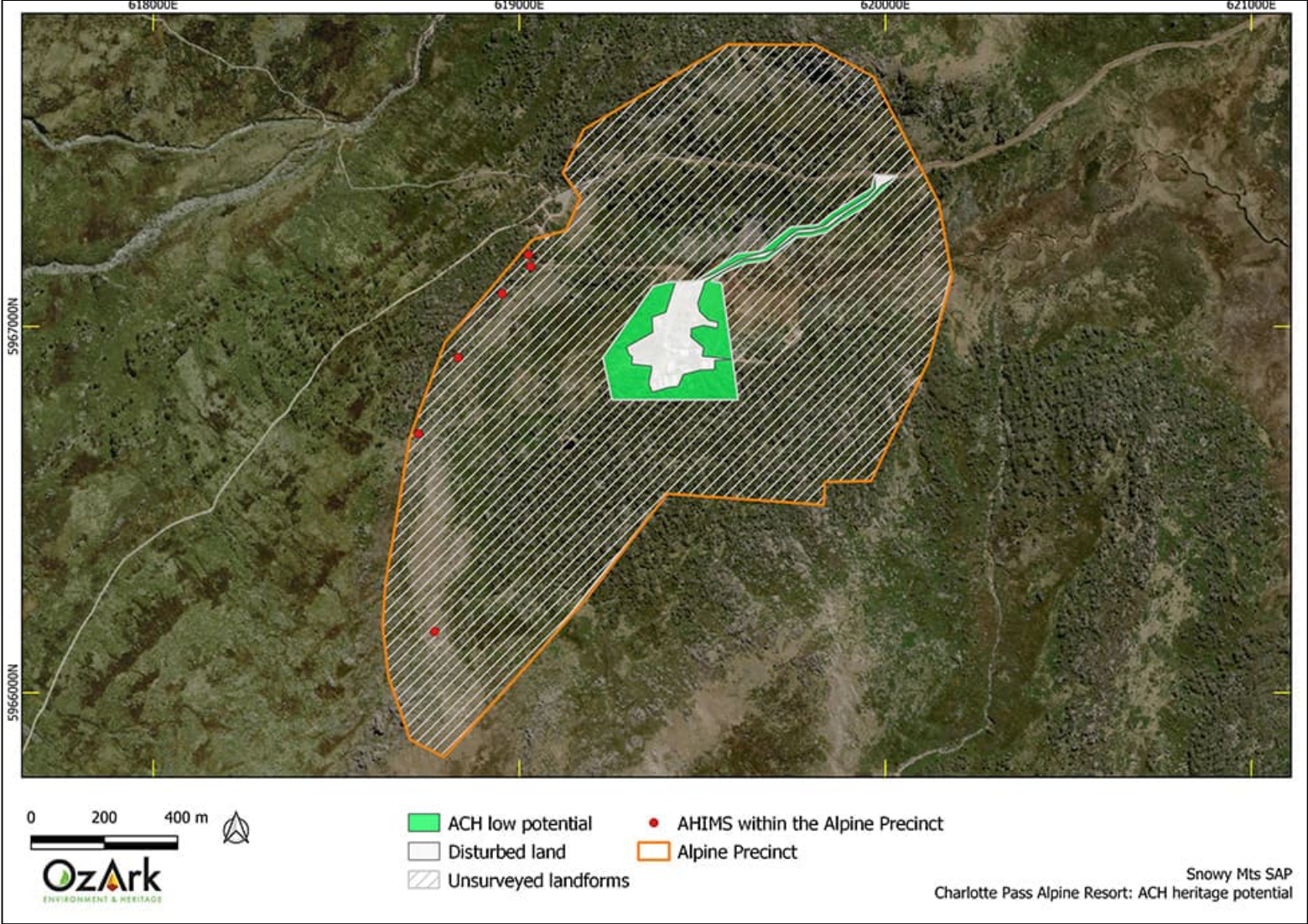


Figure 6-10: Heritage management zones within the Charlotte Pass Alpine Resort.



- Development adjacent to heritage items protects the heritage significance and complements the setting.

Figure 1-1: Location of elements within the Alpine Precinct

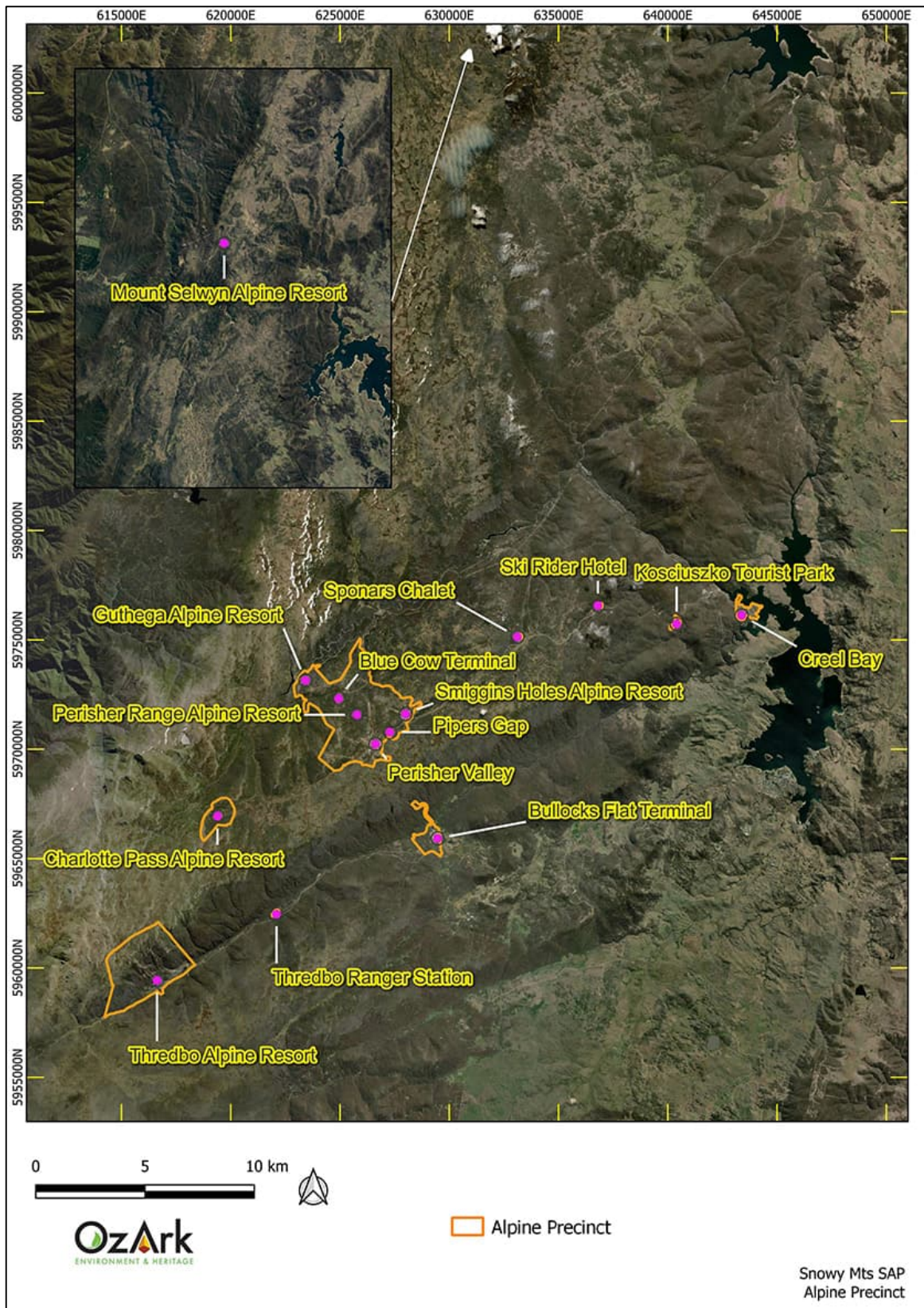


Figure 3-1: Thredbo Village - Items of high historic heritage significance

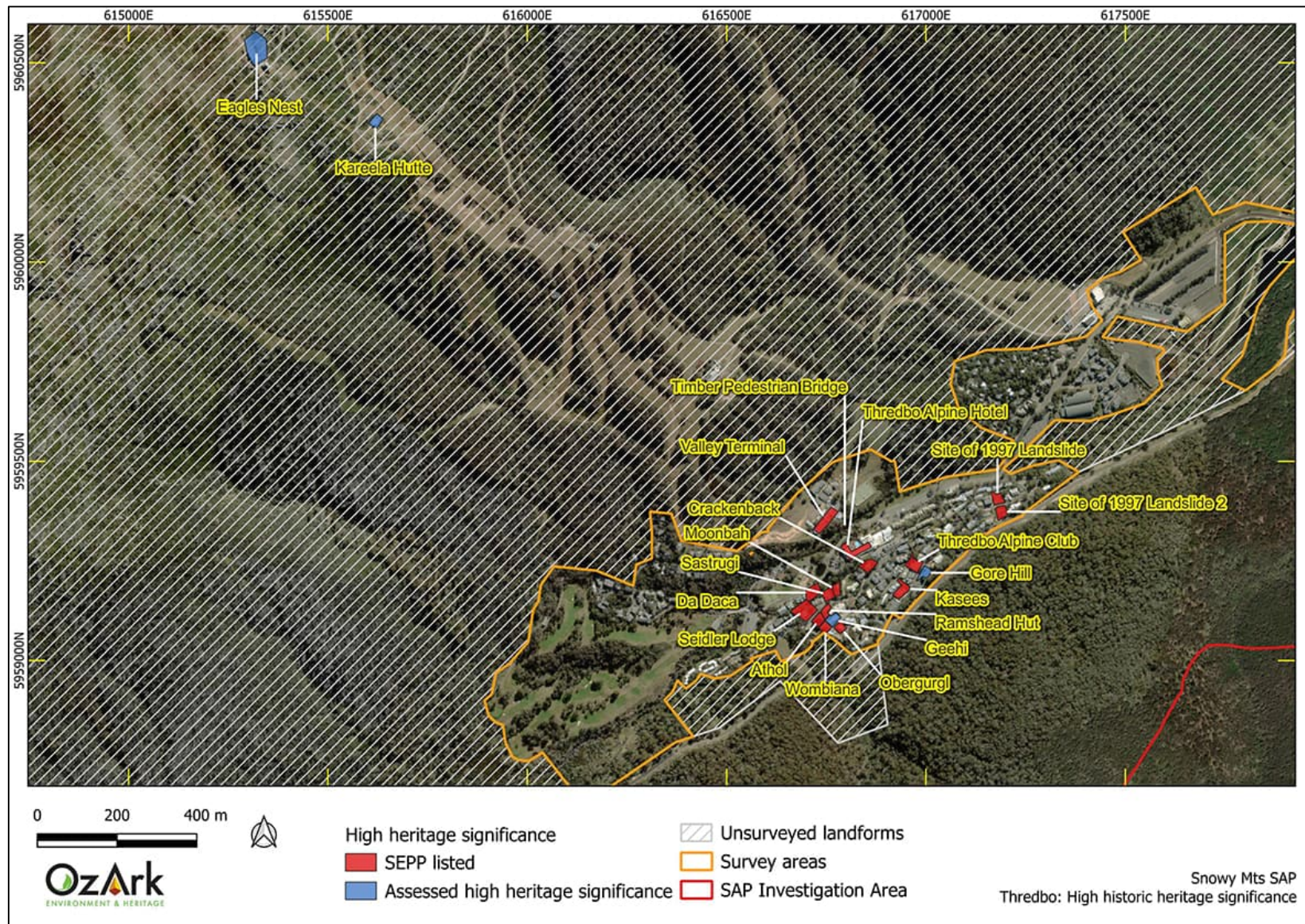


Figure 3-2: Thredbo Rangers Station - Items of high historic heritage significance



Figure 3-3: Creel Bay - Items of high historic heritage significance

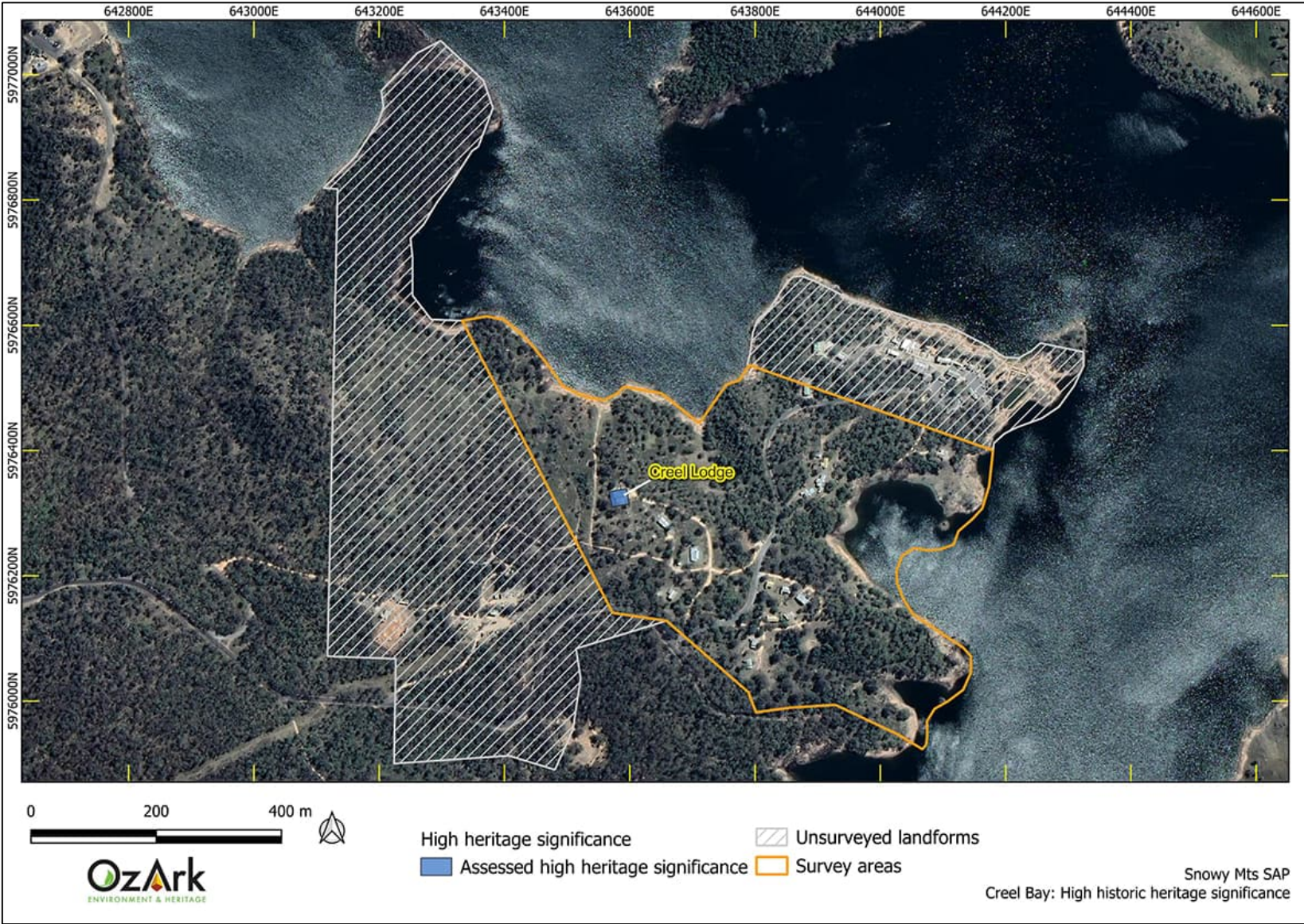


Figure 3-4: Ski Rider Hotel - Items of high historic heritage significance



Figure 3-5: Sponars Chalet - Items of high historic heritage significance



Figure 3-6: Perisher Range - Items of high historic heritage significance

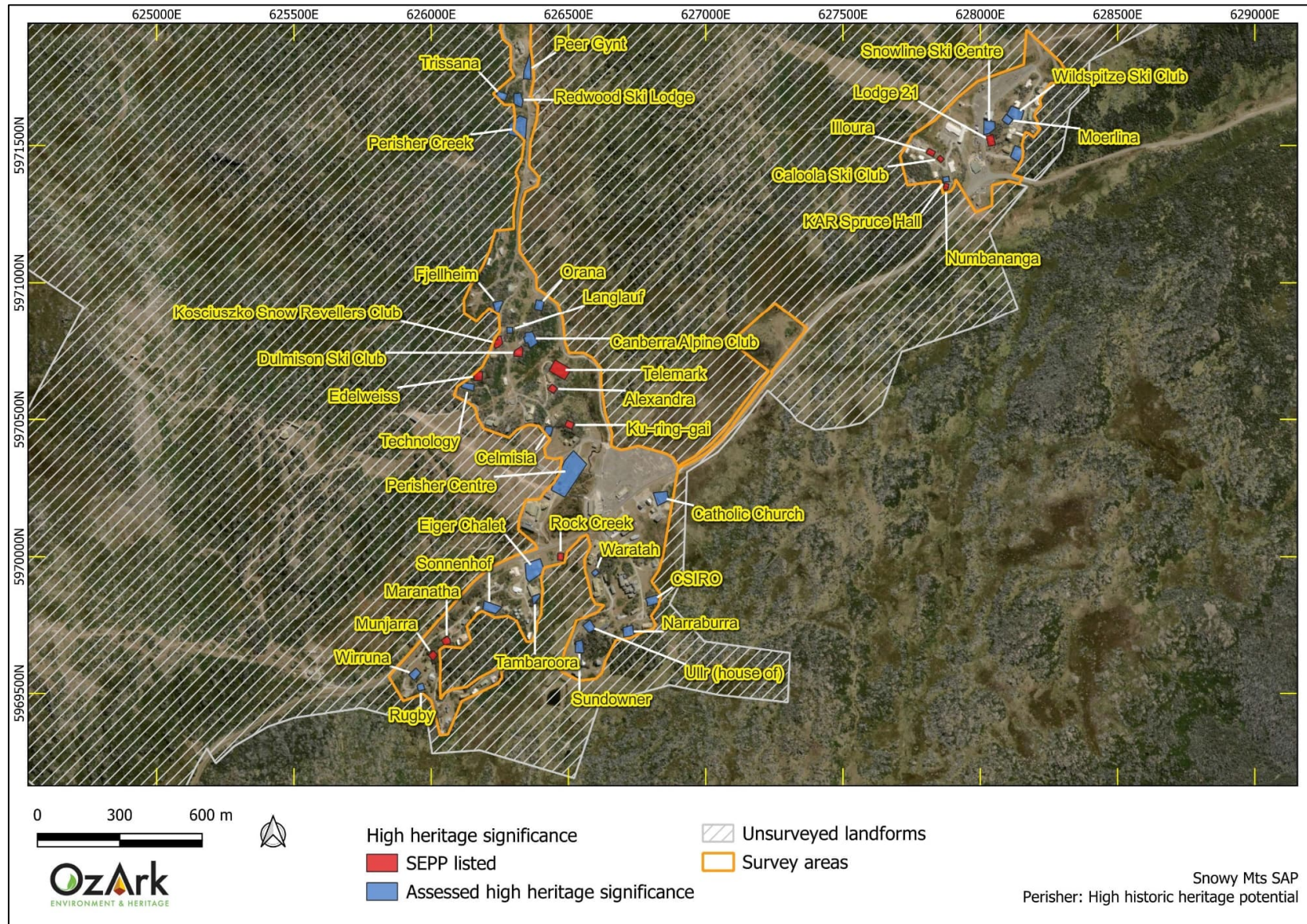


Figure 3-7: Guthega - Items of high historic heritage significance

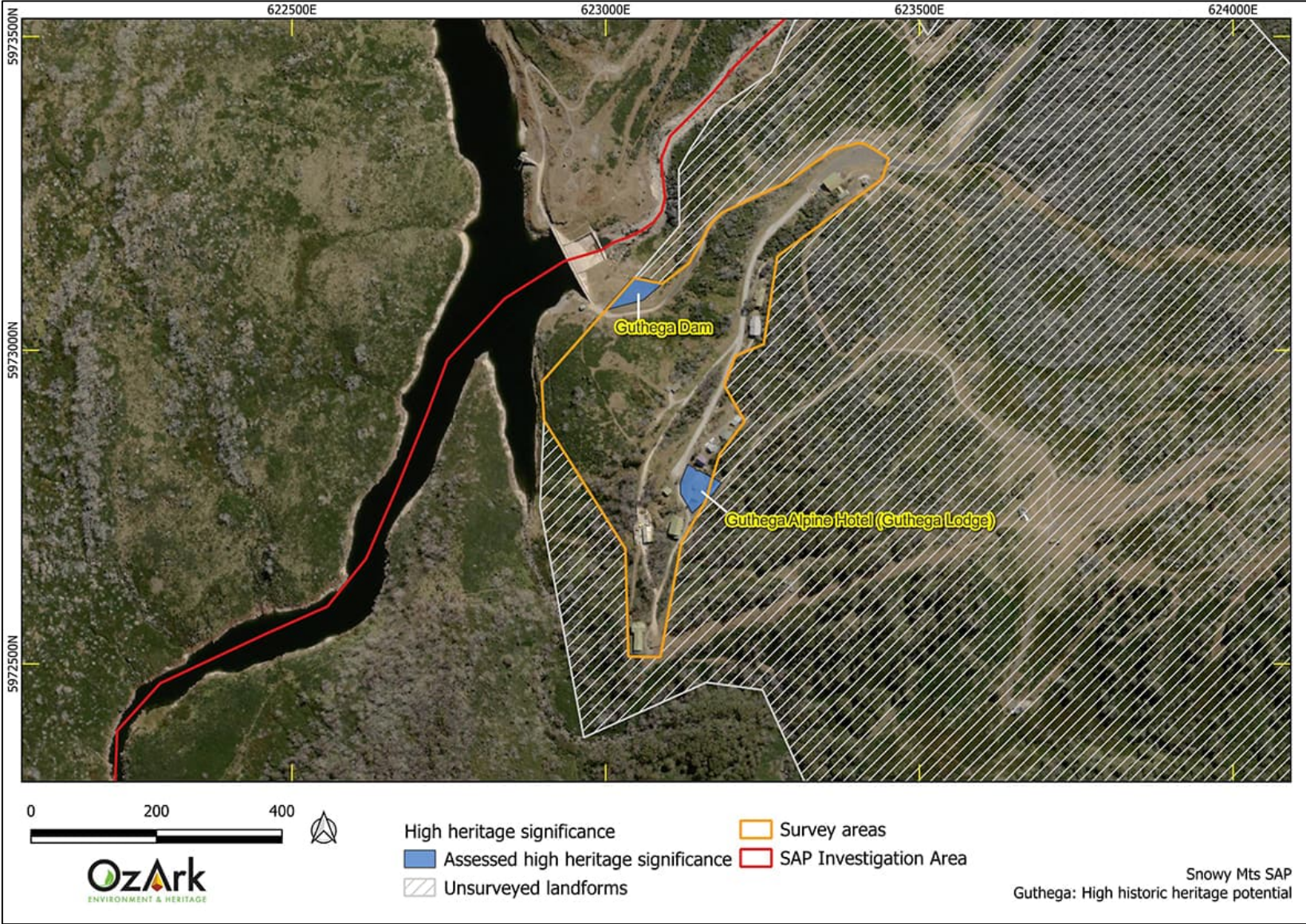
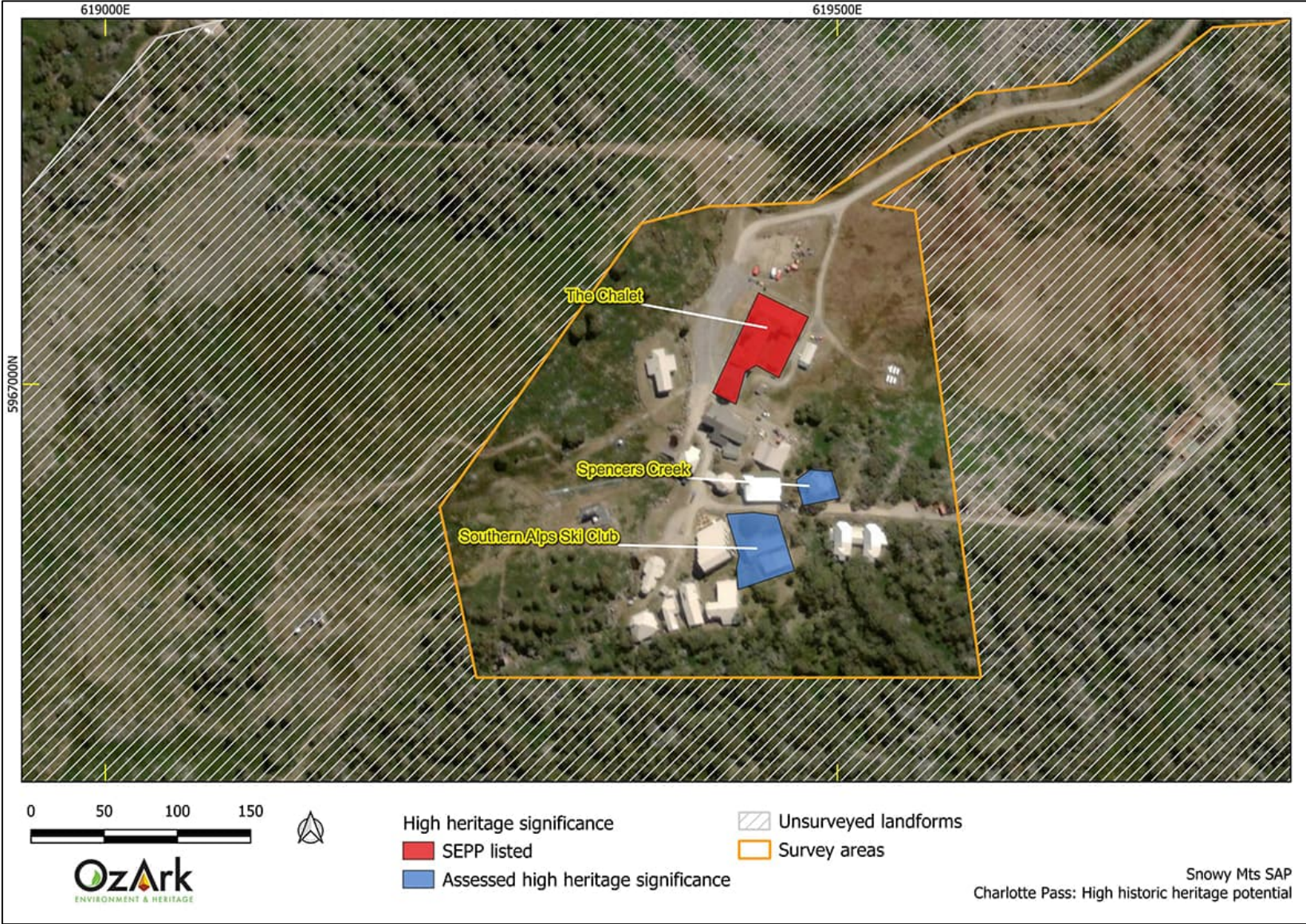
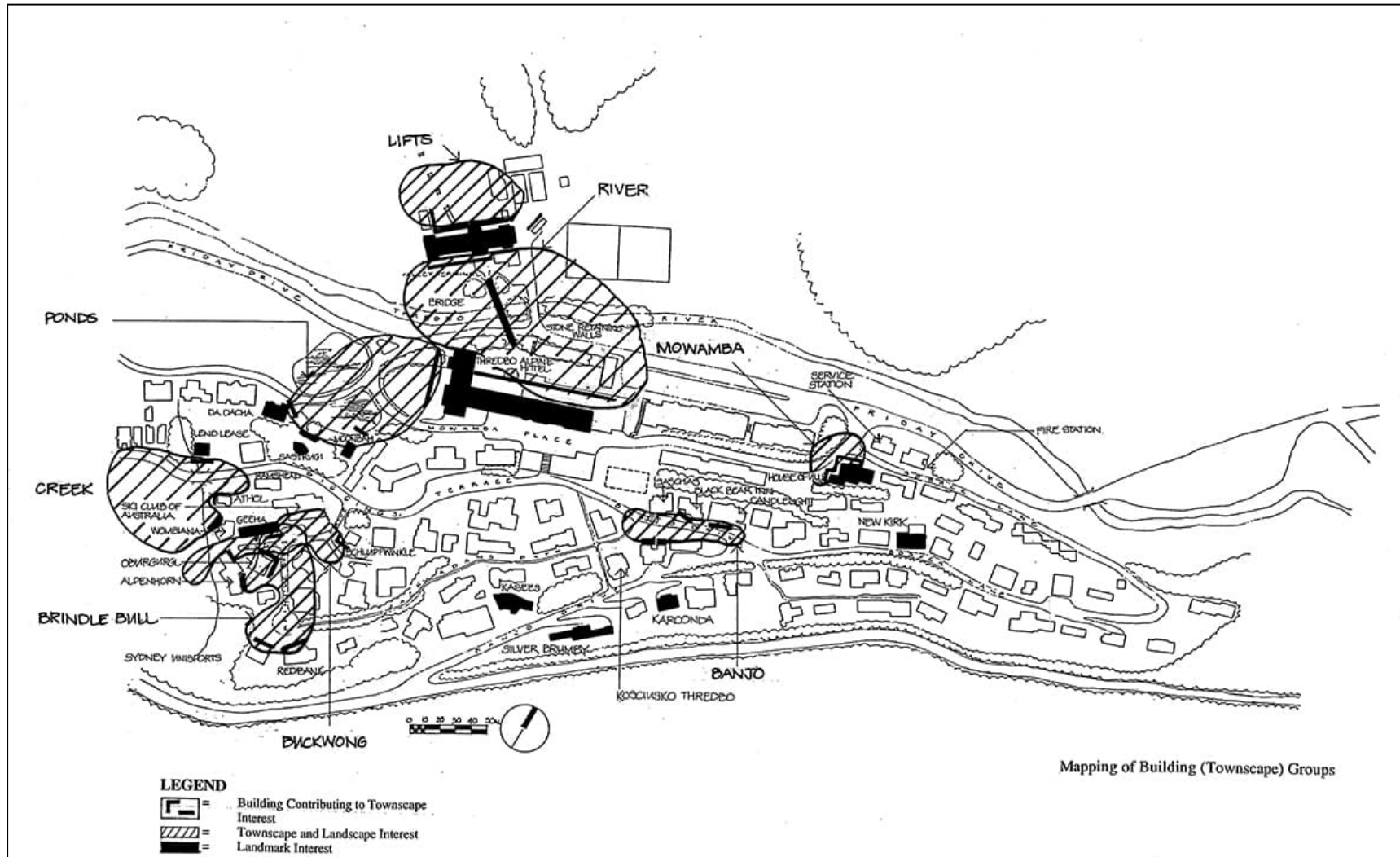


Figure 3-8: Charlotte Pass - Items of high historic heritage significance

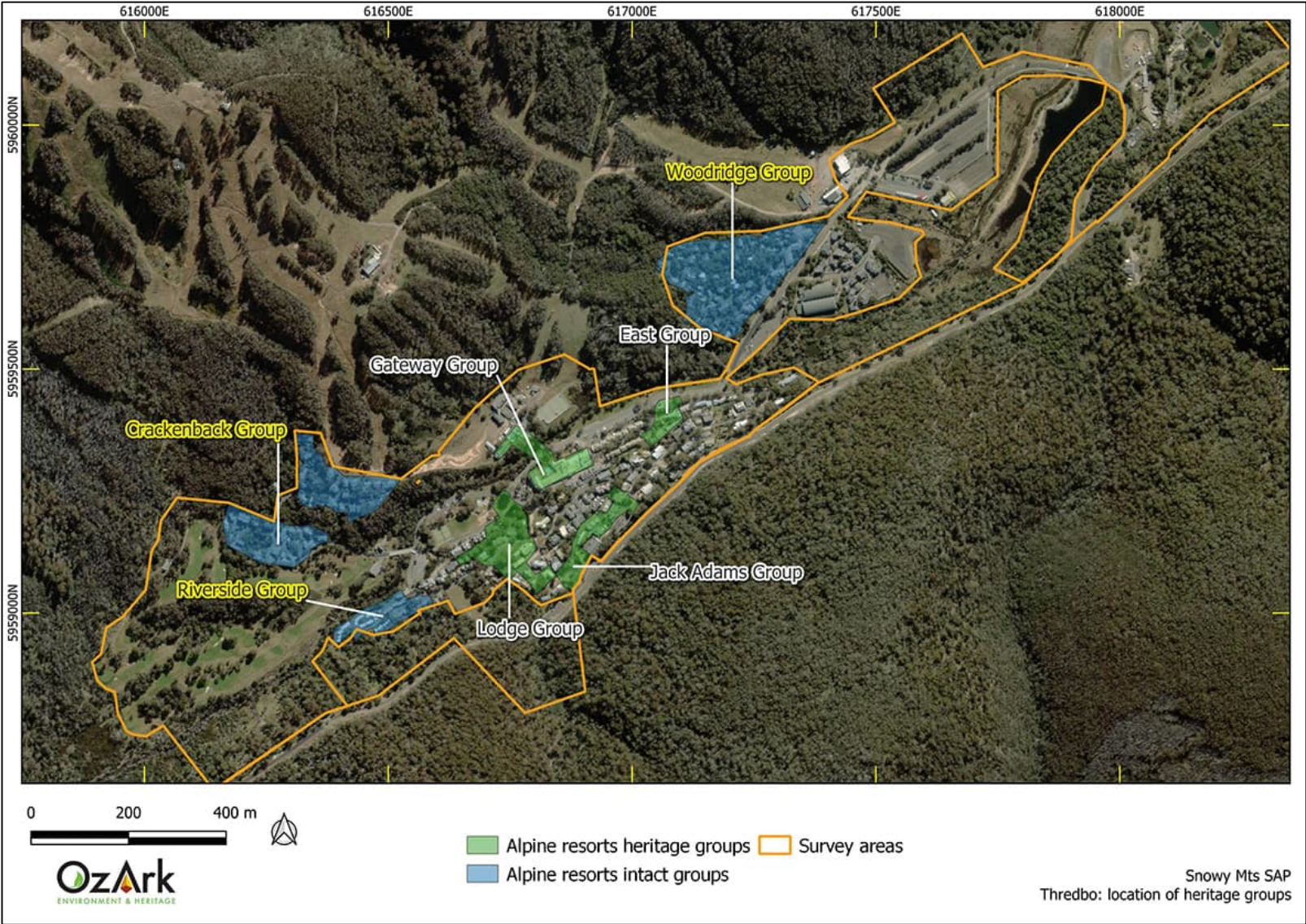


6.2 HERITAGE GROUPS WITHIN THE ALPINE RESORTS

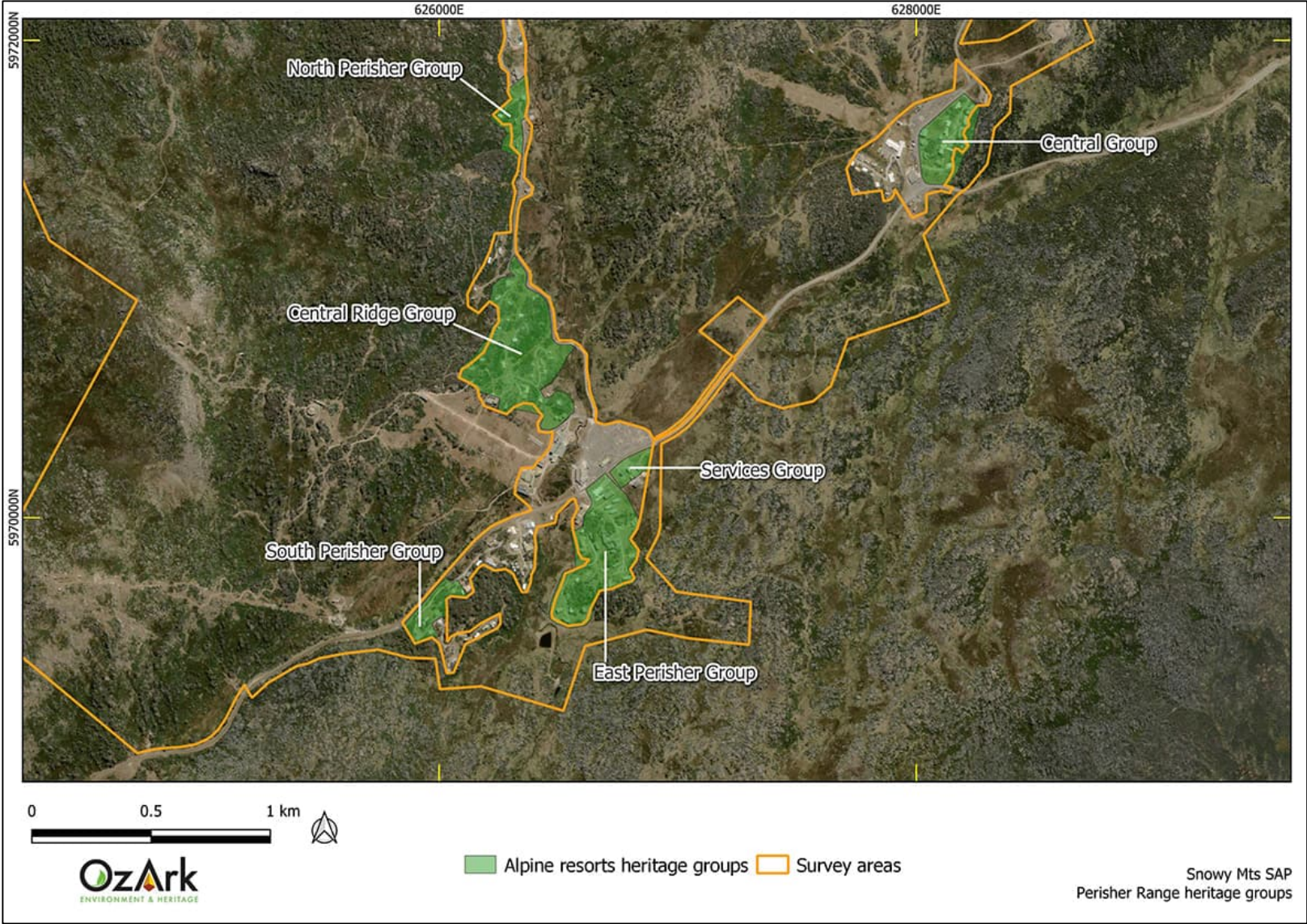
Appendix 1 Figure 1: Townscape groups at the Thredbo Alpine Resort identified by Lucas Stapleton 1997:29.



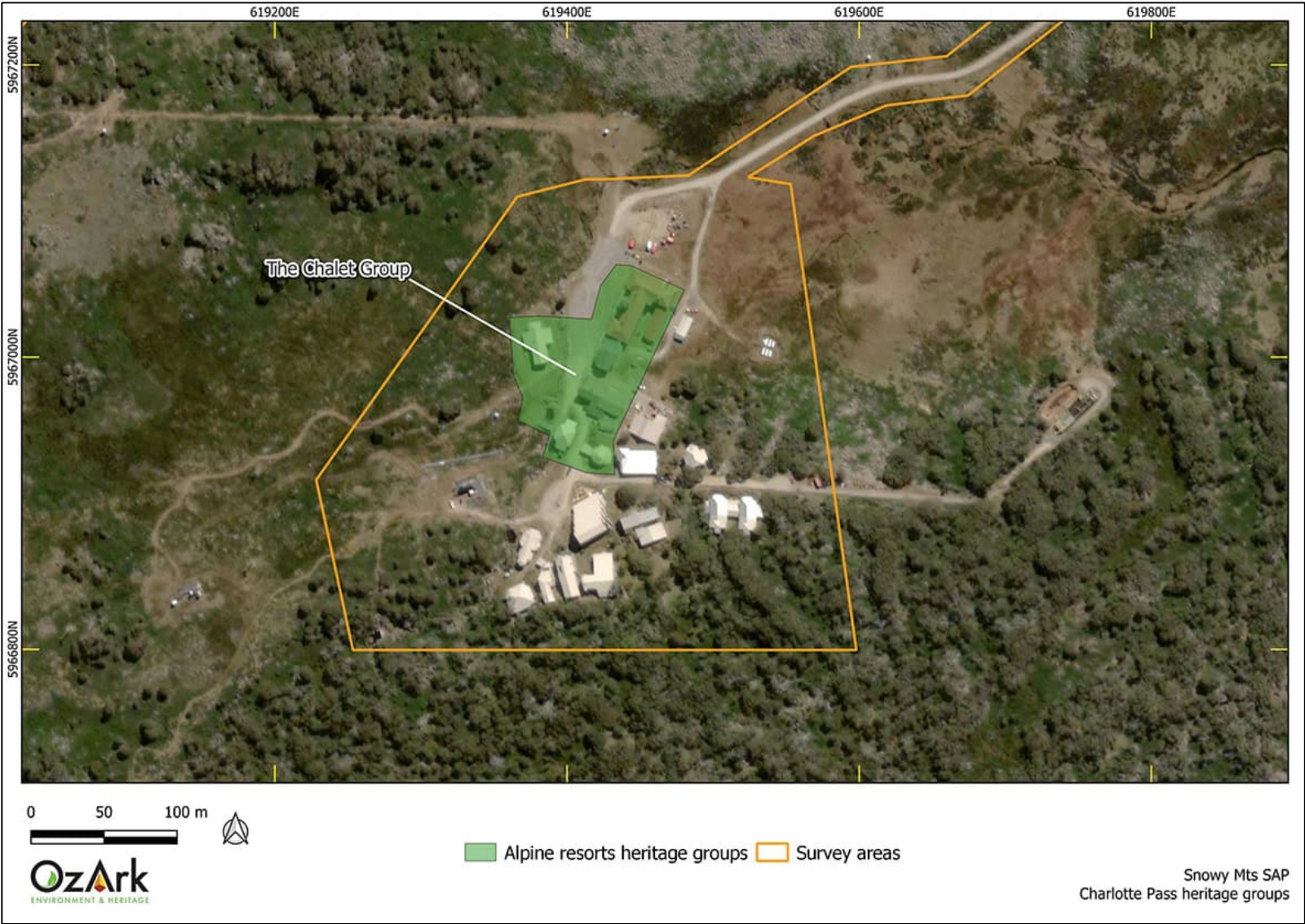
Appendix 1 Figure 2: Location of heritage groups at the Thredbo Alpine Resort.



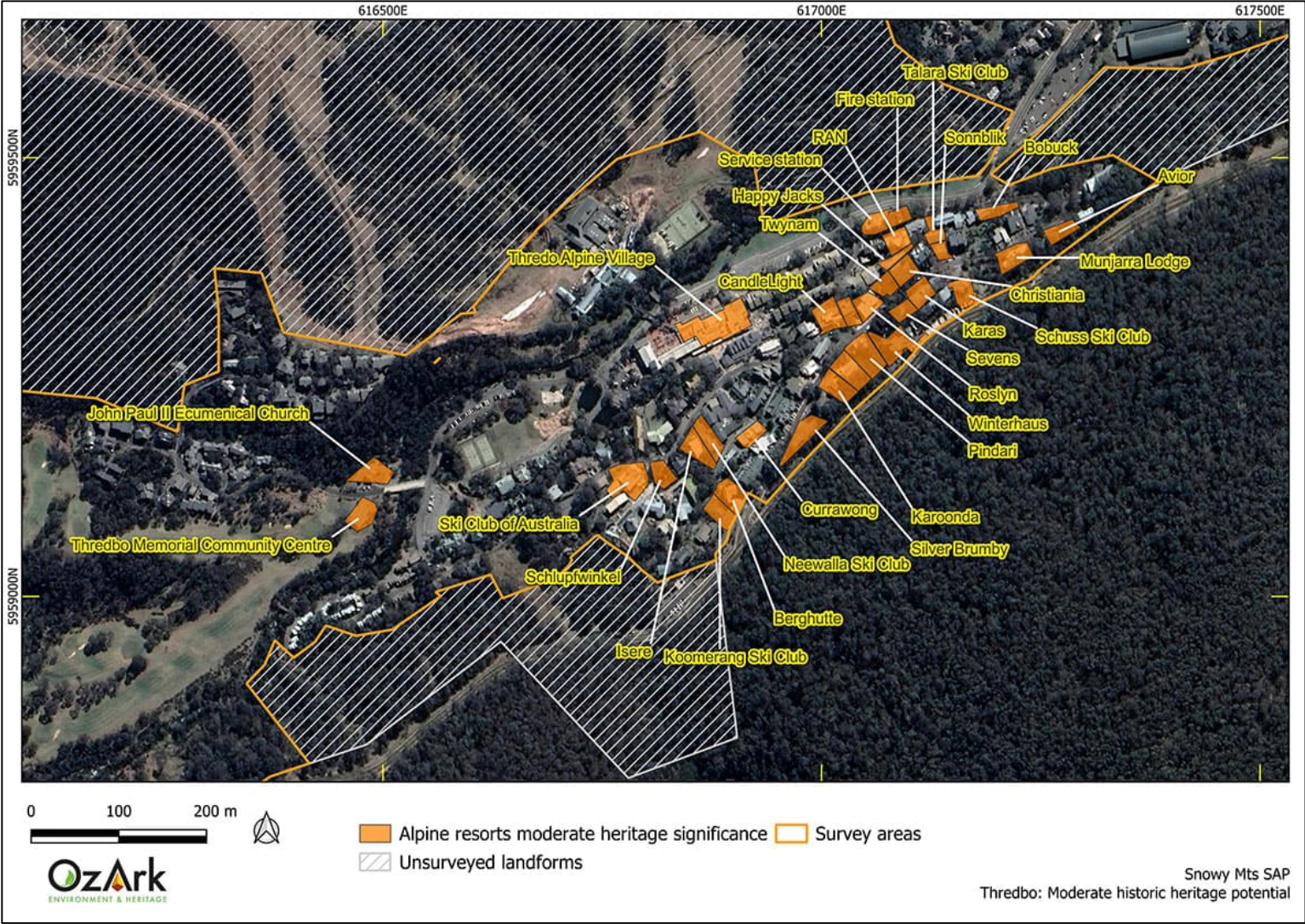
Appendix 1 Figure 3: Location of heritage groups at the Perisher Range Alpine Resort.



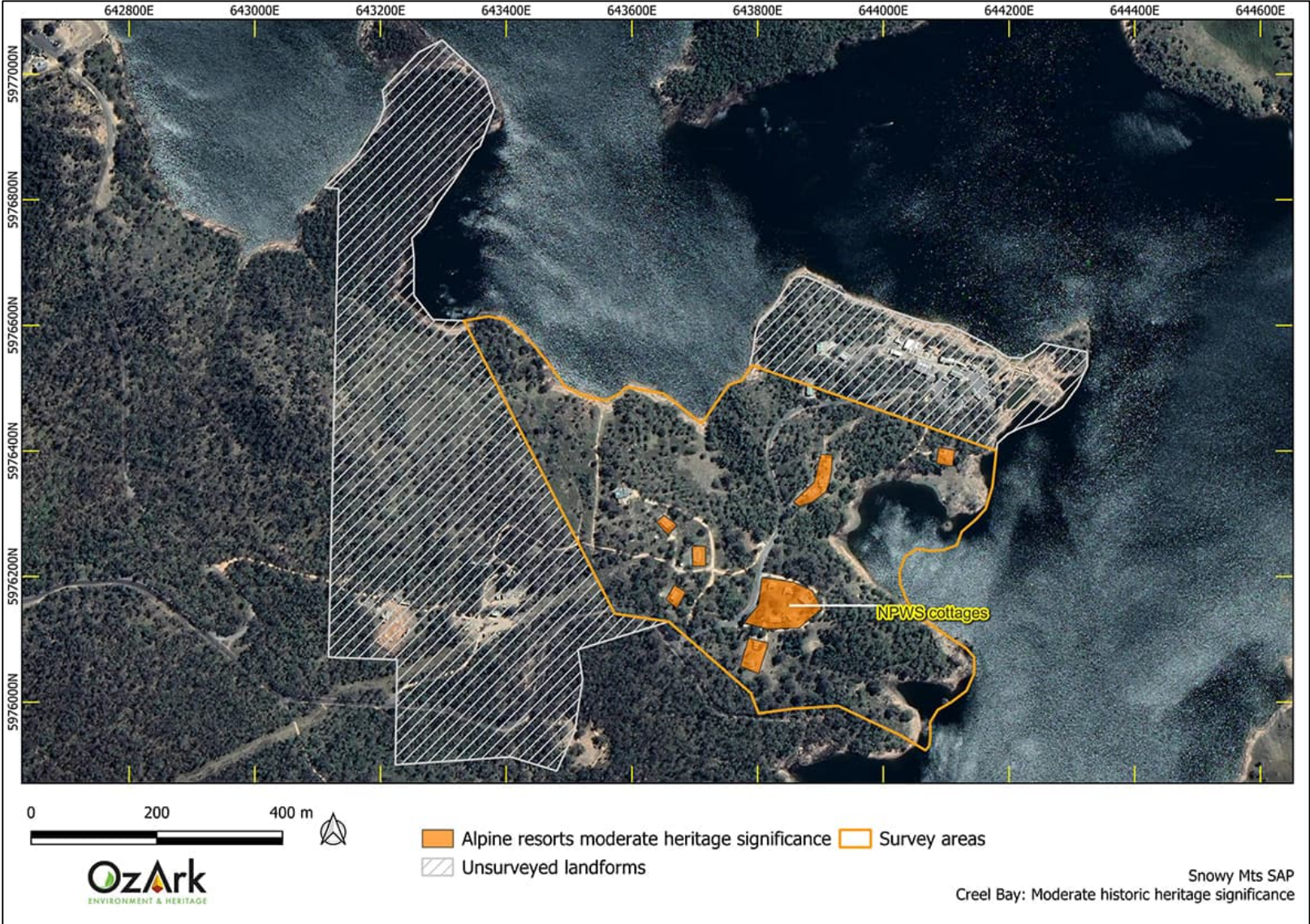
Appendix 1 Figure 4: Location of the heritage group at the Charlotte Pass Alpine Resort.



Appendix 1 Figure 5: Thredbo Village - Items of moderate historic heritage significance



Appendix 1 Figure 6: Creel Bay - Items of moderate historic heritage significance



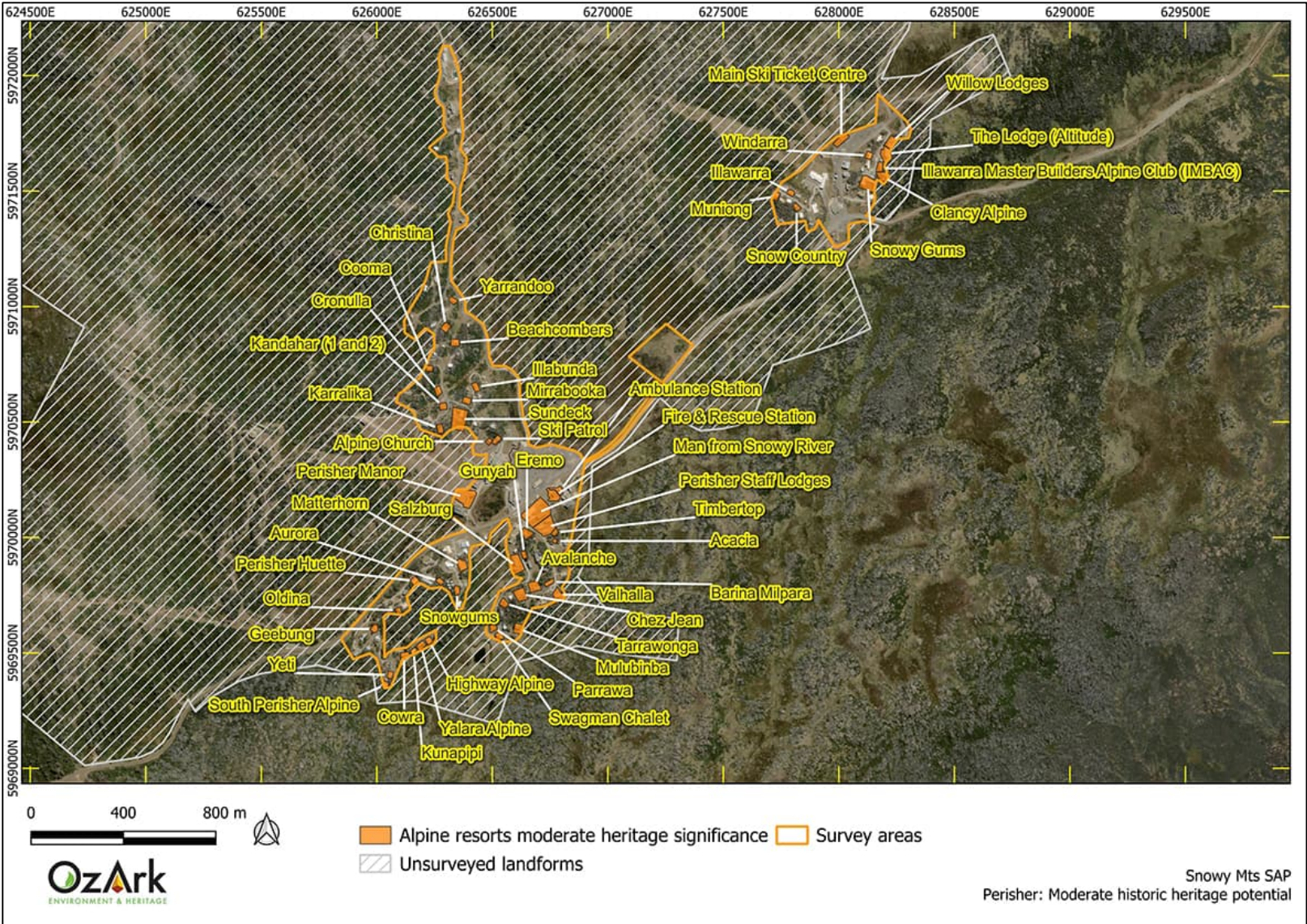
Appendix 1 Figure 7: Ski Rider Hotel - Items of moderate historic heritage significance



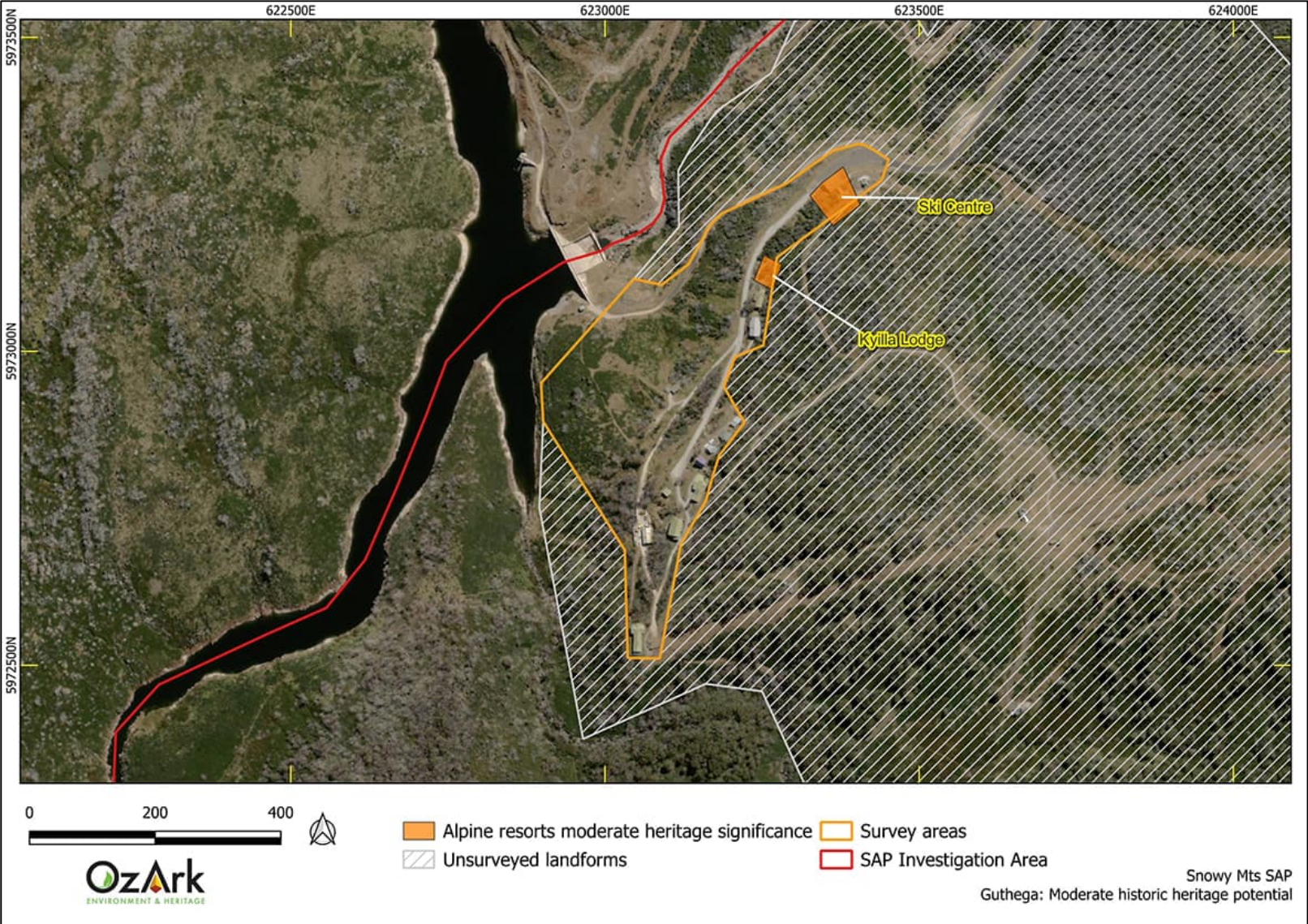
Appendix 1 Figure 8: Sponars Chalet - Items of moderate historic heritage significance



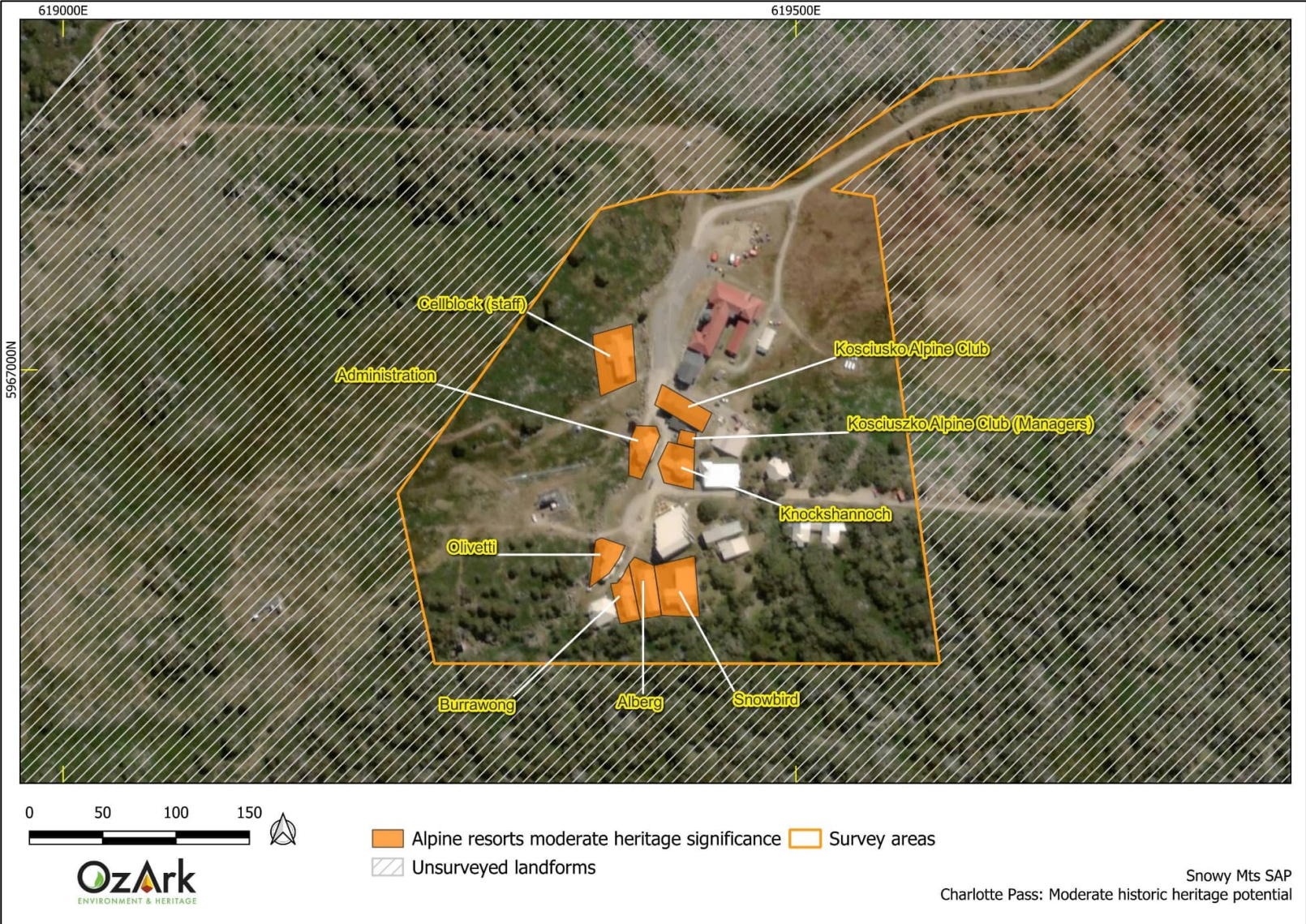
Appendix 1 Figure 9: Perisher Range - Items of moderate historic heritage significance



Appendix 1 Figure 10: Guthega - Items of moderate historic heritage significance

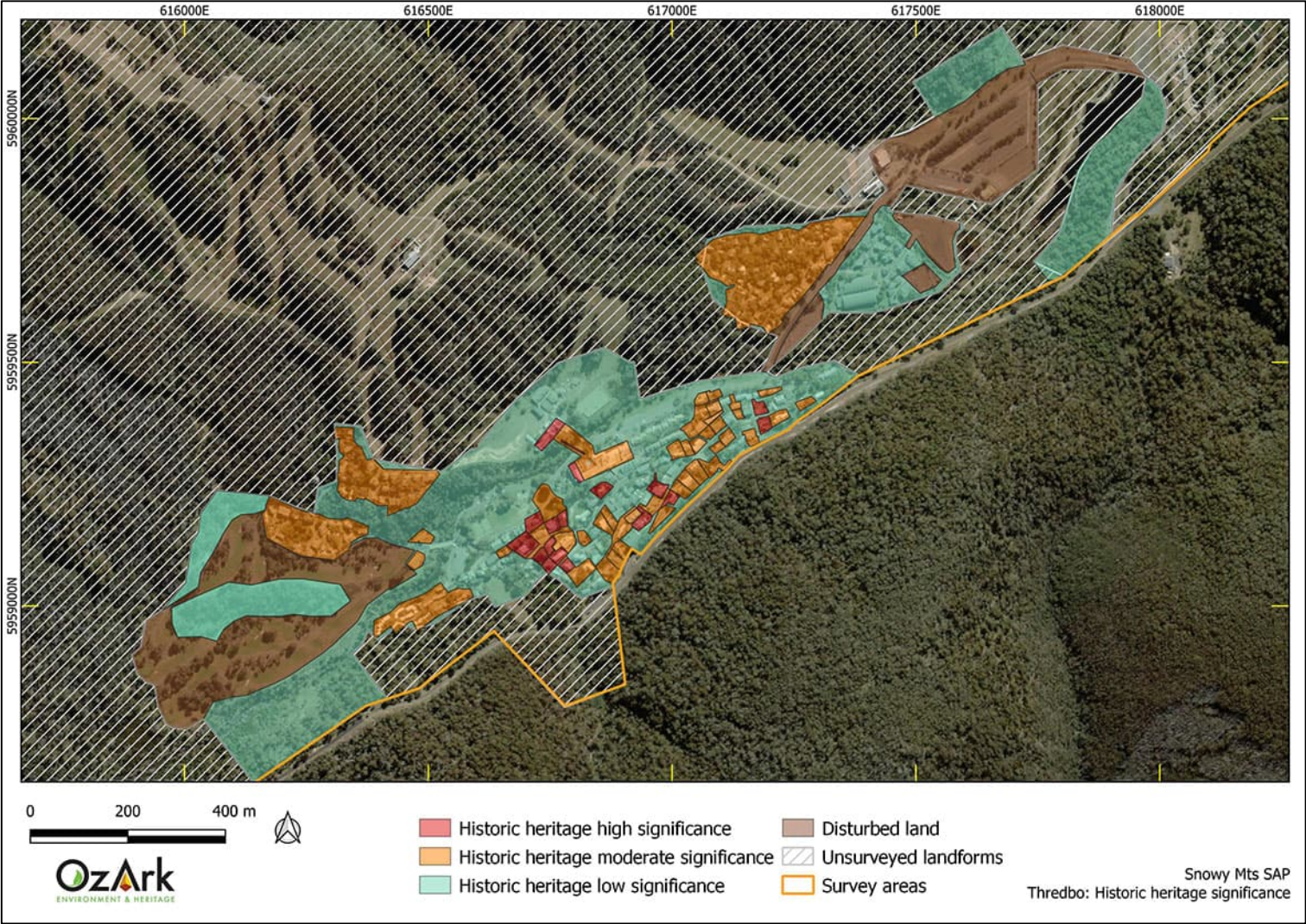


Appendix 1 Figure 11: Charlotte Pass - Items of moderate historic heritage significance



6.4 ALPINE PRECINCT, ALL HERITAGE ZONES MAPPED.

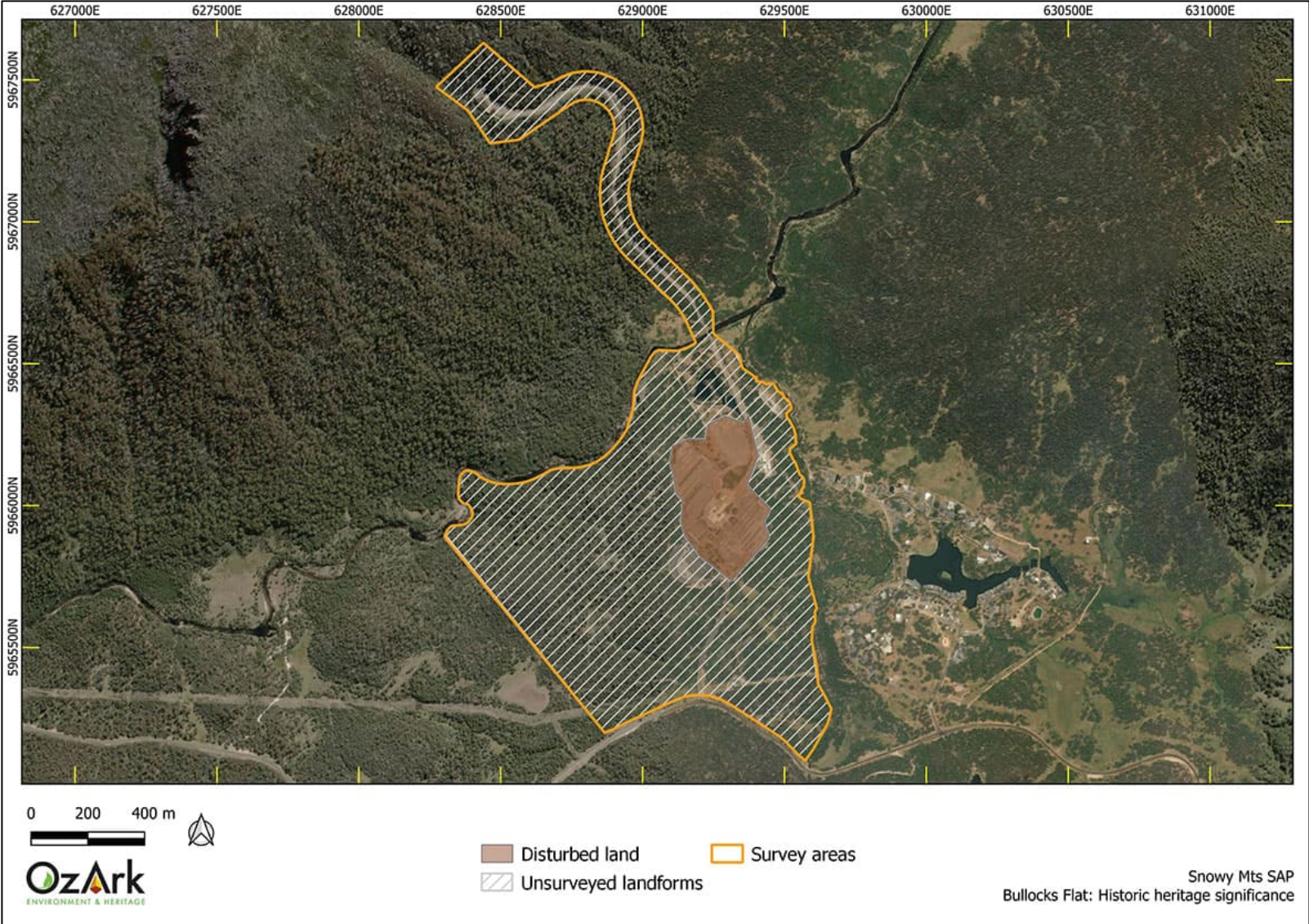
Appendix 1 Figure 12: Thredbo Village - Historic heritage zones.



Appendix 1 Figure 13: Thredbo Rangers Station - Historic heritage zones



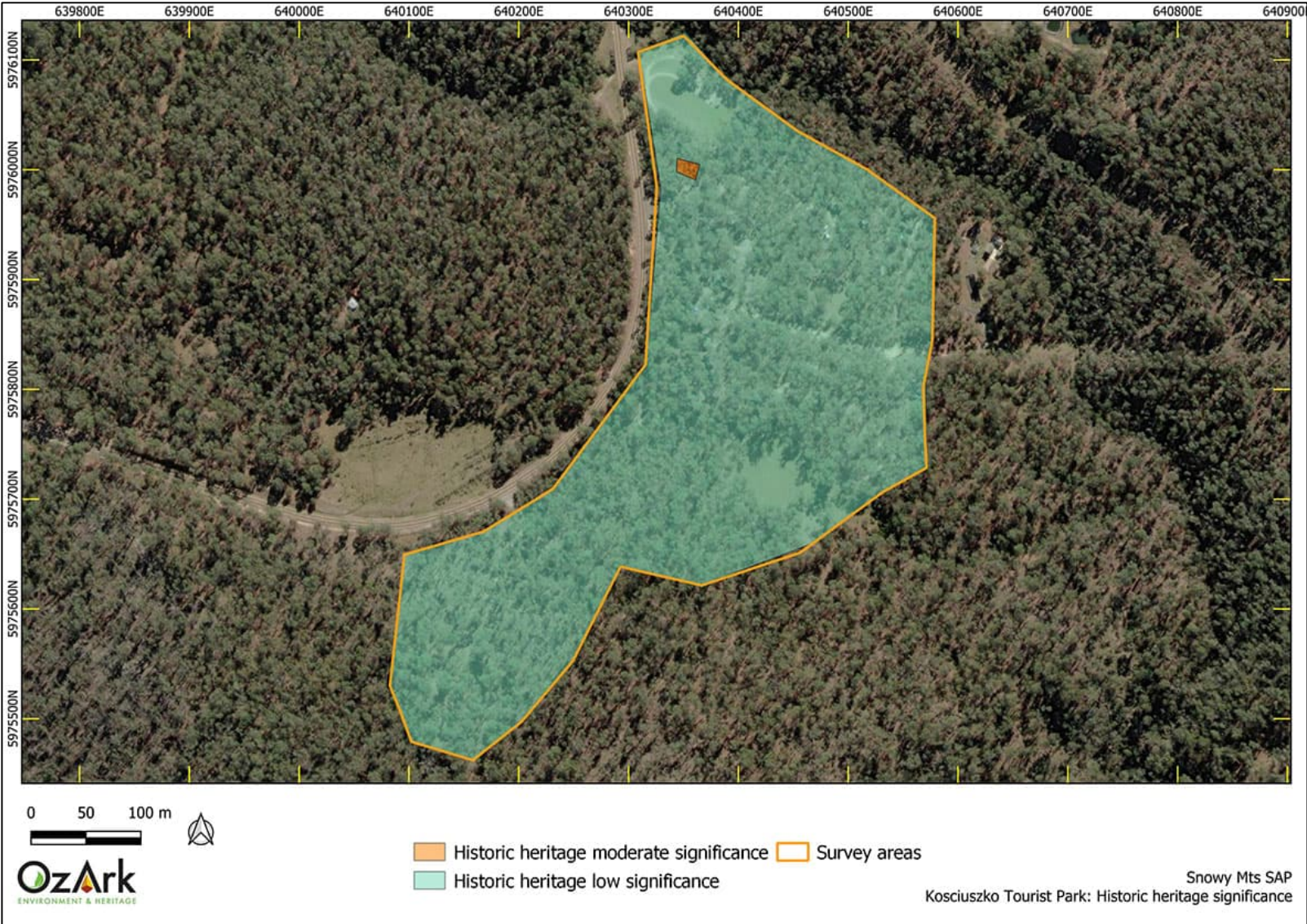
Appendix 1 Figure 14: Bullocks Flat - Historic heritage zones



Appendix 1 Figure 15: Creel Bay - Historic heritage zones



Appendix 1 Figure 16: Kosciuszko Tourist Park - Historic heritage zones



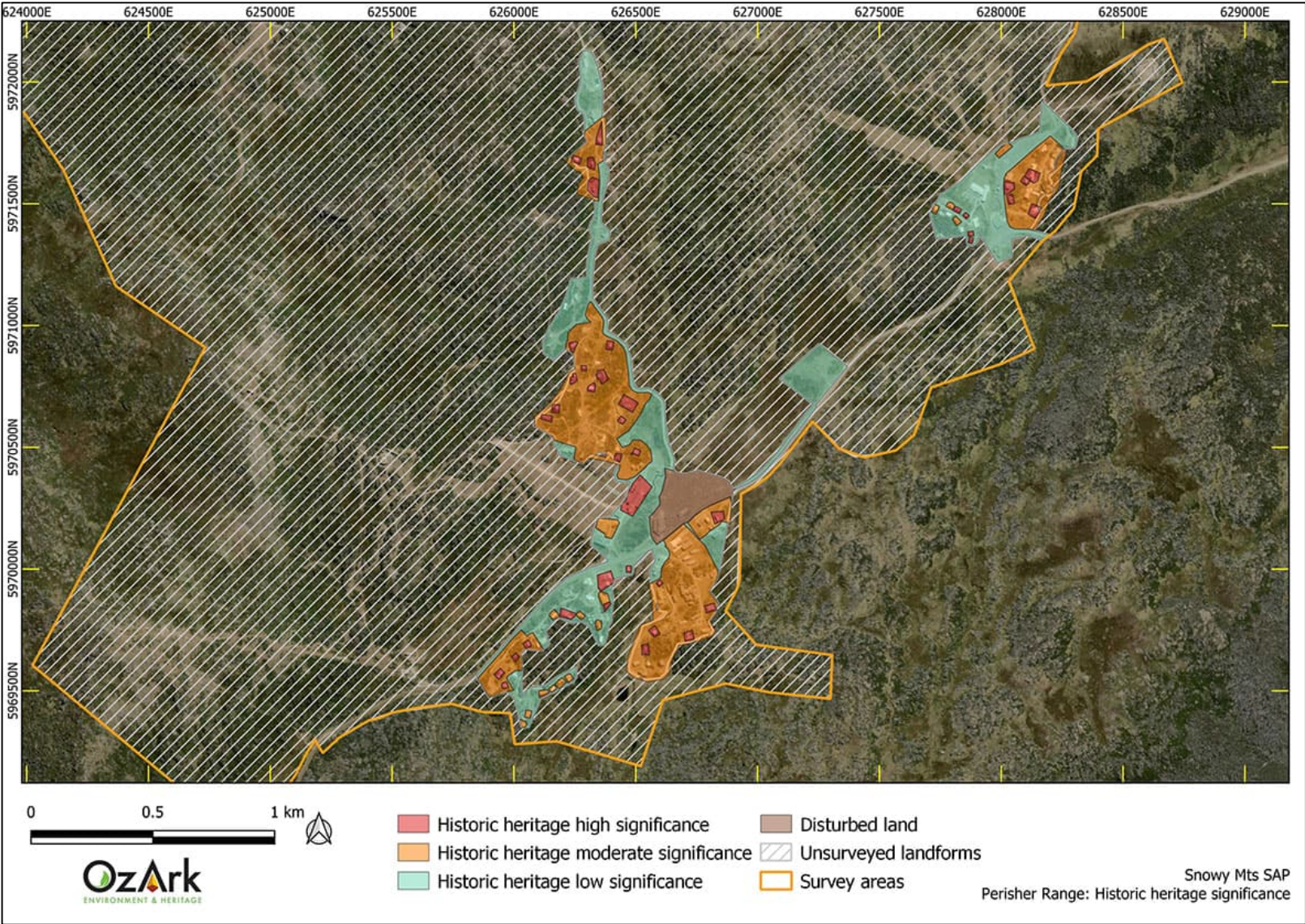
Appendix 1 Figure 17: Ski Rider Hotel - Historic heritage zones



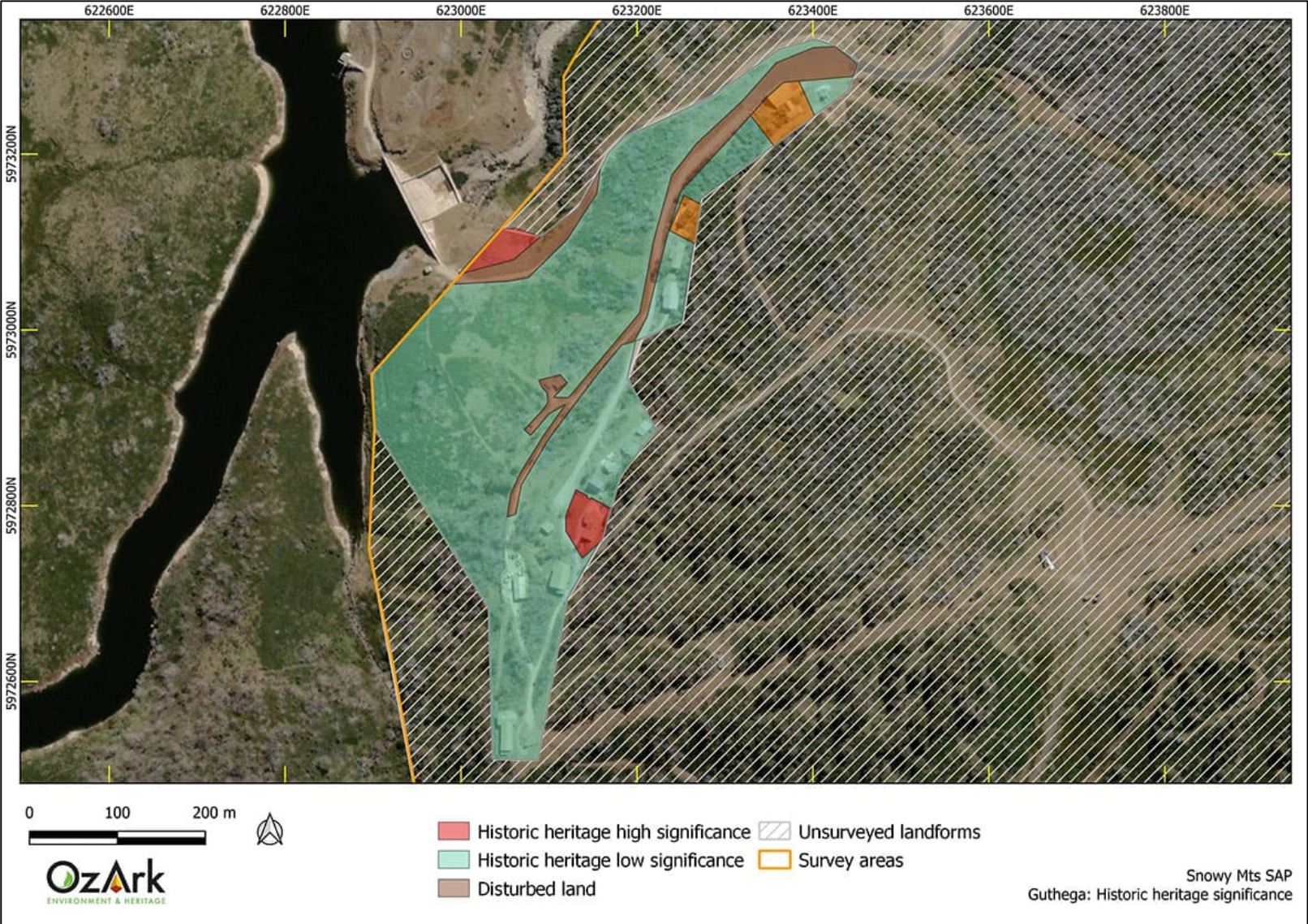
Appendix 1 Figure 18: Sponars Chalet - Historic heritage zones



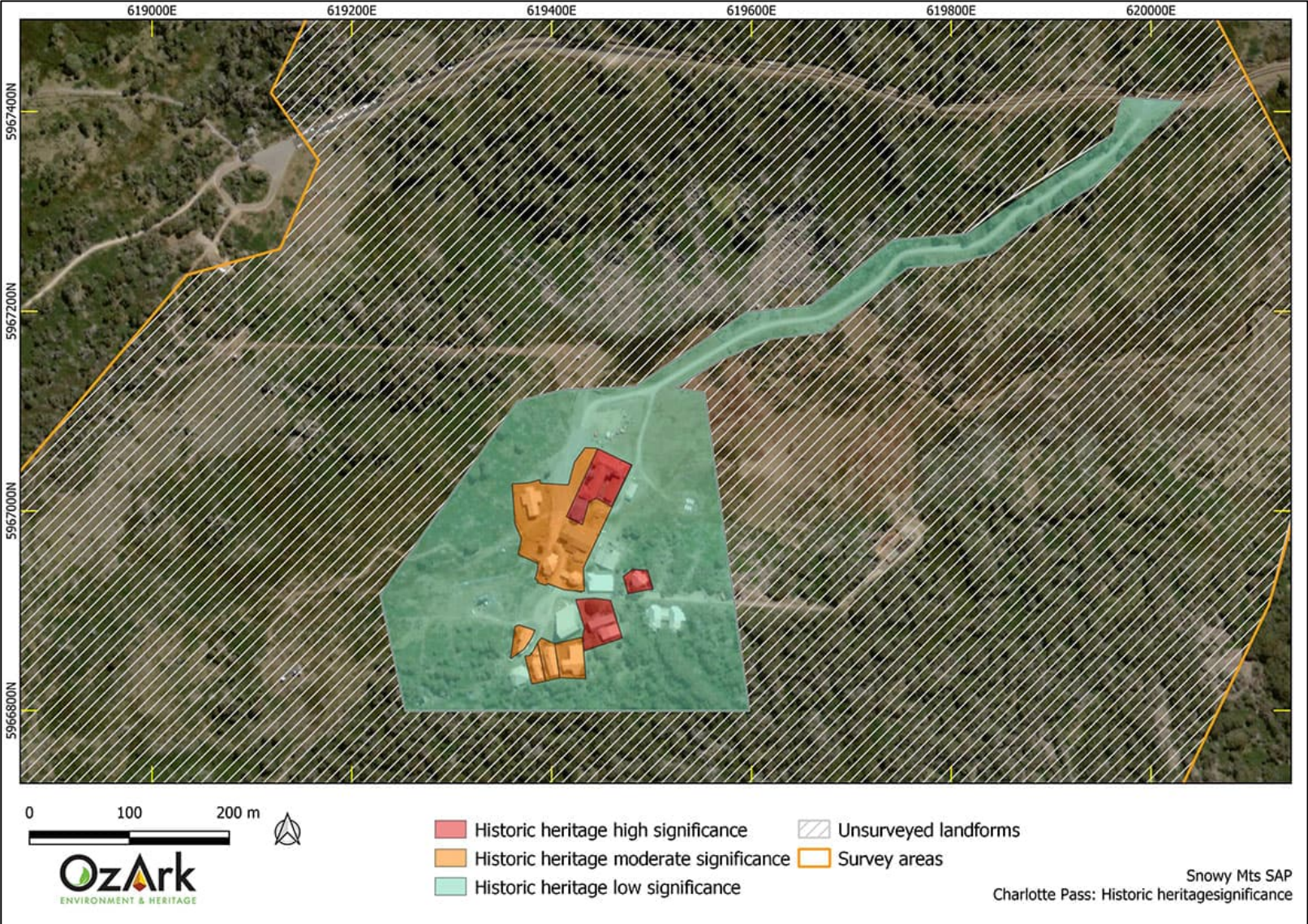
Appendix 1 Figure 19: Perisher Range - Historic heritage zones



Appendix 1 Figure 20: Guthega - Historic heritage zones



Appendix 1 Figure 21: Charlotte Pass - Historic heritage zones



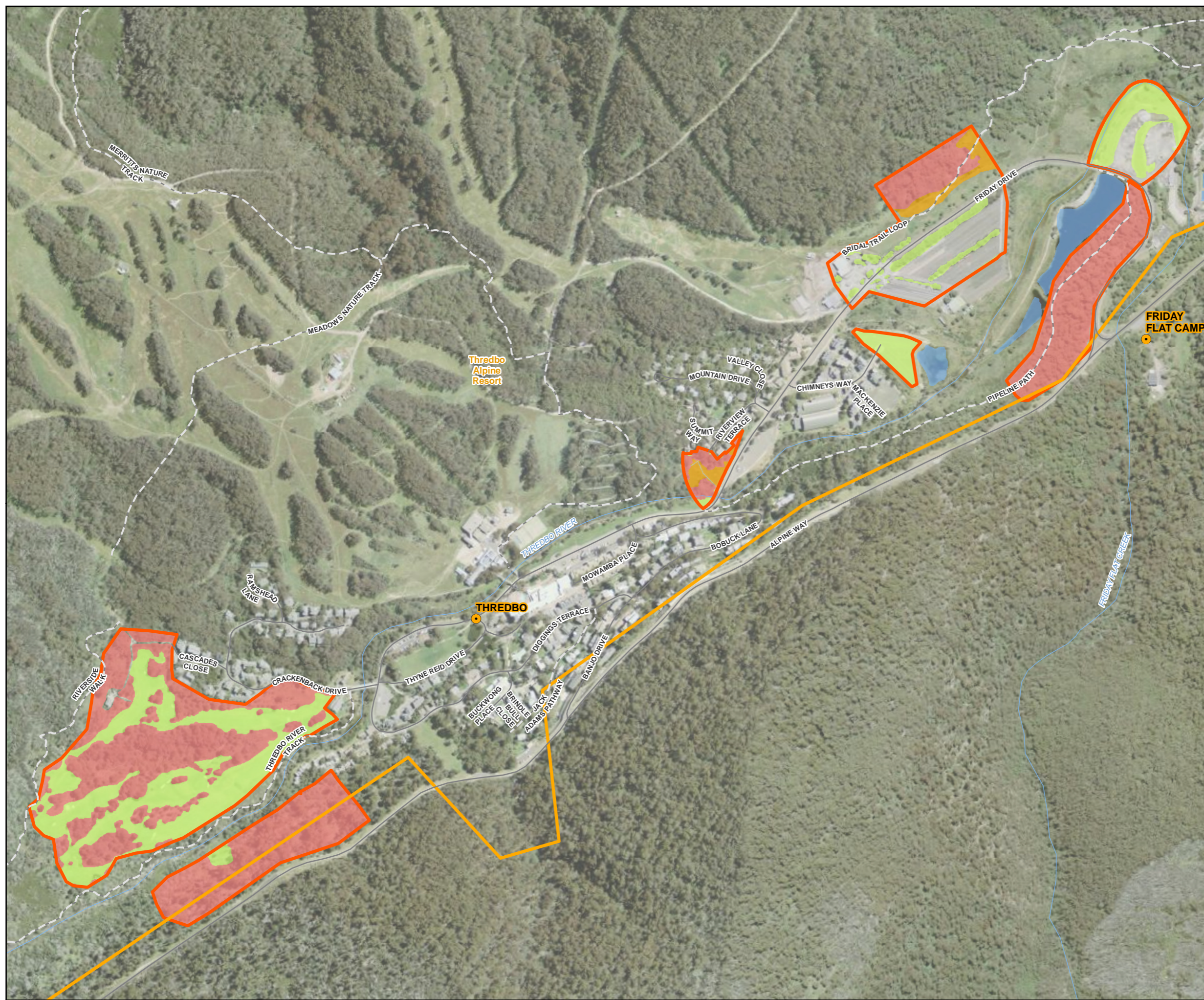


Appendix E

Biodiversity Maps

Figure 4.1

Thredbo Village sub-precinct
Alpine SEPP Sub-precinct



Legend

- Study Area
- SAP Precincts
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- High
- Moderate
- Low



Coordinate system: GDA 1994 MGA Zone 55
 Scale ratio correct when printed at A3
 1:7,000 Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Legend

- Study Area
- Watercourse
- Roads
- Biodiversity Constraints**
- High
- Moderate
- Low



Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:2,000

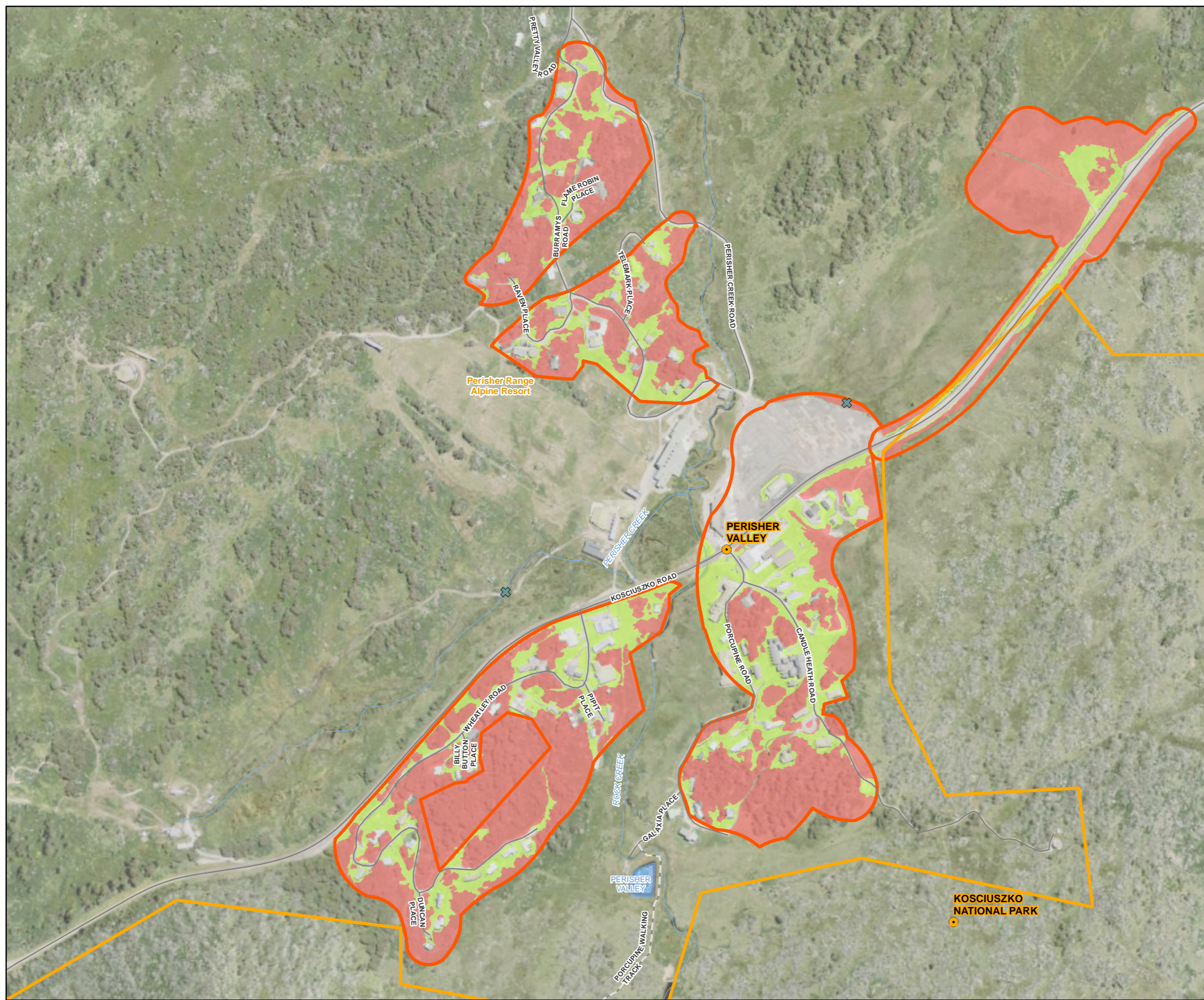
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Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Figure 6.1

Perisher Village Sub-precinct
Alpine SEPP Sub-precinct



Legend

- Study Area
- SAP Precincts
- Waterbodies
- Watercourse
- Roads

Threatened Flora Species

- x *Rytidosperma vickeryae*

Biodiversity Constraints

- High
- Low



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3
1:7,000 Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Figure 7.1

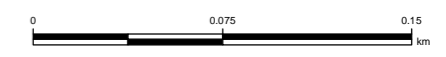
Pipers Gap Sub-precinct
Alpine SEPP Sub-precinct

Legend

- Study Area
- SAP Precincts
- Roads

- Threatened Flora Species**
- Rytidosperma vickeryae*

- Biodiversity Constraints**
- High
 - Low



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3
1:3,000 Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

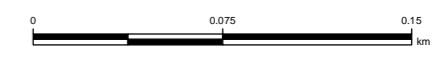
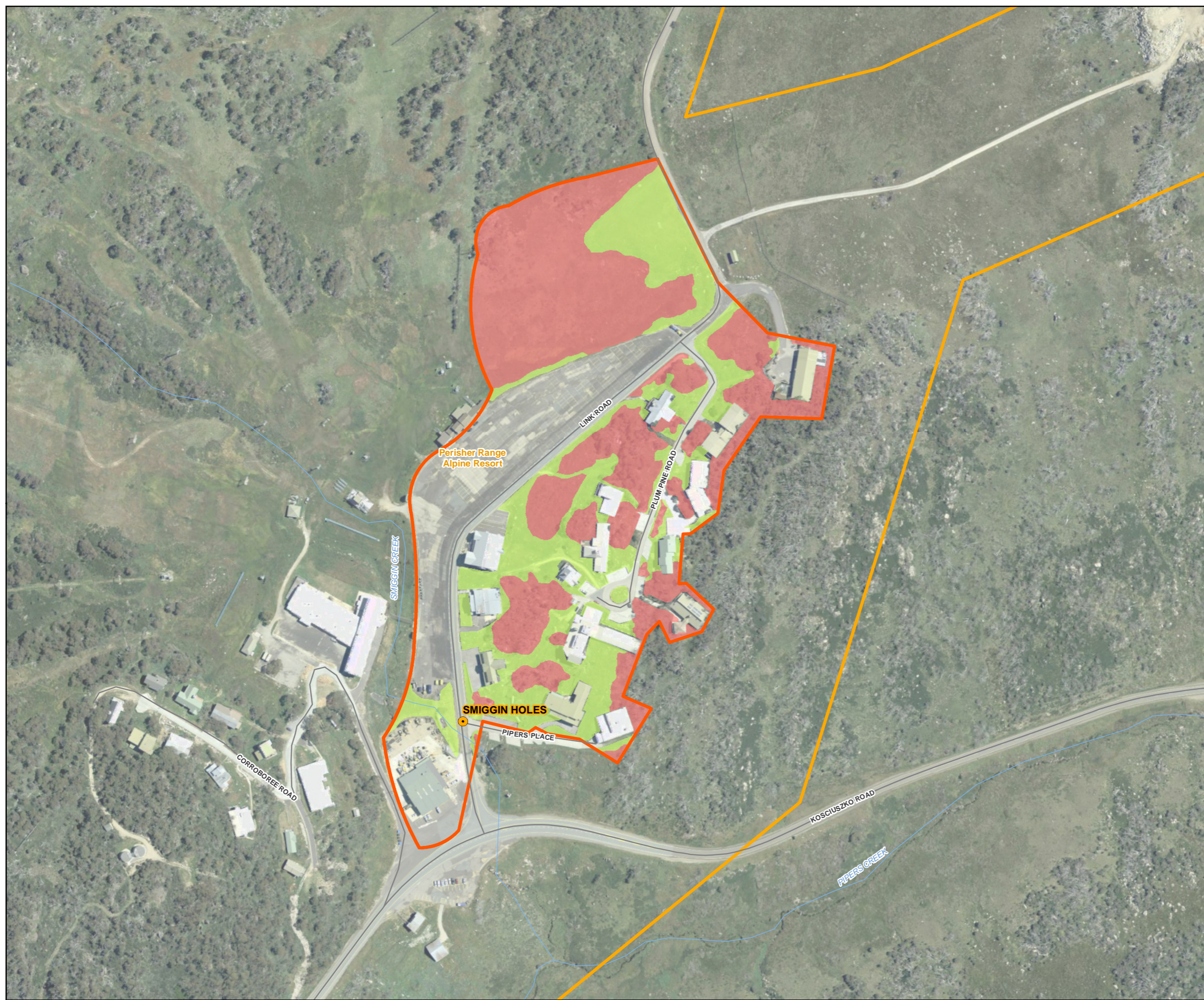
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Figure 8.1

Smiggin Holes sub-precinct
Alpine SEPP Sub-precinct

Legend

- Study Area
- SAP Precincts
- Watercourse
- Roads
- Biodiversity Constraints**
- High
- Low



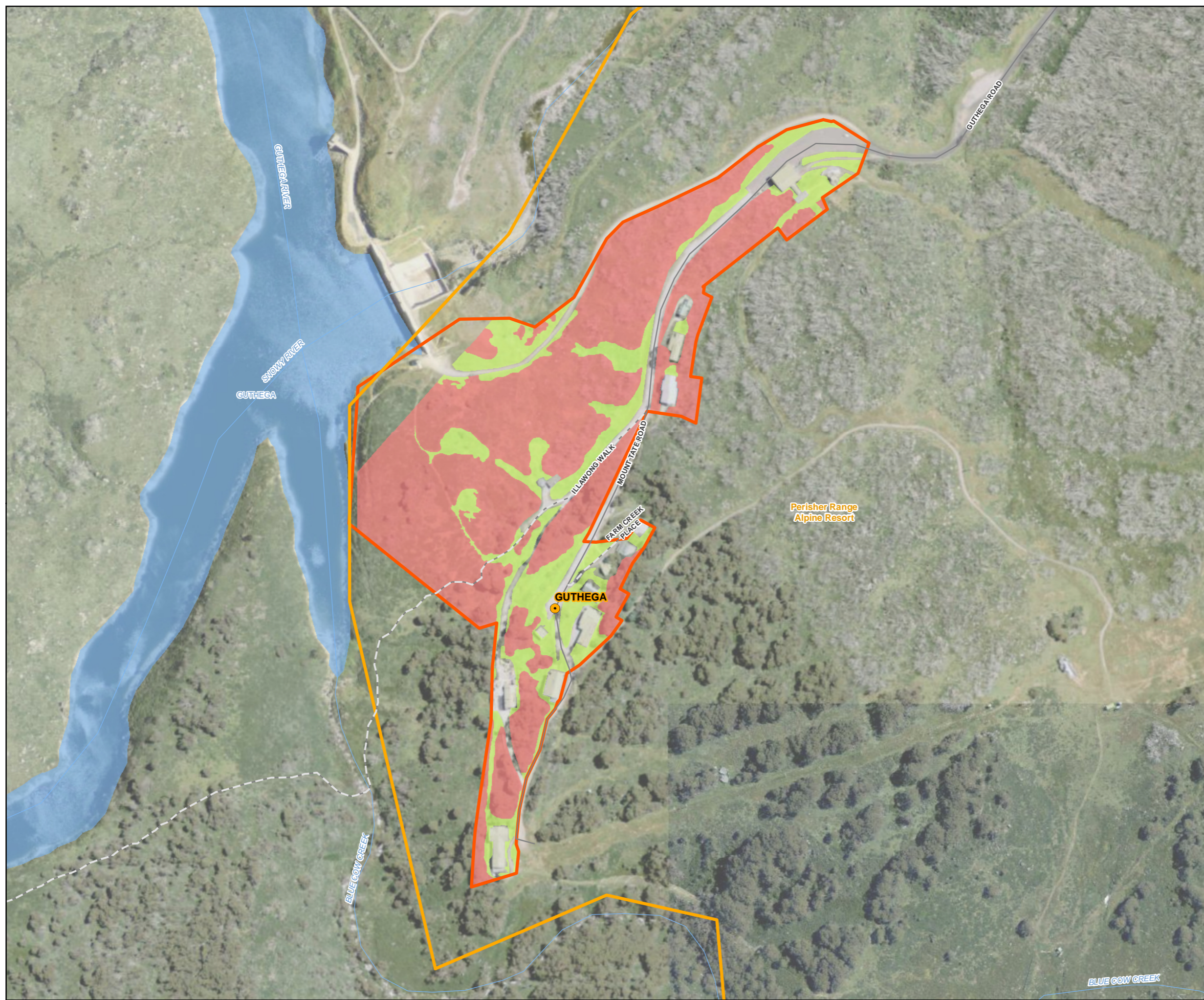
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Figure 9.1

Guthega Sub-precinct
Alpine SEPP Sub-precinct



Legend

- Study Area
- SAP Precincts
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- High
- Low



Coordinate system: GDA 1994 MGA Zone 55

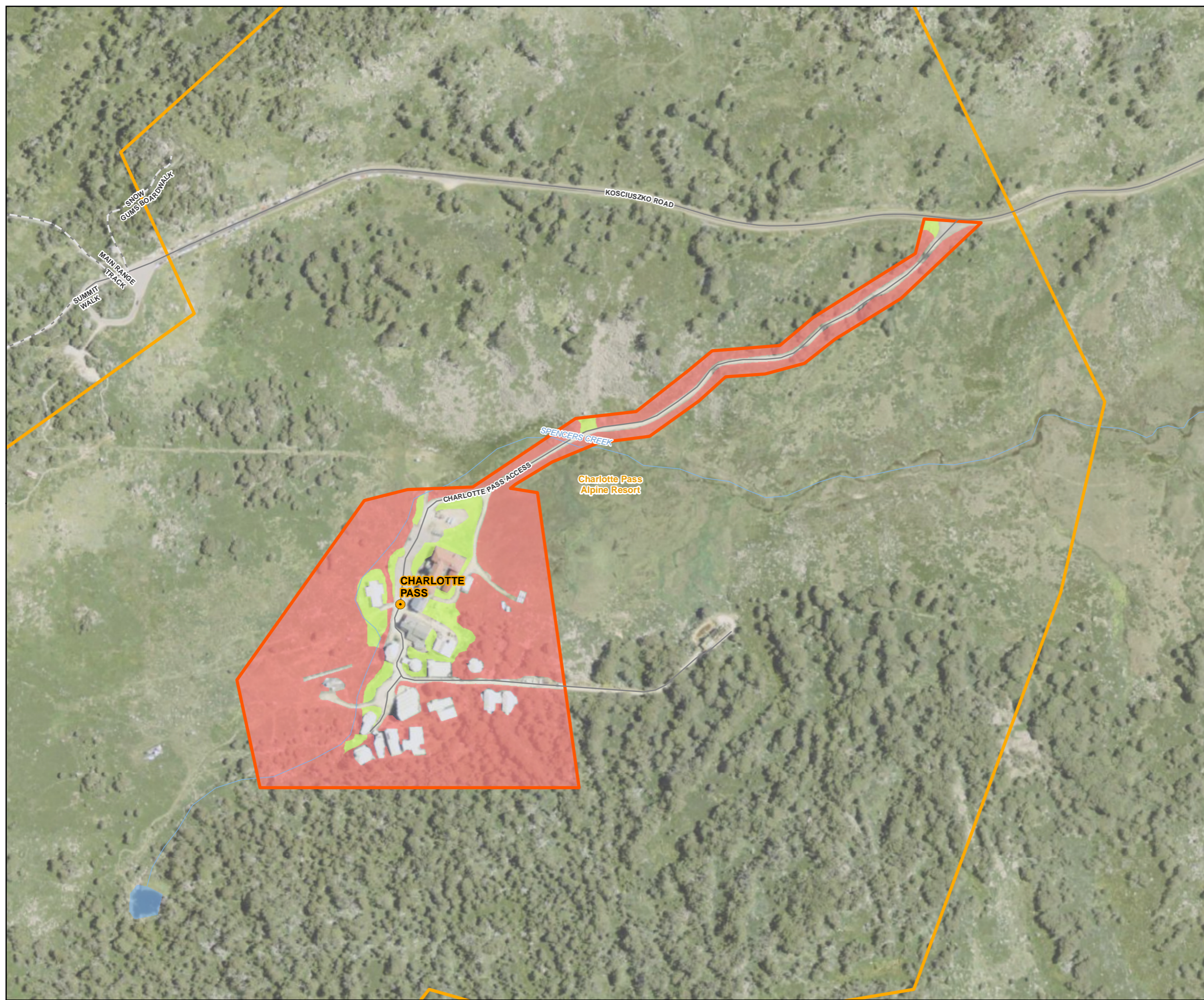
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Legend

- Study Area
- SAP Precincts
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- High
- Low



Coordinate system: GDA 1994 MGA Zone 55



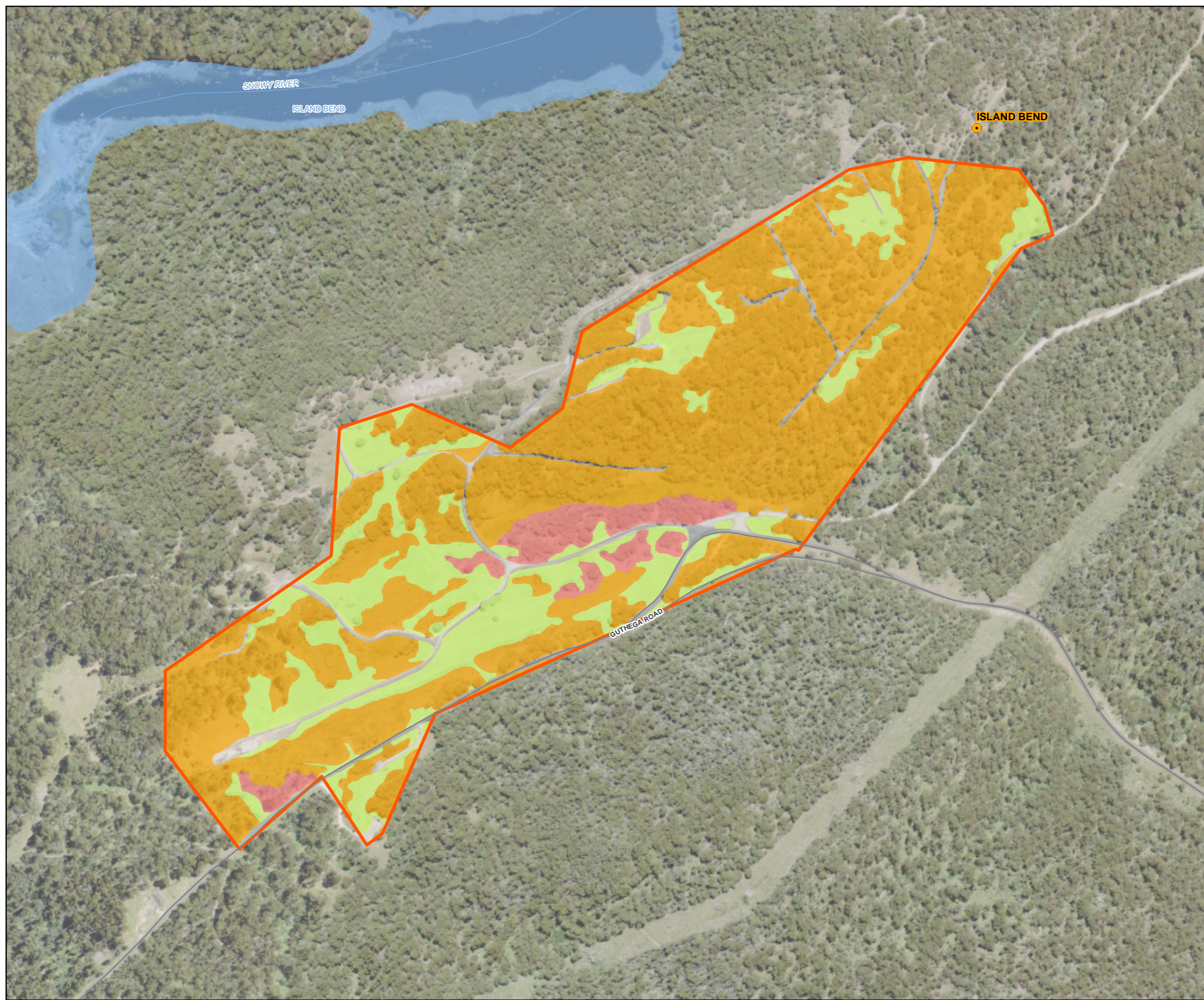
Scale ratio correct when printed at A3

1:4,000

Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Legend

- Study Area
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- High
- Moderate
- Low



Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3
1:5,000 Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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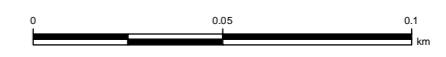


Legend

- Study Area
- SAP Precincts
- Cadastre
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- Moderate
- Low



Coordinate system: GDA 1994 MGA Zone 55



Scale ratio correct when printed at A3

1:2,000

Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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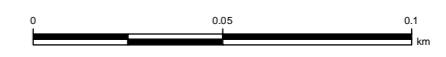


Legend

- Study Area
- SAP Precincts
- Cadastre
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- Moderate
- Low



Coordinate system: GDA 1994 MGA Zone 55



Scale ratio correct when printed at A3

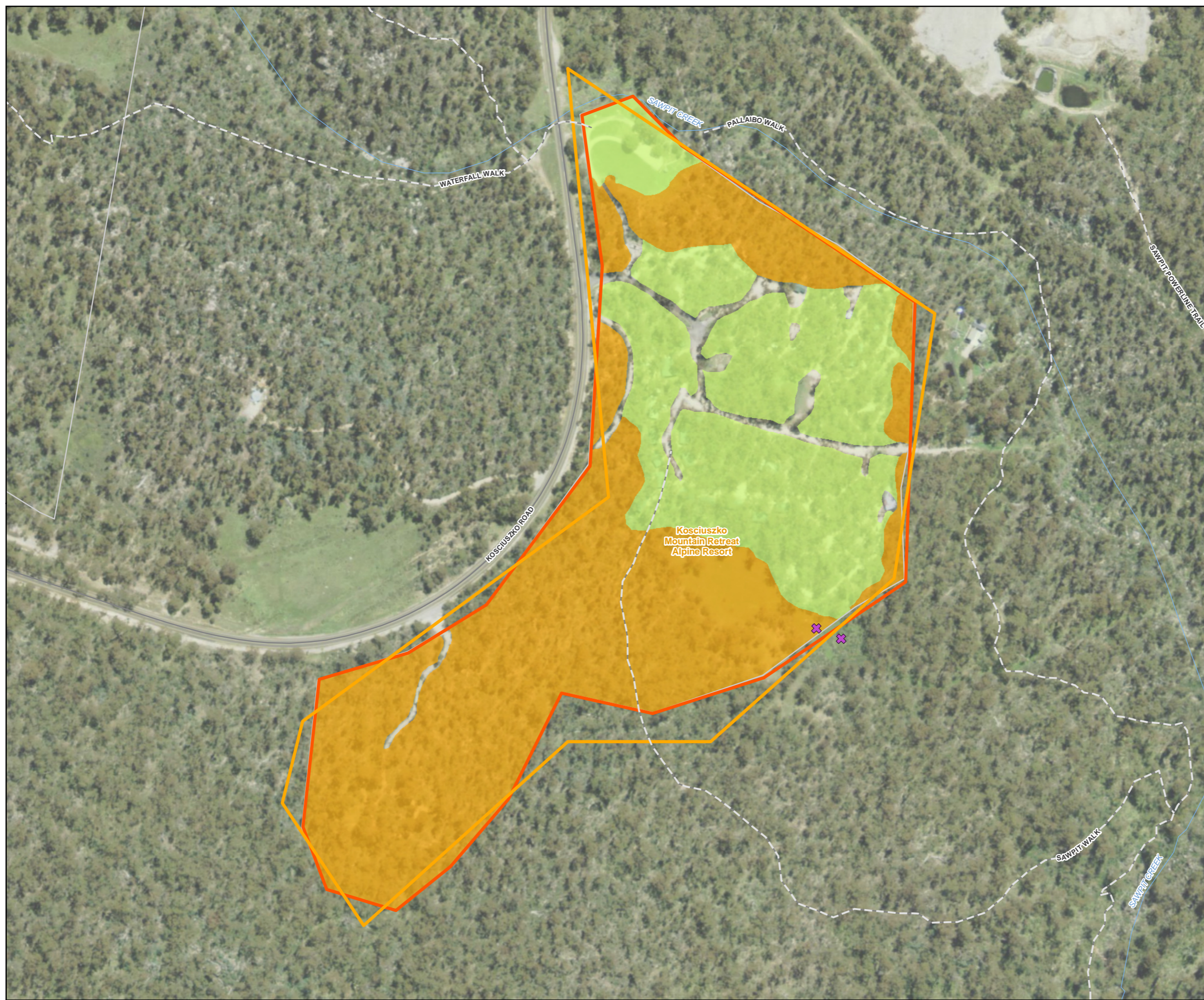
1:2,000

Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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WILSONS VALLEY



Legend

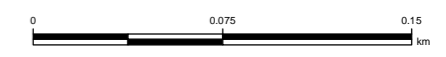
- Study Area
- SAP Precincts
- Cadastre
- Watercourse
- Roads

Threatened Flora Species

- Carex sp.

Biodiversity Constraints

- Moderate
- Low



Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3

1:3,000

Date: 22/03/2022

Data sources: - NSWSS, Geoscience Australia, DPIE, Metromap

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Figure 15.1

Bullocks Flat Terminal
Alpine SEPP Sub-precinct



Legend

- Study Area
- SAP Precincts
- Waterbodies
- Watercourse
- Roads

Biodiversity Constraints

- High
- Low



Coordinate system: GDA 1994 MGA Zone 55
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Appendix F

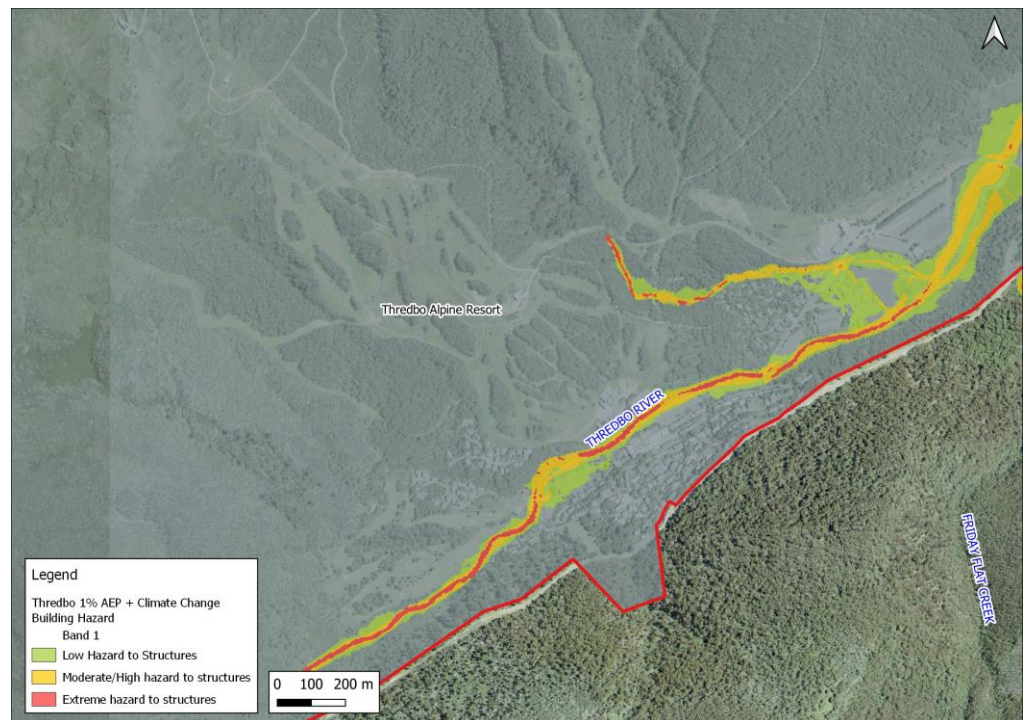
Stormwater / Flooding Maps

Sub-Precinct Building Vulnerability Information

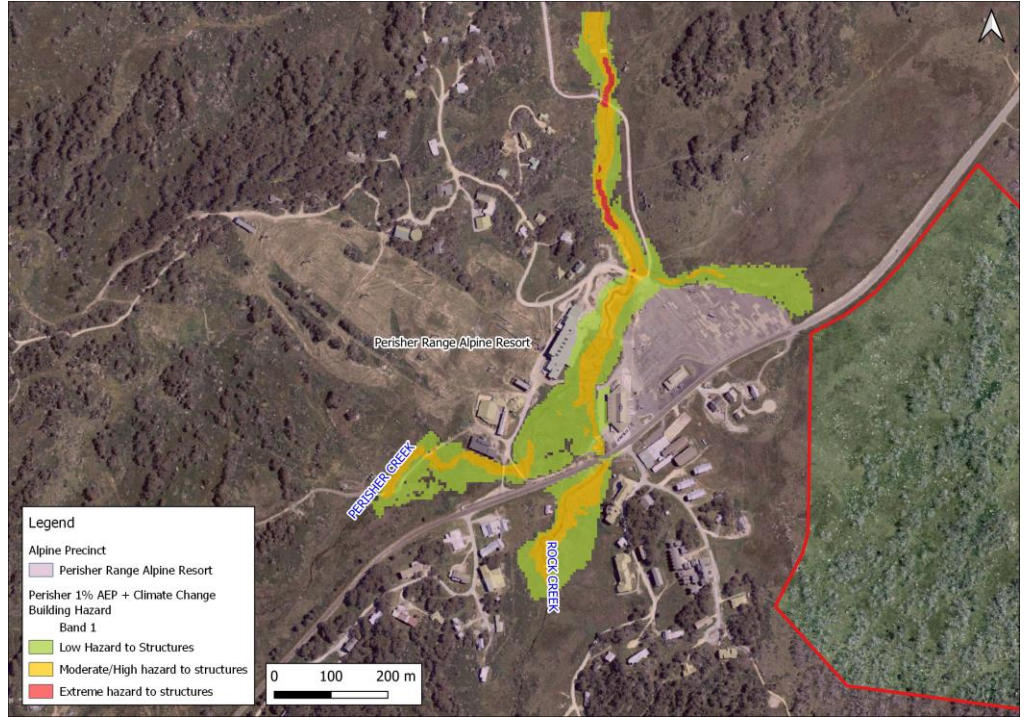
The following sub precinct maps have been prepared based on available information and identify the 1% AEP and climate change building hazard band levels.

Based on current available data, no flood studies have been developed for the other areas of the Alpine Precinct. However, if further flood studies are available, further advice and technical input can be provided if relevant.

Thredbo



Perisher



Bullocks Flat

