



## **Bushfire Assessment Report**

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ALTERATIONS TO SEQUOIA 5 PENTHOUSE, THREDBO

LOT 15 DIGGINGS TERRACE, THREDBO, NSW 2625

22 NOVEMBER 2021

VERSION 2.0

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# Amendments

| REV | DATE       | DESCRIPTION                                                              | BY |
|-----|------------|--------------------------------------------------------------------------|----|
| 01  | 22.11.2021 | Development Application Issue                                            | GC |
| 02  | 14.03.2022 | Development Application Issue: BAL amended to reflect site circumstances | GC |

## Introduction

H&E Architects have been engaged to prepare this Bushfire Assessment Report to accompany a Development Application (DA) to the NSW Department of Planning, Industry & Environment (DPIE).

The subject property is located at 15 Diggings Terrace, Thredbo, NSW 2625.

The property is improved by an existing free-standing four storey apartment building, purpose built for tourist accommodation. The building includes five apartments with undercover car parking. The building is comprised of:

- Ground Level: Undercover Car Parking, Entry and Storage
- Level 1: Two apartments (1 and 2)
- Level 2: Two apartments. (3 and 4)
- Level 3 (attic style): Whole floor penthouse apartment (5).

The building is of a “chalet” style. It is predominantly of masonry construction with concrete floors, a metal deck roof and walls comprising stone, masonry and timber cladding.

The building is in good condition and is well maintained.

This application relates to Apartment 5 on Level 3 only, where it is proposed to enlarge an existing external north facing pair of doors by the addition of a pair of sidelights and an enlarged single triangular highlight above the doors. The proposal is intended to improve the amenity of the apartment (natural light) and enhance views across the valley to the snow fields beyond.

The proposal will not alter the building footprint or building envelope in any way.

The Applicants are the current Owners of the property. The applicants have presented this proposal to the Body Corporate who have provided their consent in principle. The Owners have presented this proposal to Kosciusko Thredbo who have also provided their consent in principle.

The subject site is mapped as bushfire prone land and therefore the application of Planning for Bush Fire Protection 2019 (PBP 2019) is relevant to the development proposal. The aims of PBP 2019 is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.

This is achieved by determining and applying the required asset protection zones, where applicable applying the relevant construction requirements, ensuring satisfactory access and egress has been incorporated into the design and providing safe service supply and adequate water provisions for occupants and attending emergency services.

As the use of the existing building is for “Tourist Accommodation” in terms of PBP 2019 the proposed works is considered to be infill Special Fire Protection Purpose (SFPP) Development under section 6.4 which states:

*The intention for any building work occurring within an existing SFPP development is to achieve a better bush fire outcome than if the development did not proceed. Achieving this may require a combination of measures including improved construction standards, APZs and evacuation management.*

Note that the proposed works will in no way alter the use of the premises, its characteristics of occupancy or result in any significant intensification of use.

This report will demonstrate that the proposed works, which are minor in nature, will comply with the requirements for Special Fire Protection Purpose Development detailed within Planning for Bush Fire Protection 2019. Also building construction is capable of compliance where new works are constructed consistent with the relevant requirements of BAL 12.5 construction.

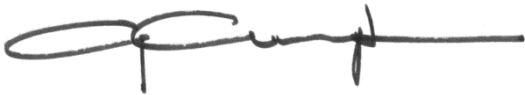
## Environmental Assessment

The proposed alterations, being limited to the enlargement of an existing triangular highlight window and the addition of sidelights to an existing set of French doors, will have no physical impact on the existing environmental features including vegetation, ecological habitat and the like. The proposed alterations are to be undertaken on a site which has been highly disturbed, as a consequence of the establishment of the existing development in excess of 20 years ago.

## Site inspection

A site inspection was undertaken by H&E Architects in June 2021 to review potential bushfire risks associated with the site. Subsequently, the guidelines for bushfire risk assessment as set out in Planning for Bushfire Protections 2019 were used to determine the potential bushfire risks.

This report has been prepared by:

A handwritten signature in dark ink, appearing to read 'Glenn Cunningham', with a long horizontal stroke extending to the right.

Glenn Cunningham  
Director | Registered Arch # 6415

## Accuracy of information

Information incorporated in this report and its supporting documentation has been compiled by the author from resources available at the time of this document's preparation. The accuracy of this statement is limited to the accuracy of the resources referenced in its compilation.

## Project Details

The following section provides a description of the existing site and the proposed development:

| PROPERTY DETAILS  |                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Address           | 15 Diggings Terrace, Thredbo, NSW 2625                                                                                             |
| Lot #   & DP #    | Lot 742   DP 1119757                                                                                                               |
| Consent Authority | NSW Department of Planning, Industry & Environment (DPIE)                                                                          |
| Zoning            | C1: National Parks and Nature Reserves<br>Source: <a href="http://www.planningportal.nsw.gov.au">www.planningportal.nsw.gov.au</a> |
| Current Use       | Tourist accommodation                                                                                                              |
| Site Area         | Aprox 750 m2<br>Source: Deposited Plan                                                                                             |
| Frontage          | Aprox 21.5m<br>Source: Deposited Plan                                                                                              |

| APPLICANT DETAILS                    |                                                                                                                                                        |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                                 | Kent & Desley Walker                                                                                                                                   |
| Contact                              | Glenn Cunningham (Architect)P                                                                                                                          |
| Address (postal)                     | C/- H&E Architects                                                                                                                                     |
| Phone                                | 02 9357 2288                                                                                                                                           |
| Mobile                               | 0409 343 584                                                                                                                                           |
| Email                                | <a href="mailto:glenn@h-e.com.au">glenn@h-e.com.au</a>                                                                                                 |
| Is the Applicant the Property Owner? | Yes                                                                                                                                                    |
| Owners and/or Body Corporate Consent | The owner has presented their proposed plans to the Body Corporate and have received the Body Corporates approval in principal for the proposed works. |

| PARTICULARS OF PROPOSAL |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description of Proposal | <p>The property is a free-standing four storey apartment building, purpose built for tourist accommodation. The building includes five apartments with undercover car parking. The building is comprised of:</p> <ul style="list-style-type: none"><li>• Ground Level: Undercover Car Parking, Entry and Storage</li><li>• Level 1: Two apartments (1 and 2)</li><li>• Level 2: Two apartments. (3 and 4)</li><li>• Level 3 (attic style): Whole floor penthouse apartment (5).</li></ul> <p>The building is of a "chalet" style. It is predominantly of masonry construction with concrete floors, a metal deck roof and walls comprising stone, masonry and timber cladding.</p> |

## PARTICULARS OF PROPOSAL

The building is in good condition and is well maintained.

This application relates to Apartment 5 on Level 3 only, where it is proposed to enlarge an existing external north facing pair of doors by the addition of a pair of sidelights and an enlarged single triangular highlight above the doors. The proposal is of no environmental impact and does not alter the use, floor space, occupancy, building envelope in any way.

The proposal is intended to improve the amenity of the apartment (natural light) and enhance views across the valley to the snow fields beyond.

The proposal will not alter the building footprint or building envelope in any way.

## Location Plans

### Region

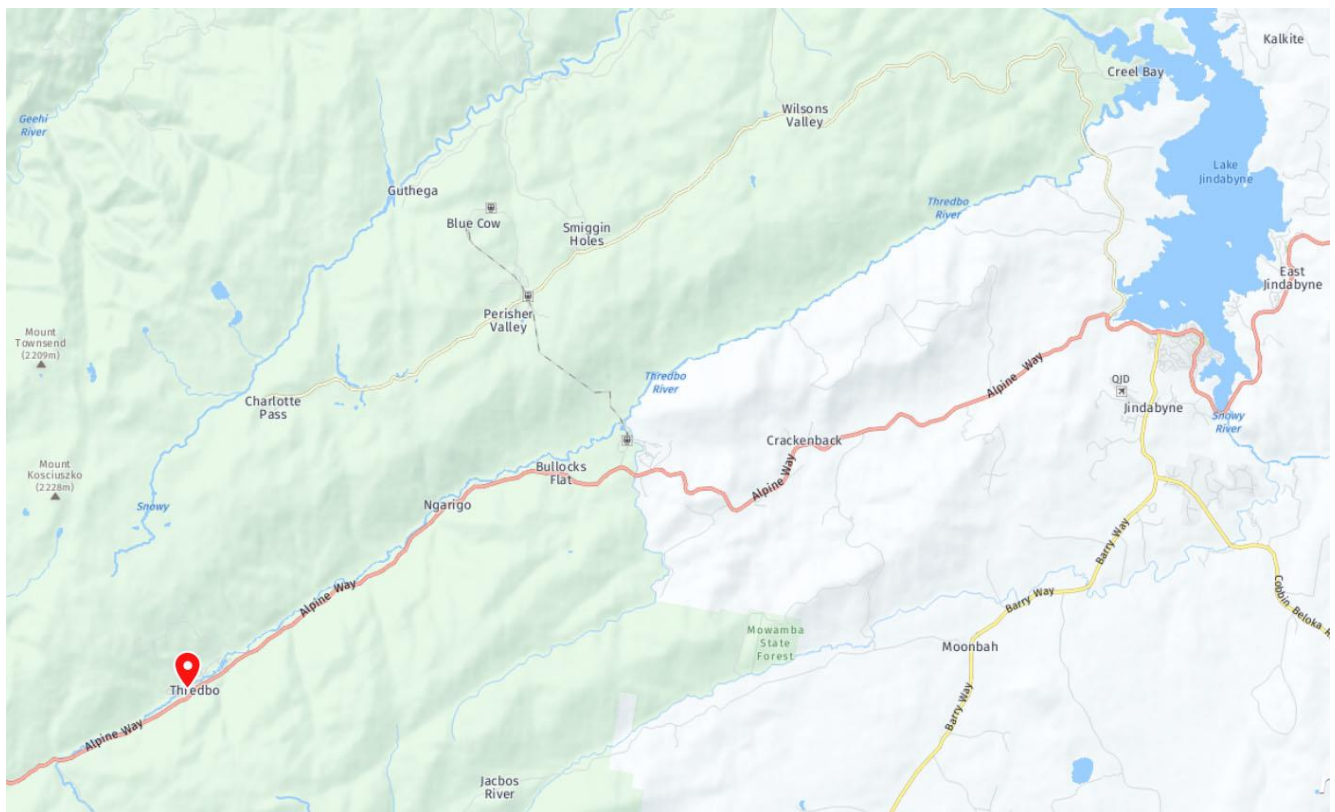


Figure 1: Location Plan [Source: [www.nearmap.com](http://www.nearmap.com)]

## Locality



Figure 2: Locality Plan [Source: [www.planningportal.nsw.gov.au](http://www.planningportal.nsw.gov.au)]

# Site Analysis

## Street Elevation - Existing



Figure 3: Street Elevation Existing [Source: H&E Site Photos]

## Street Elevation – Proposed



Figure 4: Photo montage of proposed amended windows and doors.

## Site Analysis (Descriptive)

The following section provides an appraisal of the existing site characteristics:

| PARTICULARS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General     | <p>The site is located within the Thredbo Alpine Resort.</p> <p>The site is accessed via the Alpine Way and is approximately 30Kms west-south-west of Jindabyne.</p> <p>The site is centrally located within Thredbo Village.</p> <p>Apartment 5 is located on the top level of the Chalet partially built into the pitched roof form in an "attic" style.</p> <p>The apartment enjoys north westerly aspect with view across the valley to the snow fields beyond.</p> <p>There are numerous windows on this elevation and doors which open onto 2 small balconies.</p> <p>Further balconies are located to the southwest and northeast elevations.</p> <p>The apartment enjoys an abundance of natural light from all directions and good natural cross ventilation of the living areas in warmer months.</p> <p>The combination of elevation, aspect, topography, and existing vegetation contribute to establish privacy.</p> <p>The existing building is a take on a traditional "chalet" style, is attractive and contextually appropriate amongst the "village" aesthetic in Thredbo.</p> <p>Vehicular access is made directly off Diggings Terrace to an undercover Car Park positioned at the base of the building. A porte cochere also features at the entry to the site in front of the main pedestrian entry.</p> |

| TOPOGRAPHY & LANDSCAPE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description            | <p>The terrain rises, away from the valley, behind the building towards the south east. The gradient is approximately 1:4.7.</p> <p>The Sequoia building is nestled amongst similar tourist accommodation development from all sides.</p> <p>A variety of established trees are scattered amongst the buildings.</p> <p>The forest to the south east is approximately 120m off the south east site boundary.</p> <p>The centre of the creek in the valley is approximately 130m to the north west of the property boundary.</p> |

## Determination of Bushfire Attack Level

In accordance with AS 3959: 2018 Construction of buildings in bushfire-prone areas.

### Step 1 – Determine the relevant FDI

*With reference to Clause 2.2.2 of AS 3959: 2018. Determination of the relevant FDI with reference to Table 2.1 of AS 3959: 2018.*

The FDI (Fire Danger Index) with reference to Table 2.1 of AS 3959: 2018 is: FDI 50.

Note that the subject site is located in a "NSW Alpine Area" in accordance with the NCC.

### Step 2 – Determine the classified vegetation types

*With reference to Clause 2.2.3 of AS 3959: 2018. Determination of the classified vegetation types with reference to Table 2.3 and Figure 2.4 of AS 3959: 2018.*

The vegetation formations within 150m of the site were determined by undertaking a site inspection and review of maps and aerial photography.

The significant formations of unmanaged vegetation to the south-west and south-east of the site is considered likely to have the most influence in the event of a bushfire.

In other directions around the site within 100-150m the land would be considered to be managed.

This vegetation is approximately 110m from the existing building and would be considered to be Vegetation Classification A (Open Forest).

Note that the proposed works, enlarged window and doors, however face towards the north west, and would be considered to be “shielded” to some extent from unmanaged classified vegetation formations. Significant unmanaged vegetation to the north west are in excess of 150m from the existing building and is of a considerably lesser density compared to that from the south east and south west.

### Step 3 – Determine distance to classified vegetation

*With reference to Clause 2.2.4 of AS 3959: 2018. Determine the distance of the site from the classified vegetation types, Point A – Point B with reference to Figure 2.1 of AS 3959: 2018.*

Figure 5 indicates the distance and direction towards significant formations of classified vegetation.

Whilst assessment under AS 3959: 2018 excludes vegetation outside of 100m from the site, and the classified vegetation in this instance is just outside of this zone, for abundance of caution our assessment has considered the classified vegetation to be 100m from the site.

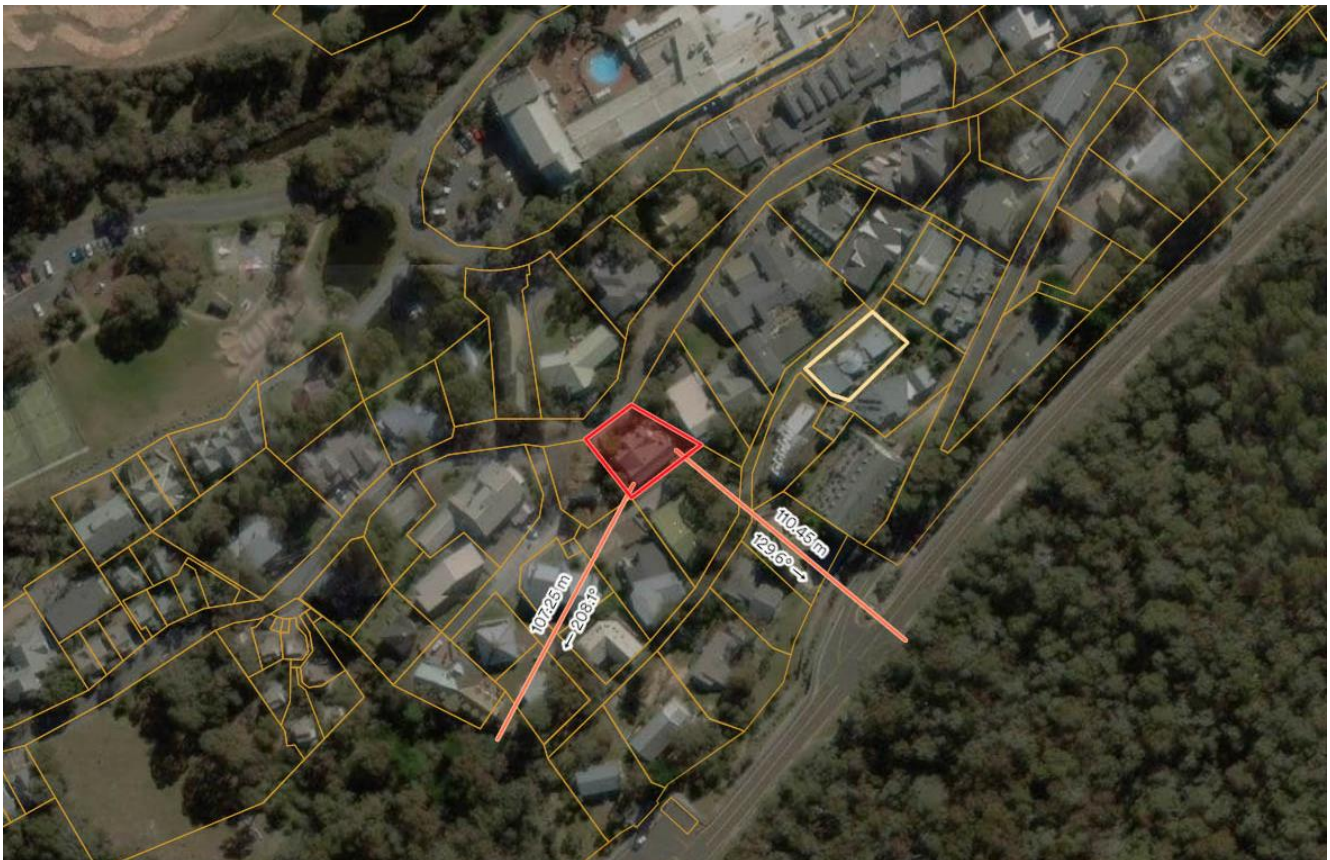


Figure 5: Aerial photograph with property boundaries indicating the distance from the site to un-managed vegetation

### Step 4 - Determination of the effective slope(s)

*With reference to Clause 2.2.5 of AS 3959: 2018. Determination of the effective slope(s) under the classified vegetation types with reference to Figure 2.3 of AS 3959: 2018.*

The terrain and slope gradient has been assessed based on the topographical contours from Mapping sourced from the Department of Lands and generally verified by site assessment.

The gradient over a distance of at least 100m from the existing building footprint on the development site towards the significant vegetation formations considered to constitute the predominant hazards have been assessed.

The gradients that will most significantly influence the fire behaviour will be used for the bush fire attack assessment.

#### **Slope of land**

Slope of land under classified vegetation to the southeast: Up slope away from the site at approximately 100m in 215m = 1:2.2 (24.9 degrees)

Slope of land under classified vegetation to the southwest: Up slope away from the site of approximately 5m in 200m = 1:40 (1.3 degrees)

### **Step 5 - Determination of BAL**

*With reference to Clause 2.2.6 of AS 3959: 2018. Determination of BAL required from the appropriate table with reference to Tables 2.4, 2.5, 2.7 and 2.7 of AS 3959: 2018.*

With reference to Table 2.6 of AS 2959: 2018, Determination of Bushfire Attack Level (BAL) – FDI 50, for all upslopes where “Forest” classified vegetation is 32 to 100m from the site the required BAL for the building is 12.5.

### **Step 6 - Determination of appropriate construction requirements**

*With reference to Clause 2.2.7 of AS 3959: 2018. Determination of appropriate construction requirements, applicable to the proposed development, capable of meeting the required BAL standard with reference to AS 3959: 2018.*

## **Bushfire Assessment**

### **Special Fire Protection Purpose Developments**

The specific objectives that apply to SFPP infill development in the alpine resort areas are as follows:

- *provide an appropriate defensible space*
- *provide a better bush fire protection outcome for existing structures (e.g. via ember protection measures);*
- *ensure new building work complies with the construction standards set out in AS 3959;*
- *to ensure ongoing management and maintenance responsibilities are in place where APZs are proposed outside of the sub lease or leasehold area;*
- *written consent from the land managers is provided for all proposed works outside of the sub lease or leasehold area;*
- *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;*
- *ensure building design and construction standards enhance the chances of occupant and building survival; and*
- *provide safe emergency evacuation procedures.*

*Any additional construction requirements should be commensurate with the following:*

- *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; and*
- *the cost associated with the proposed upgrade of any building.*

The NSW RFS has an expectation that better bush fire outcomes are where new development is proposed in association with existing facilities.

The proposed development can achieve the above relevant objectives as follows:

- Proposed modification to the fenestration is located on the north west façade of the existing building and is effectively shielded from unmanaged classified vegetation to the south.
- The proposed modification will be constructed consistent with the requirements for BAL 12.5 construction under AS 3959: 2018

### Asset Protection Zones (APZs) and building construction

*The intent of the provision of adequate APZs is to provide sufficient space for fire fighters and other emergency services personnel to attend to bushfire incidents, whilst ensuring radiant heat levels permit operations under critical conditions of radiant heat, smoke and embers, whilst evacuating occupants.*

Performance criteria in relation to APZs are outlined under Table 6.8a of PBFP 2019.

The proposed development relates to Apartment 5 on Level 3 only, where it is proposed to enlarge an existing external north facing pair of doors by the addition of a pair of sidelights with an enlarged existing single triangular highlight above the doors. The proposal is minor in nature, of no environmental impact and does not alter the use, floor space, occupancy, building envelope or external works in any way.

The RFS has prepared a Bush Fire Preparation Plan for Thredbo within which the subject site is located. Refer to Figure 6 and Figure 7.

The site is within the residential preparation zone with no adjacent unmanaged vegetation. It is surrounded by other urban scale residential development, see below.

The site is approximately 105-110m away from classified vegetation and new works will be constructed consistent with the requirements of BAL 12.5 under AS 3959: 2018.

Accordingly, the requirement for an APZ that would apply to a new SFPP standalone building within freehold land is considered unnecessary for a such a minor modification to an existing SFPP building located within a resort, where the greater site is managed under a Head Lease within a National Park.

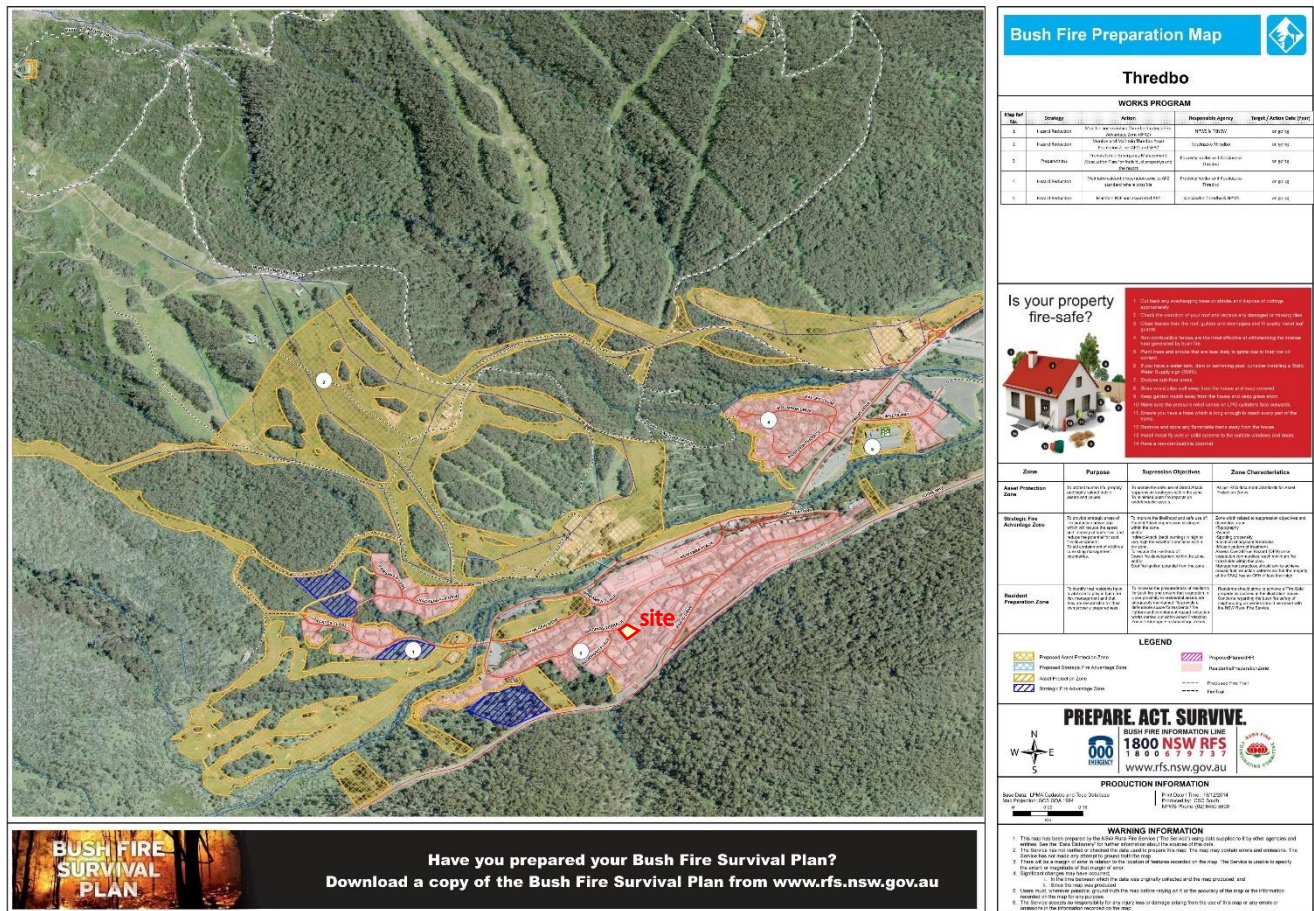


Figure 6: Thredbo Bushfire Preparation Map



Figure 7: Extract from the Thredbo Bushfire Preparation Map in detail around the Thredbo Town Centre

## Access

*The intent of the provision of these is to provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area.*

Existing access provisions are understood to be sufficient and will remain unaltered by the proposal.

## Services – Water, gas & electricity

*The intent of the provision of these is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.*

Existing service provisions are understood to be sufficient and will remain unaltered by the proposal.

## Emergency management planning

The intent of the provision of these is to provide suitable emergency and evacuation arrangements for occupants of SFPP developments.

Existing emergency management planning provisions as evidenced by the Thredbo Bushfire Preparation Map, refer to Figure 6, are understood to be sufficient and will remain unaltered by the proposal.

## Conclusion

The proposed works, are minor in nature and relates to Apartment 5 on Level 3 only.

There it is proposed to enlarge an existing external north facing pair of doors by the addition of a pair of sidelights with an enlarged existing single triangular highlight above the doors.

The proposal is of no environmental impact and does not alter the use, floor space, occupancy, building envelope or external works in any way.

The proposal will comply with the requirements for Special Fire Protection Purpose Development detailed within Planning for Bush Fire Protection 2019.

Building construction is capable of compliance where new works are constructed consistent with the relevant requirements of BAL 12.5 construction.

The proposal negligible impact and will not result in any increased risk of bushfire attack and warrant support and approval accordingly.