



Department of Planning
and Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No DA 22/5422

Granted on the 25 May 2023

Signed M Brown

Sheet No 2 of 26

Bushfire Hazard Assessment Report



Project: External Alterations and Repairs to an Existing Ski Lodge
62 Mount Tate Road, Guthega NSW 2624
Lot 233 DP 704184

DATE: APRIL 2022

REPORT NO: 21114

REVISION: 03

PREPARED FOR: AUSTRALIAN SKI CLUB C/- GLENN EDWARDS

PREPARED BY: ACCENT TOWN PLANNING

- Preparation of Bushfire Reports for Development in Bushfire Prone Areas
- Bushfire Attack Level (BAL) Certificates
- Bushfire Evacuation Plans
- Construction Solutions & Advice for Bushfire Prone Areas



Accreditation No: BPD - 27149



BUSHFIRE HAZARD ASSESSMENT

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DISCLAIMER

The recommendations provided in the summary of this report are a result of the analysis of the proposal in relation to the requirements of Planning for Bushfire Protection 2019. Utmost care has been taken in the preparation of this report however there is no guarantee of human error. The intention of this report is to address the submission requirements for Development Applications on bushfire prone land. There is no implied assurance or guarantee the summary conditions will be accepted in the final consent and there is no way Accent Town Planning is liable for any financial losses incurred should the recommendations in this report not be accepted in the final conditions of consent.

This bushfire assessment provides a risk assessment of the bushfire hazard as outlined in the PBP 2019 and AS3959 2018. It does not provide protection against any damages or losses resulting from a bushfire event.

EXECUTIVE SUMMARY

This bushfire assessment is for external alterations and repairs including the replacement of timber cladding to colorbond steel cladding to existing ski lodge known as Australian Ski Club located at Lot 233 DP704184, 62 Mount Tate Road, Guthega NSW 2624.

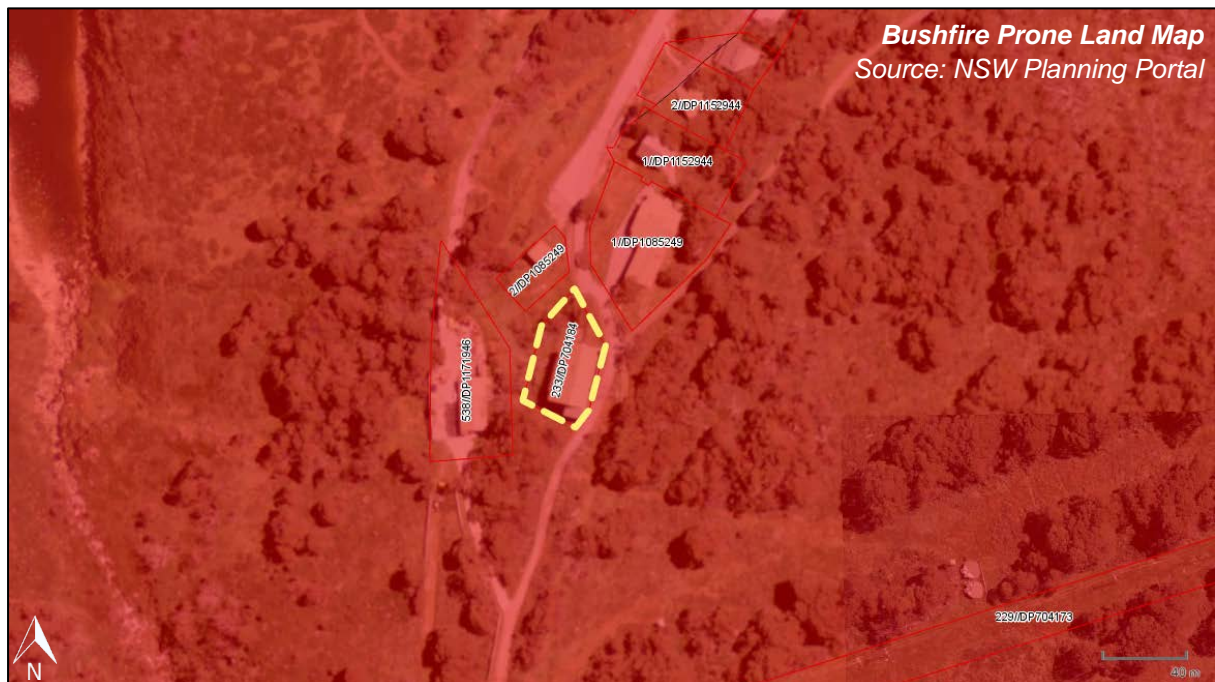
It is important to note that there is no increase in size to the building footprint by either proposal.

The land is zoned tourist accommodation and has been identified as being in bushfire prone land, and hence as outlined in *Planning for Bushfire Protection – PBP 2019* (NSW RFS 2019) is considered Special Fire Protection Purpose (SFPP) and is required to obtain a BFSa from the RFS under section 100B of the RF Act.

It is recommended that all **new works** in the proposed building envelope meet the below requirements:

- **BAL 40 on the North elevation and BAL FZ on all other elevations.**
- **The external alterations and repairs comply with the requirements of section 6.5 - Minor Development in SFPP Facilities of the PBP 2019 and are classified as minor non-structural building alterations (external).**

Pending compliance with the recommendations outlined in this report. The performance criteria and deemed to satisfy provisions of infill development within the Alpine Resorts outlined in Section 6.4, 6.5 and 6.6 of PBP 2019 are found to be satisfied.



The assessment confirms the lot is located on Bushfire Prone Land and identifies the following:

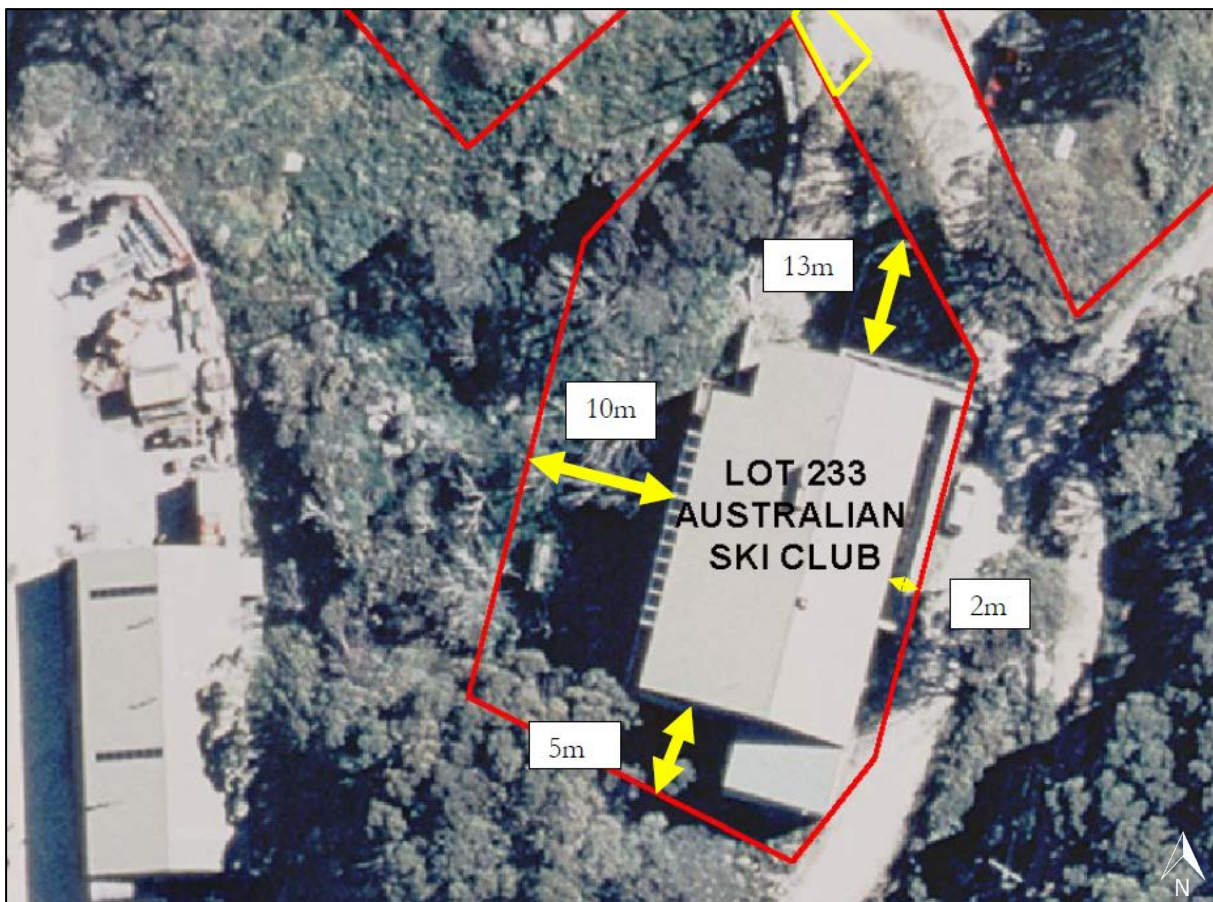
- The predominant bushfire threat is *Woodland* vegetation to the East of the existing lodge.
- The entire allotment is to be maintained as an Inner Protection Area (IPA).
- Clearing will not exceed the clearing threshold permissible above which the Biodiversity Assessment Method (BAM) and offsets scheme to apply.
- The proposed APZ is not within any areas with High Biodiversity Values.
- No changes to existing road access are proposed as part of this application.
- Guthega is serviced by reticulated water and hydrant system with nearest hydrants located on Mount Tate Road.

ASSET PROTECTION ZONES

The entire allotment will be maintained as an Inner Protection Area (IPA). The proposed external alterations and repairs meet the requirements of section 6.5 - Minor Development in SFPP Facilities of the PBP 2019 and are classified as minor non-structural building alterations (external). The development types included in section 6.5 of the PBP 2019 do not have any influence on potential bushfire impacts and the bush fire protection of the building. For this reason, the proposed alterations and repair works are not required to comply with the BAL outlined in Table 3.

Asset protection zones are the most strategically valuable defence against radiant heat and flame, and to lesser extent embers. To allow for emergency service personnel and residents to undertake property protection activities, a defendable space that permits unobstructed pedestrian access is to be provided around the building.

Native landscaping plants may be used in this area so long as they are selected for their low combustibility, by virtue of high moisture content, low volatile oil content, high leaf minerals, large fleshy leaves, absence of shredding bark. They should be placed so as not to provide either vertical or horizontal connectedness of plant material and avoid overhanging roof lines or contact with the building.



CONSTRUCTION

All **new** works to **BAL 40 on the North elevation and BAL FZ on all other elevations** as per AS3959-2018, with the exception that the construction requirements shall be varied to comply with the requirements of Section 7.5 of the NSW Rural Fire Service *Planning for Bushfire Protection 2019*.

The proposed repair works consist primarily of the replacement of existing timber cladding with new colorbond steel cladding. The new cladding falls under section 6.5 of the PBP 2019, this development type does not have any influence on potential bushfire impacts and the bushfire protection of a building. With this in mind, the chosen cladding has been selected to improve the bushfire protection outcome for the lodge and its occupants.

UTILITIES

The intent of measures is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities. To achieve this, the following conditions shall apply:

WATER

All above ground water pipes external to the building are to be metal.

Guthega is serviced by reticulated water. A hydrant system is located along Mount Tate Road. The location and distance to the hydrants will be consistent with the requirements of the PBP 2019.

GAS

If gas is connected to the lodge on the subject land, must perform as per the following criteria:

- Bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. Metal piping is to be used.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation.
- If gas cylinders need to be kept close to the building, the release valves are directed away from the building and at least 2 metres away from any combustible material, so that they do not act as a catalyst to combustion. Connections to and from gas cylinders are metal.
- Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used.

EVACUATION AND EMERGENCY MANAGEMENT

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments.

To achieve this, the following conditions shall apply:

A building evacuation diagram, site layout diagram and Statement of Action are to be provided in each building in accordance with the NSW Rural Fire Service Guidelines for the Preparation of Emergency/Evacuation Plan and with Australian Standard AS 3745 2010 'Planning for Emergencies in Facilities'.

1. PROPOSAL

This Bush Fire Assessment Report has been compiled for submission to the Department of Planning for the purpose of assessment under Section 100B of the RF Act and is also considered “integrated development” under Section 4.46 of *Environmental Planning and Assessment Act 1979* (EP&A Act).

The report has been prepared in accordance with the submission requirements of Appendix 4 of *Planning for Bush Fire Protection* (NSW RFS 2019) and identifies the proposal can meet the appropriate objectives and performance criteria of Section 6.4, 6.5 and 6.6 *Planning for Bush Fire Protection* (NSW RFS 2019).

The assessment confirms the subject lot is mapped as bushfire prone.

Accent Town Planning was commissioned to provide this bushfire assessment. Accredited bushfire assessor, Matthew Stewart inspected the site on 30th of April 2021.

- **Figure 1** – Shows the subject lot location.
- **Figure 2** – Provides a broad scale aerial view of the subject site.
- **Figure 3** – Shows the proposed plans.

FIGURE 1 SITE LOCATION

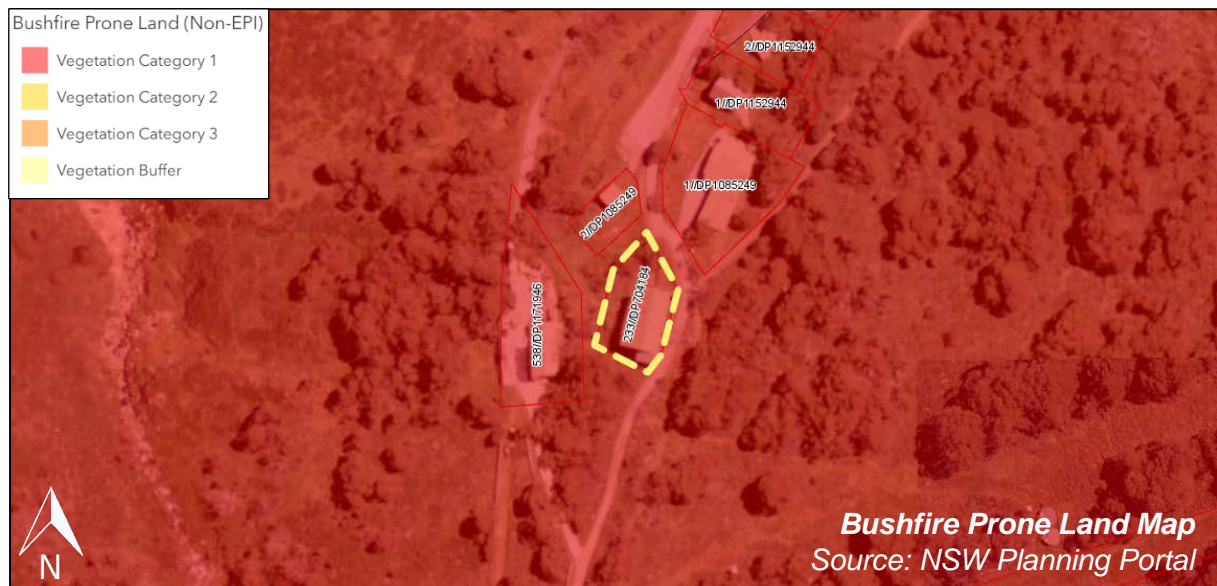


FIGURE 2 BROAD SCALE AERIAL VIEW OF THE SUBJECT SITE

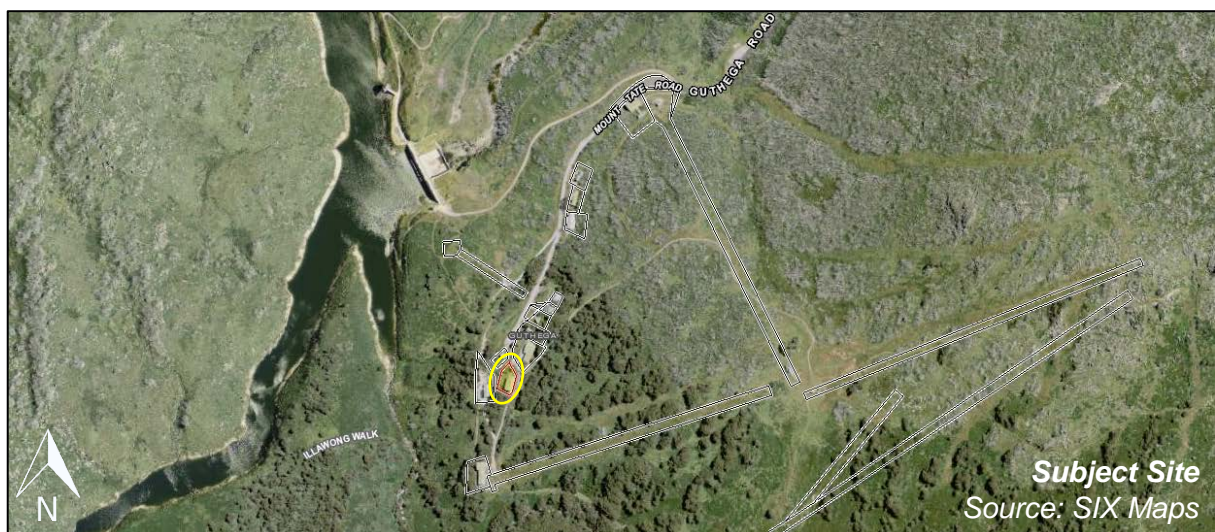
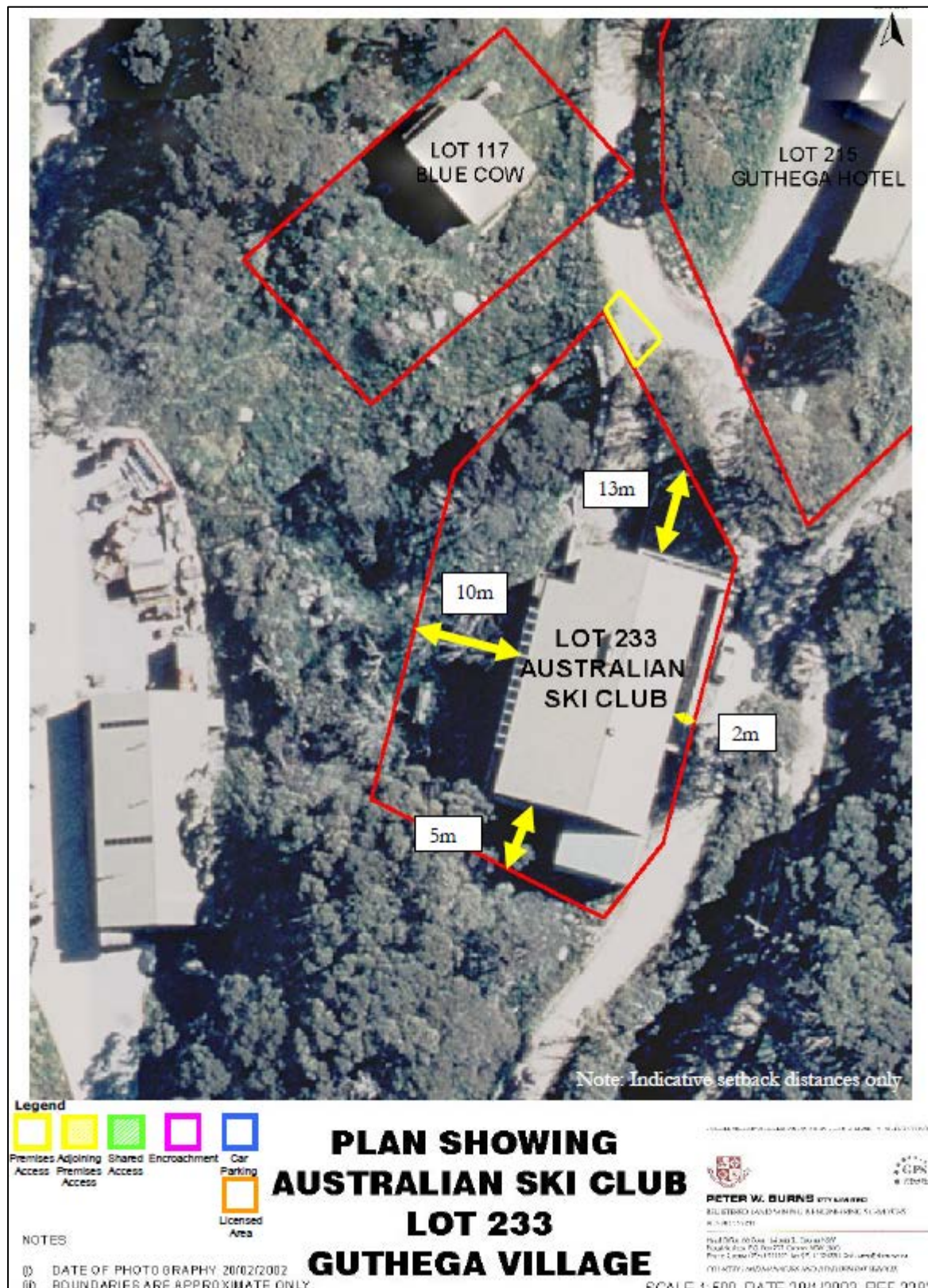


FIGURE 3 CLOSE UP AERIAL VIEW OF SUBJECT LOT

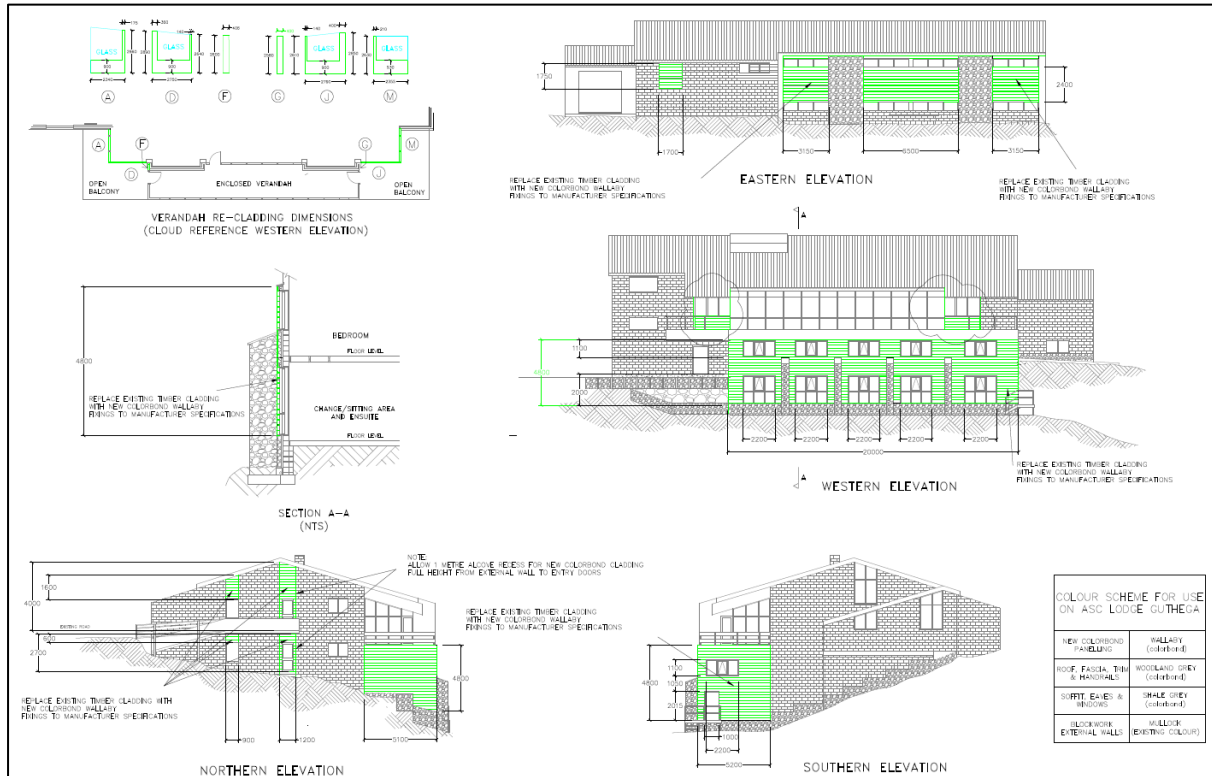


FIGURE 4 PROPOSED PLANS

SITE PLAN



ELEVATION PLANS



2. PLANNING LAYERS

The following planning layers are described in Table 1 and shown in the Figures below:

TABLE 1 PLANNING LAYERS

MAP	FIGURE	DESCRIPTION
Bushfire Prone Land Map	5	The subject lot is mapped "Vegetation Category 1".
LEP Zone Map	6	The subject lot is zoned as "C1 – National Parks and Nature Reserves"
Vegetation Mapping	7	<p>The vegetation surrounding the existing lodge, within 140m, has been mapped as:</p> <ul style="list-style-type: none"> - Sub-alpine Shrub-Grass Woodland - Sub-alpine Wet Herb-Grassland-Bog <p>According to Keith (2004) these formations are classified as "Woodland" and "Alpine Complex"</p>
Biodiversity Values Map	8	Proposed works are not identified within an area of high biodiversity values.

FIGURE 5 BUSHFIRE PRONE MAP



FIGURE 6 LEP MAP

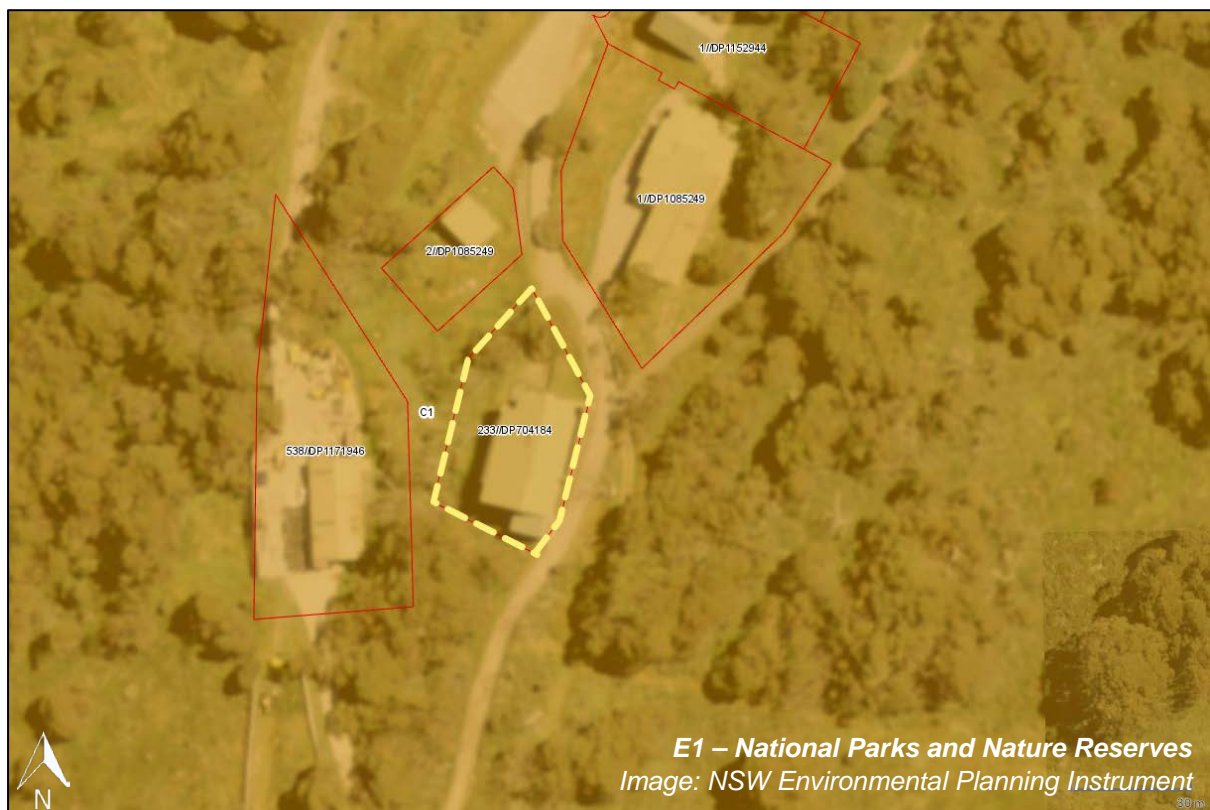


FIGURE 7 VEGETATION MAPPING

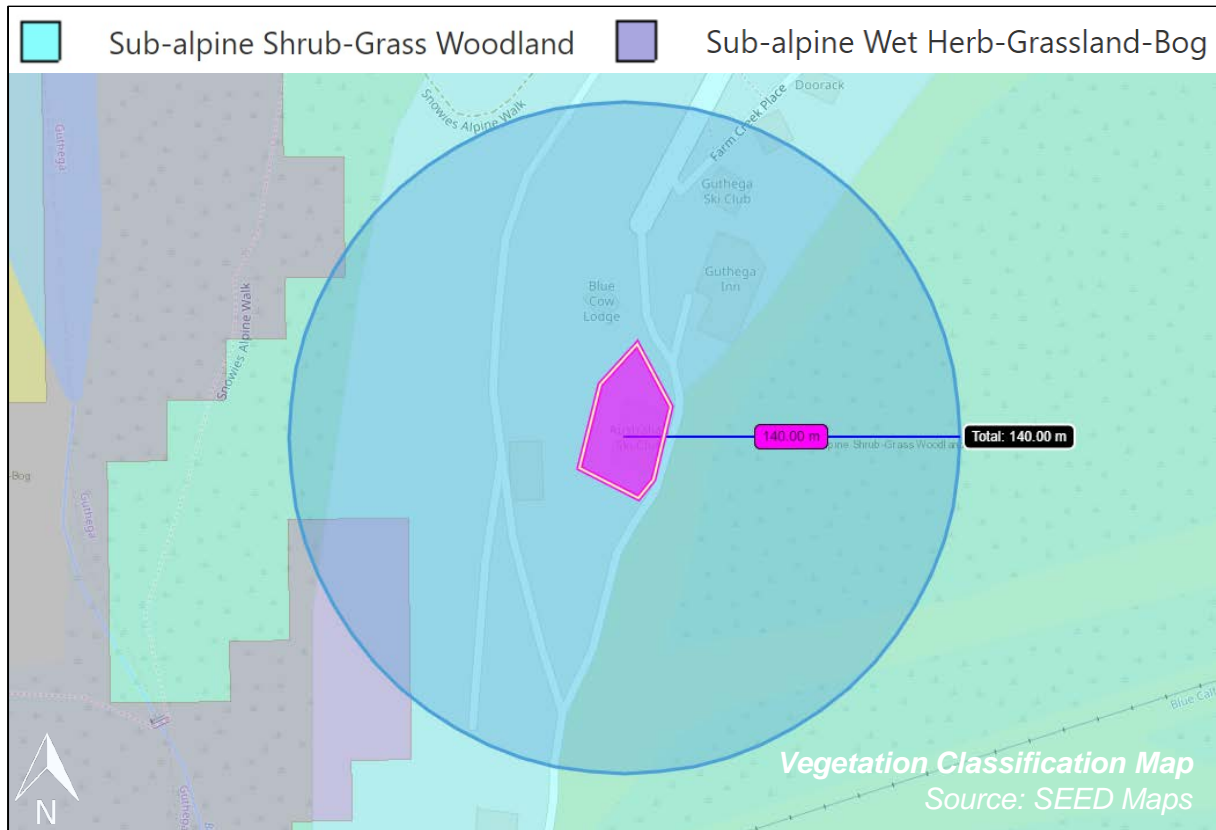
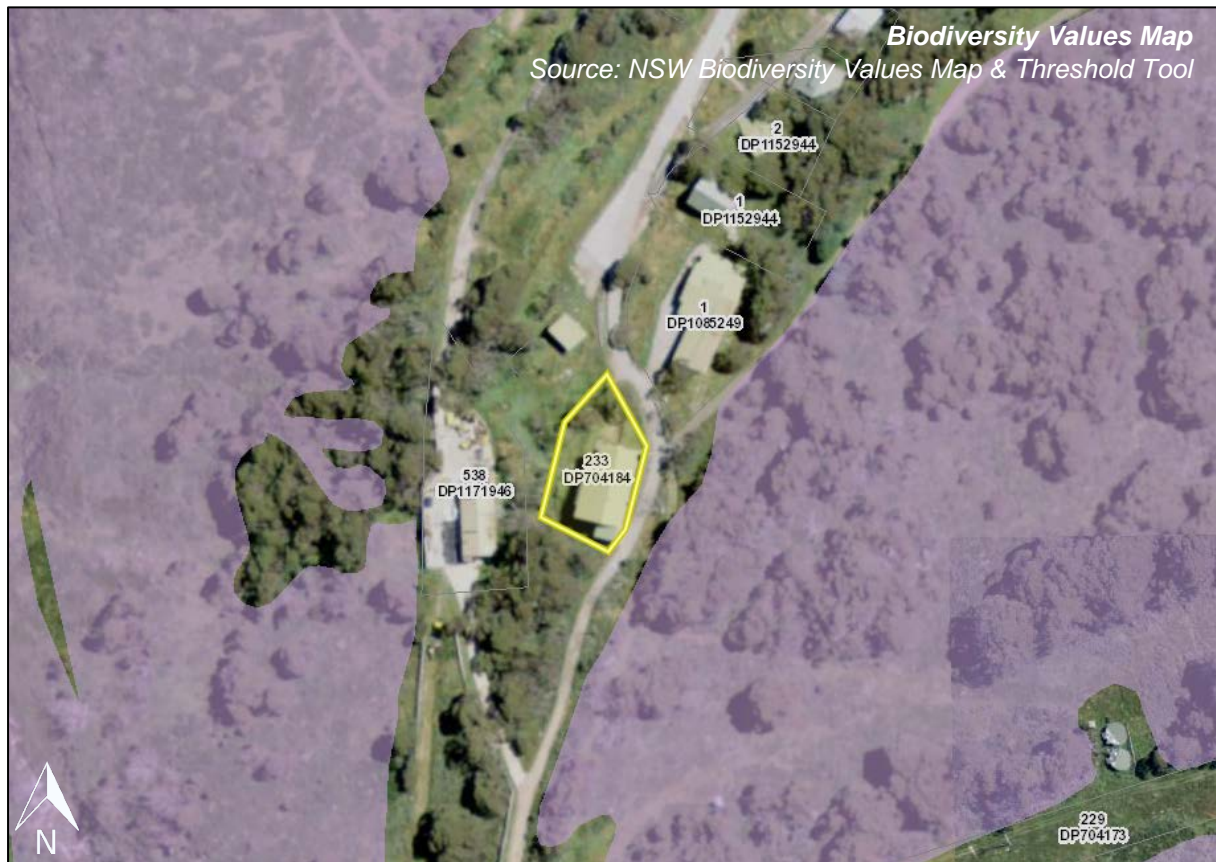


FIGURE 8 BIODIVERSITY VALUES MAP



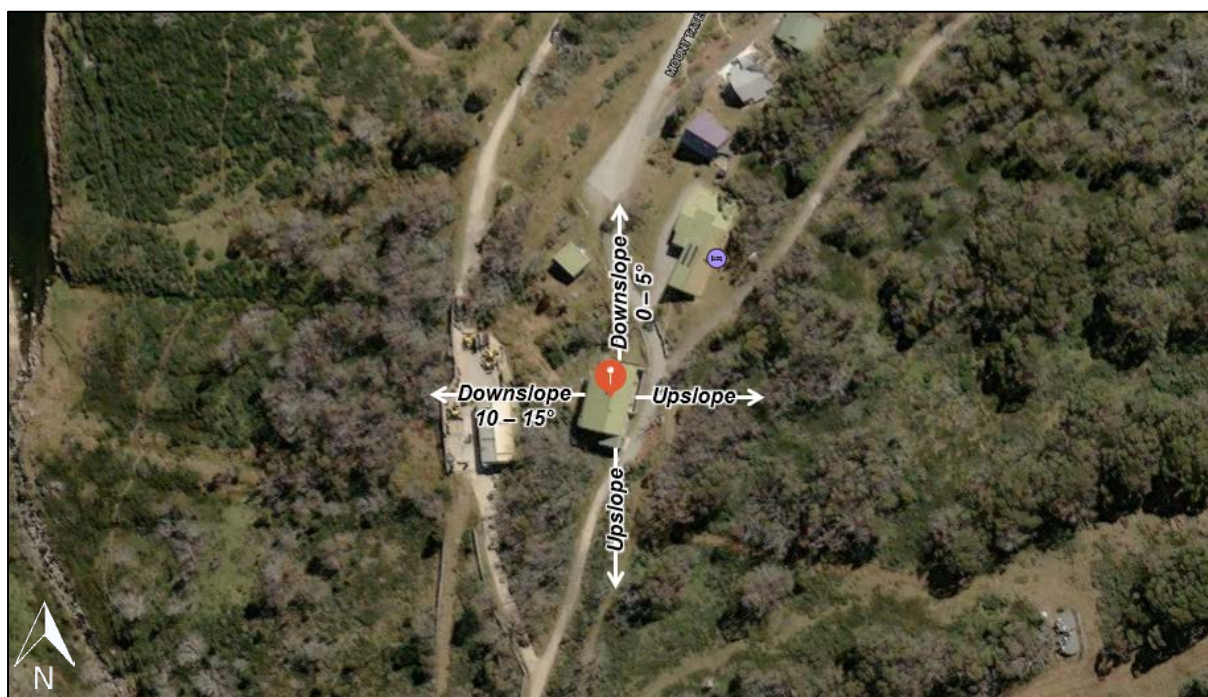
3. SITE DESCRIPTION

3.1. Slope and aspect of the site within 100 m of the site

The slope that would most significantly influence fire behaviour was determined over a distance of 100m out from the proposed new dwelling and shed. The Australian Standard AS3959-2009 identifies that the slope of the land under the classified vegetation is much more important than the slope between the site and the edge of the classified vegetation.

As can be seen in Figure 9 the land surrounding the existing Lodge exhibits an upwards slope to the South and East, a Downslope of 0 – 5° to the North and a Downslope of 10 – 15° to the West. South, East and West elevations exhibit sub-alpine shrub grass woodland of Kosciuszko National Park with the Guthega Pondage and Alpine Complex existing to the west of the existing lodge towards the waterway. The Northern elevation is comprised of Managed land within 100m of the existing lodge.

FIGURE 9 SLOPE



3.2. Vegetation formation within 140 m of the existing lodge

Guthega is comprised of managed land at the base of the valley. Within 140m of the site, the area is managed land within a ski resort with ski lodges to the north and west of Australian Ski Club. To the south and east is managed land for ski runs and lifting facilities. Outside of the managed allotments for the ski lodges is forest vegetation and alpine complex.

As seen in Figure 8, within 140m of 62 Mount Tate Road, Guthega there are two main types of vegetation:

- Sub-alpine Shrub-Grass Woodland (comparable to *Woodland* PBP 2019)
- Sub-alpine Wet Herb-Grassland-Bog (comparable to *Alpine Complex* PBP 2019)

As mentioned above, within 140m of the existing lodge the vegetation is predominately comprised of Sub-alpine Shrub-Grass Woodland which is comparable to *Woodlands* classification of *Keith* as it is dominated by an open to sparse layer of eucalypts with the crowns rarely touching as well as diverse ground cover of grasses and herbs with shrubs sparsely distributed.

Also, within 140m of the lodge is wetter vegetation, sub-alpine wet herb-grassland-bog, which is comparable to *Alpine Complex* classification of *Keith* as it dominated by low lying wetter native vegetation comprised of low shrubs, tussock grasslands that are interspersed with alpine bog. However, as each direction has areas of Woodland vegetation, Woodland vegetation has been identified as the most significant vegetation to present a bushfire risk to the existing lodge.

The vegetation formations are described below and summarised in Table 2.

TABLE 2 PREDOMINATE VEGETATION CLASSIFICATION

	Vegetation Formation	Effective Slope	APZ Proposed	Photo
North	Managed Land	Downslope 0 – 5°	Entire Lot Managed as IPA	1
East	Woodland	Upslope	Entire Lot Managed as IPA	2
South	Woodland	Upslope	Entire Lot Managed as IPA	3
West	Woodland	Downslope 10 – 15°	Entire Lot Managed as IPA	4

Photo 1 View to North



Photo 2 View to East

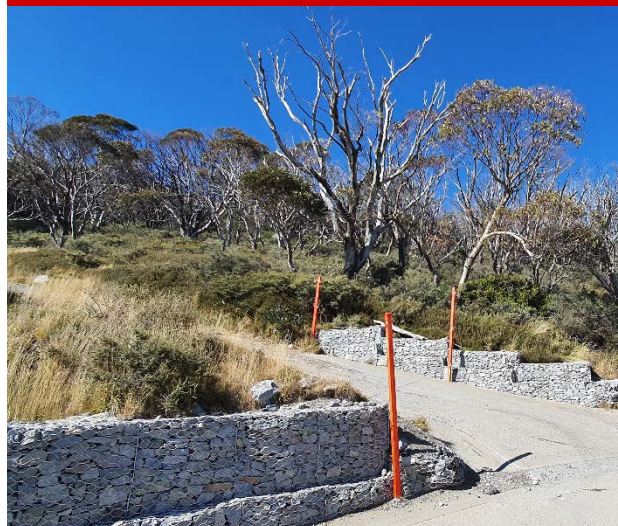


Photo 3 View to South



Photo 4 View to West



4. BUSHFIRE THREAT ASSESSMENT

4.1. Asset Protection Zones (APZ)

PBP 2019 Table A1.12.7 has been used to determine the width of the required APZ for the proposed development using the vegetation and slope data identified. An FFDI of 50 was used for this location.

The vegetation classification for bushfire purposes for this site is "Woodland" and "Managed Land". Woodland vegetation can be managed as an Inner Protection Area (IPA). The IPA is critical for providing a defendable space and managing heat intensities at the building surface.

The IPA should provide a tree canopy cover less than 15% and any tree canopies must be located greater than 2 metre from any part of the existing roofline. Garden beds of flammable shrubs should not be located under trees and should not be located within 10m from an exposed window or door. Trees should have lower limbs removed up to a height of 2 metres above ground.

Table 3 below shows the APZ and BAL Determination for the existing lodge.

TABLE 3 APZ AND BAL DETERMINATION

	NORTH	EAST	SOUTH	WEST
Gradient	Downslope 0 – 5°	Upslope	Upslope	Downslope 10 – 15°
Vegetation	Managed Land	Woodland	Woodland	Woodland
Proposed distance to be provided between edge of building and vegetation	13 m Entire Lot to be Managed as IPA	2 m Entire Lot to be Managed as IPA	5 m Entire Lot to be Managed as IPA	10 m Entire Lot to be Managed as IPA
APZ required by PBP 2019 under Table A1.12.7	5 -< 6 m	< 11 m	< 11 m	< 21 m
BAL Proposed	BAL 40	BAL FZ	BAL FZ	BAL FZ

Relevant Construction Standard

The Australian Standard AS 3939 – 2018 is the enabling standard that addresses the performance requirements of both parts 2.3.4 and Part GF5.1 of the Building Code of Australia for the construction of the Class 1, 2 and Class 3 buildings within a designated Bushfire Prone Area.

The following was determined for this site:

Relevant fire danger index..... FFDI 50

The applicant proposes any new works must meet the requirements of BAL 40 on the North elevation and BAL FZ on all other elevations.

4.2. Safe Operational Access

The Planning for Bushfire Protection requires the provision of safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

The PBP (2019) requires the provision of safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

- Mount Tate Road is a gravel and sealed public road. It is a two-wheel drive, all weather road. The widths and design would allow safe access for firefighters while residents are evacuating an area. The capacity of road surfaces is sufficient to carry fully loaded firefighting vehicles.

The access road and turning bay will allow tankers to travel in a forward direction from the allotments.

4.3. Emergency Management

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments.

To achieve this, the following conditions shall apply:

A building evacuation diagram, site layout diagram and Statement of Action are to be provided for the proposed development in accordance with Building Emergency Procedures and Bush Fire Evacuation Plan, the NSW Rural Fire Service Guidelines for the Preparation of Emergency/Evacuation Plan and with Australian Standard AS 3745 2010 'Planning for Emergencies in Facilities'.

The owners are advised to obtain the NSW Rural Fire Service – “Guidelines for the Preparation of Bush Fire Evacuation Plans” & ‘Bush Fire Survival Plan’ In the event of emergency, the owners should ensure they are familiar with the RFS Bush Fire Alert Levels and use their Bush Fire Survival Plan.

4.4. Adequate Water and Utility Services

Guthega is serviced by reticulated water. A hydrant system is located along Mount Tate Road. The location and distance to the hydrants will be consistent with the requirements of the PBP 2019.



Any bottled gas will be installed and maintained in accordance with AS1596 and the requirements of the relevant authority. If gas cylinders need to be kept close to the buildings, the release valves must be directed away from the building and away from any combustible material. Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used.

5. LANDSCAPING

An APZ is required to be established and should be maintained for perpetuity as specified.

When landscaping, vegetation should be located greater than 2 m from any part of the roofline of the existing lodge. Garden beds of flammable shrubs are not to be located under trees or within 10 m of an exposed window or door. Trees should have lower limbs removed up to a height of 2 m above the ground.

Appendix 4 (PBP 2019) provides guidelines for landscaping and Bushfire Provisions within the APZ. To incorporate bushfire protection measures into future development, the owner is advised to consider the following:

- Avoid planting trees species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopy.
- Avoid planting deciduous species that may increase fuel at surface/ground level by the fall of leaves.
- Avoid climbing species to walls and pergolas.
- Locate combustible materials such as woodchips/mulch, flammable fuel stores (LPG gas bottles) away from the building.
- Locate combustible structures such as garden sheds, pergolas and materials such as timber furniture away from the building.
- Ensure any vegetation planted around the house is a suitable distance away so these plants do not come into physical contact with the house as they mature.

The property should be developed to incorporate suitable impervious area surrounding the house, including courtyards, paths and driveways.

6. HOW THIS PROPOSAL MEETS DEEMED TO SATISFY SOLUTION

DEMONSTRATION COMPLIANCE UNDER SECTION 6.4 – SPECIFIC OBJECTIVES PLANNING FOR BUSHFIRE (2019)

Performance Criteria	Complies	Acceptable solutions
The intent may be achieved where:		
<ul style="list-style-type: none"> provide an appropriate defensible space 	<input checked="" type="checkbox"/>	See Table 3 for APZ distances.
<ul style="list-style-type: none"> site the building in a location which ensures appropriate separation from the hazard to minimise potential for material ignition 	<input checked="" type="checkbox"/>	No change to existing building location. See Table 3 for APZ distances.
<ul style="list-style-type: none"> provide a better bush fire protection outcome for existing buildings 	<input checked="" type="checkbox"/>	Proposed alterations and repair works will provide a better bushfire protection outcome for the building and its occupants.
<ul style="list-style-type: none"> new buildings should be located as far from the hazard as possible and should not be extended towards or situated closer to the hazard than the existing buildings (unless they can comply with section 6.8); 	<input checked="" type="checkbox"/>	No new buildings proposed as part of this application.
<ul style="list-style-type: none"> ensure there is no increase in bush fire management and maintenance responsibility on adjoining land owners without their written confirmation 	<input checked="" type="checkbox"/>	Defensible space for APZ to be established and maintained in perpetuity.
<ul style="list-style-type: none"> ensure building design and construction enhances the chances of occupant and building survival 	<input checked="" type="checkbox"/>	Proposed alterations and repair works will provide a better bushfire protection outcome for the building and its occupants.
<ul style="list-style-type: none"> provide for safe emergency evacuation procedures including capacity of existing infrastructure (such as roads) 	<input checked="" type="checkbox"/>	<p>Access to the lodge is provided via Mount Tate Road which is an all-weather two-wheel drive access road.</p> <p>Emergency Evacuation plan will be provided in accordance with Charlotte Pass Snow Resort evacuation management plan. An individual evacuation plan will be prepared as described in section 4.4. of this report.</p>

DEMONSTRATION COMPLIANCE UNDER SECTION 6.6 – SPECIFIC OBJECTIVES PLANNING FOR BUSHFIRE (2019)

Performance Criteria	Complies	Acceptable solutions
The intent may be achieved where:		
<ul style="list-style-type: none"> provide an appropriate defensible space 	<input checked="" type="checkbox"/>	See Table 3 for APZ distances.
<ul style="list-style-type: none"> provide a better bush fire protection outcome for existing structures (e.g. via ember protection measures) 	<input checked="" type="checkbox"/>	No change to existing building location. Proposal for external alterations and repairs. The proposed alterations and repair works will provide a better bushfire protection outcome for the building and its occupants.
<ul style="list-style-type: none"> ensure new building work complies with the construction standards set out in AS 3959 	<input checked="" type="checkbox"/>	Proposed works to comply with the requirements of AS 3959.
<ul style="list-style-type: none"> to ensure ongoing management and maintenance responsibilities are in place where APZs are proposed outside of the sub lease or leasehold area 	<input checked="" type="checkbox"/>	Defensible space for APZ to be established and maintained in perpetuity.
<ul style="list-style-type: none"> written consent from the land managers is provided for all proposed works outside of the sub lease or leasehold area 	<input checked="" type="checkbox"/>	Defensible space for APZ to be established and maintained in perpetuity.
<ul style="list-style-type: none"> proposed APZs outside of the sub lease or leasehold area are supported by a suitable legal mechanism to ensure APZs are managed under a binding legal agreement in perpetuity 	<input checked="" type="checkbox"/>	Defensible space for APZ to be established and maintained in perpetuity.
<ul style="list-style-type: none"> ensure building design and construction standards enhance the chances of occupant and building survival 	<input checked="" type="checkbox"/>	No change to existing building location. Proposal for external alterations and repairs. The proposed alterations and repair works will provide a better bushfire protection outcome for the building and its occupants.
<ul style="list-style-type: none"> provide safe emergency evacuation procedures. Any additional construction requirements should be commensurate with the following: <ul style="list-style-type: none"> the scope of the proposed works, including any increase in size and footprint of the building any additional capacity for the accommodation of guests and/or staff on site the cost associated with the proposed upgrade of any building. 	<input checked="" type="checkbox"/>	<p>Access to the lodge is provided via Mount Tate Road which is an all-weather two-wheel drive access road.</p> <p>Emergency Evacuation plan will be provided in accordance with Charlotte Pass Snow Resort evacuation management plan. An individual evacuation plan will be prepared as described in section 4.4. of this report.</p> <p>No change to existing bed numbers proposed.</p>

9. CONCLUSION

Pending the satisfaction of recommendations outlined in this report, the level of bushfire hazard risk identified in relation to the subject land and the proposed alterations and repair work is not considered to be such that the proposal should be denied due to bushfire considerations.

The proposed external alterations and repairs meet the requirements of section 6.5 - *Minor Development in SFPP Facilities* of the PBP 2019 and are classified as *minor non-structural building alterations (external)*. The development types included in section 6.5 of the PBP 2019 do not have any influence on potential bushfire impacts and the bush fire protection of the building. For this reason, the proposed alterations and repair works are not required to comply with the BAL outlined in Table 3.

It is recommended that all **development identified as new works** (not repair and like-for-like works) in the proposed building envelope meet the below requirements:

- **BAL 40 on the North elevation and BAL FZ on all other elevation.**

This proposal meets a “deemed to satisfy” outcome for Bushfire Protection.

This report does not find that the proposal should be rejected due to bushfire considerations provided the recommendations are undertaken as proposed.

WRITTEN BY:

Katy Murphy
Town Planner



REVIEWED BY:

Matthew Stewart
FPAA BPAD Accredited Bushfire Practitioner – No 27149



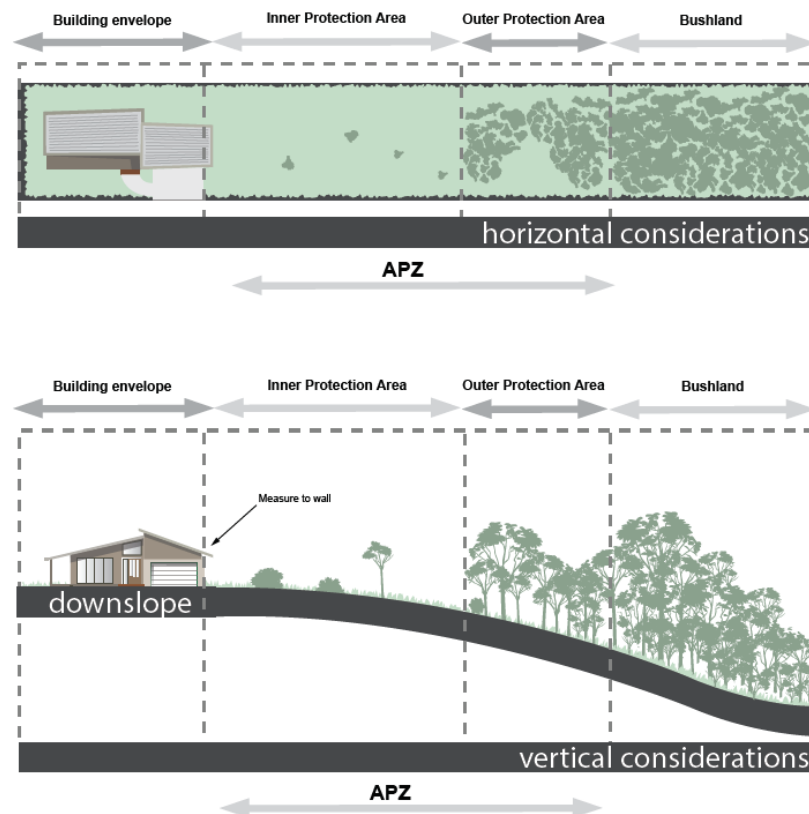
27 April 2022

APPENDIX I DEFINITION OF ASSET PROTECTION ZONES

Vegetation within the APZ should be managed in accordance with APZ specifications for the purposes of limiting the travel of a fire, reducing the likelihood of direct flame contact and removing additional hazards or ignition sources. The following outlines some general vegetation management principles for APZs:

1. Discontinuous shrub layer (clumps or islands of shrubs not rows)
2. Vertical separation between vegetation stratum
3. Tree canopies not overhanging structures
4. Management and trimming of trees and other vegetation in the vicinity of power lines and tower lines in accordance with the specifications in "Vegetation Safety Clearances" issued by Energy Australia (NS179, April 2002)
5. Maintain low ground covers by mowing / whipper snipper / slashing; and
6. Non-combustible mulch e.g. stones and removing stores of combustible materials
7. Vegetation to be planted should consist of fire retardant/ less flammable species strategically located to reduce attack from embers (i.e. as ember traps when in small clumps and short wind breaks).

Typical Inner and Outer Protection Areas.



(Planning for Bushfire Protection 2019)