

FINAL REPORT:

Bushfire Management Statement for a subdivision at Lightwood Park Road, Smythesdale, Victoria

PREPARED FOR

Daniel Prior

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Ecology and Heritage Partners Pty Ltd

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1 INTRODUCTION

This Bushfire Management Statement has been prepared to assist applicants respond to the requirements of Clause 44.06 Bushfire Management Overlay, and associated Clause 52.47 Bushfire Protection: Planning Requirements.

The provisions of Clause 52.47 contain:

Objectives. An objective describes the outcome that must be achieved in a completed development.

Approved measures (AM). An approved measure meets the objective.

Alternative measures (AltM). An alternative measure may be considered where the responsible authority is satisfied that the objective can be met. The responsible authority may consider other unspecified alternative measures.

Decision guidelines. The decision guidelines set out the matters that the responsible authority must consider before deciding on an application, including whether any proposed alternative measure is appropriate.

A schedule to Clause 44.06 may specify a different approved measure, additional alternative measure or additional decision guidelines. If a schedule to Clause 44.06 specifies an approved measure different from an approved measure set out in Clause 52.47, the requirement in the schedule applies.

1.1 Application requirements

With regards to this application, there are three application requirements set out in Clause 52.47. These are:

- A **bushfire management statement (BMS)** describing how the proposed development responds to the requirements in this clause and Clause 44.06. If the application proposes an alternative measure, the bushfire management statement must explain how the alternative measure meets the relevant objective. If in the opinion of the responsible authority any part of these requirements is not relevant to the assessment of an application, the responsible authority may waive, vary or reduce the requirement. The BMS is contained in Section 2;
- A **bushfire hazard site assessment** including a plan that describes the bushfire hazard within 150 metres of the proposed development (Attachment 1). The description of the hazard must be prepared in accordance with Sections 2.2.3 to 2.2.5 of AS3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2. Photographs or other techniques may be used to assist in describing the bushfire hazard; and,
- A **bushfire hazard landscape assessment** including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site (Attachment 2). Photographs or other techniques may be used to assist in describing the bushfire hazard. This requirement does not apply to a dwelling that includes all of the approved measures specified in Clause 52.47-1;

The Bushfire Management Statement is detailed in Section 2, the bushfire hazard site assessment is located in Attachment 1, and the bushfire hazard landscape assessment is located in Attachment 2.

A bushfire management plan showing all of the bushfire mitigation measures that will be implemented as part of the subdivision to reduce risk from bushfire to an acceptable level has been included in Attachment 3.

1.2 Study Area

The study area is located at lots 10 and 11 of plan of subdivision 1A\PP2351, Lightwood Park Road, Smythesdale, Victoria, approximately 18 kilometres south-west of Ballarat. The site covers approximately 43 hectares and is bound by private property and Miners Hutt Road to the north the unused road reserve of Lightwood Park Road to the west and private property to the south and east.

The study area slopes gently south (>0-5°). A semi-permanent waterbody (dam) is present within the west of the property. The property is currently unoccupied. Several dwellings are present within properties to the north within a similar environment.

According to the Department of Environment, Land, Water and Planning (DELWP) Biodiversity Interactive Map (DELWP 2015a), the study area occurs within the Central Victorian Uplands Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Golden Plains Shire municipality. The study area is zoned Rural Living Zone (RLZ) and the following planning overlays apply (DPTLI 2014):

- Design and Development Overlay – Schedule 7 (DDO7); and,
- Bushfire Management Overlay (BMO).

2 BUSHFIRE MANAGEMENT STATEMENT

Table 1. Relevant Approved/Alternate methods to be addressed in this application.

Measure	Applicable	Justification if not applicable
Clause 52.47-1: Dwellings in existing settlements		
AM 1.1: Siting	No	Proposal is for a subdivision.
AM 1.2: Defendable Space and construction	No	Proposal is for a subdivision.
AM 1.3: Water supply and access	No	Proposal is for a subdivision.
Clause 52.47-2: Applications for buildings and works		
AM 2.1: Broader Landscape	Yes	
AM 2.2: Siting	Yes	
AM 2.3: Building Design	No	Proposal is for a subdivision.
Clause 52.47-2.2 Defendable Space and construction objective		
AM 3.1: Defendable space	No	Proposal is for a subdivision and defendable space has been calculated as part of AM5.2
AM 3.2: Defendable space	No	Proposal is for a subdivision and defendable space has been calculated as part of AM5.2
AltM 3.3: Defendable space	No	Defendable space is wholly maintained within the subject land.
AltM 3.4: Defendable space	No	Defendable space calculated using Table 2 of Clause 52.47-3.
AltM 3.5: Dwellings subject to direct flame contact	No	Proposal is for a subdivision.
AltM 3.6: Integrated decision making	No	Proposal is for a subdivision.
Clause 52.47-2.3 Water Supply and access objective		
AM 4.1: Dwelling	Yes	
AM 4.2: Accommodation	No	Approved measures for water supply and access are addressed at AM 4.1.
Clause 52.47-2.4: Applications for subdivision		
AM 5.1: Subdivision	No	Approved measure 5.2 (AM 5.2) applies to this application.
AM 5.2: Residential and rural subdivisions	Yes	
AM 5.3: Perimeter Road	No	The proposed development will result in the creation of less than ten lots
AM 5.4: Managing the risk	Yes	

2.1 Clause 52.47-2: Applications for buildings and works

Clause 52.47-2.1 Landscape, siting and design objectives

These objectives:

- consider how the location affects the bushfire risk to new development.
- select a site for the proposed development on the land.
- consider whether simple design improvements can enhance a building's resilience to embers.

2.1.1 AM 2.1: Broader Landscape

Requirement

The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.

AM 2.1 Response and Justification

The bushfire hazard assessment identifies the broader landscape as being assessed as Landscape Type 3. There is extensive forest vegetation within, and surrounding the site; however, the understorey vegetation is sparse and generally comprises of small shrubs, grasses and other graminoids. Long potential fire runs (greater than 10 kilometres) are possible from the south-west and south-east. Fragmented patches of forest vegetation are also located to the east and north; potential fire runs are likely to be approximately 1-2 kilometres. Fuel reduction burns are planned by DELWP to the south and south-east of the site in order to mitigate these risks and prevent long fire runs (Attachment 2).

Access to an appropriate bushfire protection area is available to the west north (Snake Valley Neighbourhood Safer Place: St Brigid's Catholic Church; corner Linton-Carnham Road and Murrays Street [open space on north side]), along well maintained roads largely within an agricultural landscape (grassland vegetation). Several routes are available to appropriate bushfire protection areas.

Access to an additional bushfire protection area is also available to the south (Smythesdale Neighbourhood Safer Places: Woody Yaloak Equestrian Centre Main Arena; corner Glenelg Highway and Lords Road [entry off Lords Road]); however this route is largely surrounded by high threat forest vegetation. Nevertheless, should a bushfire approach from the north, this route may be appropriate for access to a bushfire protection area as a place of last resort.

2.1.2 AM 2.2: Siting

Requirement

A building is sited to ensure the site best achieves the following:

- The maximum separation distance between the building and the bushfire hazard.
- The building is in close proximity to a public road.

- Access can be provided to the building for emergency service vehicles.

AM 2.2 Response and Justification

This measure is being assessed as part of the requirements of AM 5.2.

The proposed residential subdivision of ten lots is sited within an area of land that is currently dominated by forest vegetation.

The following mitigation measures have been taken to reduce the bushfire risk through appropriate siting:

- Dwellings will be situated as close as possible to Miners Hut Road and to a shared internal access road;
- Dwellings are located as far as possible from the main bushfire risk (to the south of the site);
- Access routes are as short as practicable.

Safe access and egress for emergency vehicles and residents will be achieved using Miners Hut Road, which can be directly accessed by the four lots to the east, and accessed via an unused public road reserve for the remaining lots in the west, which is directly accessible from the lots. Miners Hut road is a relatively wide, single lane, gravel road, which provides emergency access in all seasons. The currently unused road reserve will also provide emergency access via a proposed gravel road, once constructed. The driveways into the lots will be as short as practicable and created in accordance with the specifications detailed in AM 5.2 and the Bushfire Management Plan (Attachment 3).

The bushfire hazard site assessment (Attachment 1) demonstrates the siting and access options, as well as the defendable space required under the relevant approved measures.

2.2 Clause 52.47-2.3 Water Supply and access objective

This objective is to provide a static water supply for all development and to ensure access on the site is designed and constructed to enhance safety.

2.2.1 AM 4.1: Dwelling (including an extension or alteration to a dwelling)

Requirements

A building used for a dwelling (including an extension or alteration to a dwelling), a dependent person's unit, industry, office or retail premises is provided with:

- A static water supply for fire-fighting and property protection purposes specified in Table 4 to Clause 52.47-3.
- Vehicle access that is designed and constructed as specified in Table 5 to Clause 52.47-3.

The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire -fighting water supplies.

AM 4.1 Response and Justification

As the proposed dwellings will not have access to town water and hydrants are not available within the immediate road network, a dedicated 10,000 litre water tank with fire authority fittings will be installed adjacent to each dwelling, appropriately situated to meet the CFA requirements (Attachments 1 and 3).

As the length of access is greater than 100 metres, a turning circle with a minimum radius of eight metres, or a T or Y head which meet the specification of Austroad Design for an 8.8 metre service vehicle, will be provided for fire fighting vehicles close to all buildings. Access to all lots will be provided by an all-weather driveway with a minimum trafficable width of 3.5 metres, and a load limit of at least 15 tonnes.

Further details relating to the construction standards and CFA requirements for water supply and access are detailed in the Bushfire Management Plan (Attachment 3).

2.3 Clause 52.47-2.4: Applications for subdivision

Subdivision Objectives

Clause 52.47-2.4 contains requirements for subdivisions. It does this by:

- providing subdivision-specific approved measures and alternative measures, and
- cross-referencing the need to comply with other relevant objectives and approved measures in Clause 52.47-2.

2.3.1 AM 5.2: Residential and rural subdivisions

Requirement

An application to subdivide land zoned for residential or rural-residential purposes must be accompanied by a plan that shows:

- A building envelope for a single dwelling on each lot that complies with AM 2.2 and provides defensible space in accordance with:
 - Columns A or B of Table 2 to Clause 52.47-3 for a subdivision that creates 10 or more lots;
or,
 - Columns A, B or C of Table 2 for a subdivision that creates less than 10 lots.
- Defensible space wholly contained within the boundaries of the proposed subdivision.
- Defensible space may be shared between lots within the subdivision.
- Defensible space for a lot may utilise communal areas, such as roads, where that land can meet the requirements for defensible space.
- Vegetation management requirements to implement and maintain the defensible space required under this approved measure.
- Water supply and vehicle access that complies with AM 4.1.

AM 5.2 Response and Justification

Siting has been determined in compliance with AM 2.2, and associated defensible space in accordance with Column B of Table 2 to Clause 52.47-3. Defensible space and construction standards have responded to the highest bushfire threat to the subdivision, which is Forest vegetation, with a downslope of $>0-5^{\circ}$ to the east, south and west. Defensible space calculations are shown in Table 2.

All defensible space will be maintained within the bounds of the subject site.

Table 2. Defendable space calculations

	Slope	Vegetation Type	Defendable space form building	Bushfire attack level
North	Flat	Forest	35 metres	BAL 19
East	Downslope $>0-5^{\circ}$	Forest	43 metres	BAL 19
South	Downslope $>0-5^{\circ}$	Forest	43 metres	BAL 19
West	Downslope $>0-5^{\circ}$	Forest	43 metres	BAL 19

The majority of the site is dominated by Forest vegetation, contiguous with the surrounding areas. Management of classifiable vegetation (Forest) will be required within the subject site to meet defensible space requirements. The understorey is sparse and as such, defensible space management will largely focus on ensuring sufficient separation of tree canopies.

Defensible space will be managed in accordance with the specifications detailed in the Bushfire Management Plan (Attachment 3). Any future landscaping around the proposed subdivision should have regard to the CFA's *Landscaping for Bushfires Guidelines*.

Water supply and access is detailed in AM 4.1.

The bushfire site assessment (Attachment 1) and bushfire hazard assessment (Attachment 2) provide further information to respond to AM 5.2.

2.3.2 AM 5.3: Subdivisions of 10 lots or more

Requirement

An application to subdivide land to create ten or more lots must provide a perimeter road adjoining the hazardous vegetation to support fire fighting.

AM 5.3 Response and Justification

The proposed development will result in the creation of less than ten lots, as such, as such as Approved Measure 5.3, and the requirement for a perimeter road, is not required. Miners Hut Road and the proposed access road within the currently unused road reserve provides fire fighter access to the north.

2.3.3 AM 5.4: Managing the risk

Requirements

A subdivision manages the bushfire risk to future development from existing or proposed landscaping, public open space and communal areas

AM 5.4 Response and Justification

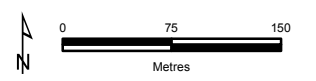
The subdivision has been designed to allow the dwellings to be situated with access routes as short as practicable. Given the proposed subdivision only includes nine residential lots, provision of public space and communal areas within the subdivision is not practicable. Defendable space will be managed in accordance with the specifications detailed in the Bushfire Management Plan (Attachment 3). Any future landscaping around the proposed subdivision should have regard to the CFA's *Landscaping for Bushfires Guidelines*. Any future dwellings will be constructed within the building envelopes shown in Attachment 1 to ensure that the defendable space and bushfire mitigation measures detailed in this BMS can be achieved.

3 ATTACHMENT 1 – BUSHFIRE SITE ASSESSMENT



- Legend**
- Subject Site
 - 150m Site Assessment
 - Lot boundaries
 - Dwelling
 - 10m buffer
 - Defendable space (35m and 43m)
 - Proposed access roads
 - Turned circle for firefighting vehicle
 - Existing tracks
 - 10,000L static water tank (nominal location)
 - Minor Watercourse
 - Permanent waterbody
 - Semi-permanent waterbody (dam)
 - Property boundaries
 - Contour (10m)
- Vegetation**
- Forest

Attachment 1
Bushfire Site Assessment
 Miners Hut Road, Carngham
 Site Size: 45.85 ha
 Hydrant not available



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Determine the classifiable vegetation: (circle one from each column).

	North	South	East	West
Vegetation Type	Forest	Forest	Forest	Forest
	Woodland	Woodland	Woodland	Woodland
	Shrubland	Shrubland	Shrubland	Shrubland
	Scrub	Scrub	Scrub	Scrub
	Mallee/Mulga	Mallee/Mulga	Mallee/Mulga	Mallee/Mulga
	Rainforest	Rainforest	Rainforest	Rainforest
	Grassland	Grassland	Grassland	Grassland
	Excludable	Excludable	Excludable	Excludable

Determine the distance from the building or building envelope to the classifiable vegetation: (enter in metres).

	North	South	East	West
Distance from the proposed development to vegetation	0 metres	0 metres	0 metres	0 metres

Determine the effective slope under the vegetation: (circle one for each column).

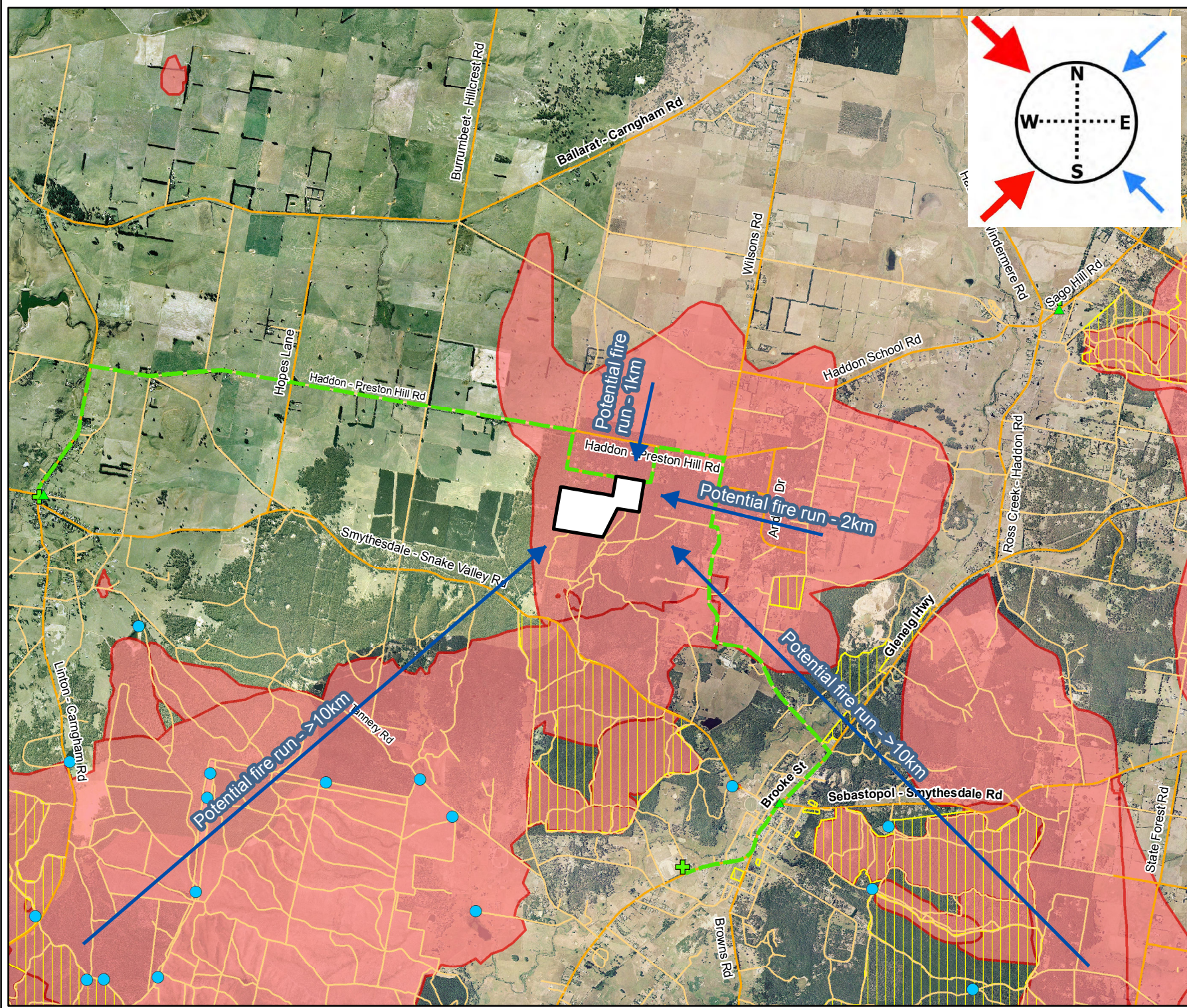
	North	South	East	West
Flat/Upslope	Yes	Yes	Yes	Yes
Downslope	>0-5°	>0-5°	>0-5°	>0-5°
	>5-10°	>5-10°	>5-10°	>5-10°
	>10-15°	>10-15°	>10-15°	>10-15°
	>15-20°	>15-20°	>15-20°	>15-20°
	>20°*	>20°*	>20°*	>20°*

Determine your defendable space and corresponding BAL.

BAL:	19	19	19	19
Defendable space zone:	35 metres	43 metres	43 metres	43 metres

The above three calculations are shown in the bushfire site assessment, bushfire management plan, and summarised in the BMS.

4 ATTACHMENT 2 – BUSHFIRE HAZARD ASSESSMENT



Legend

- Subject Site
- Neighbourhood Safer Place
- Fire Station
- Dam / waterpoint
- Major and collector roads
- Minor roads

Bushfire History

- Bushfires since 1981

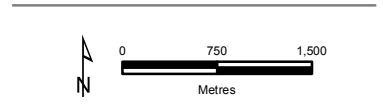
Bushfire Management Relative to Site

- DEPI Planned Burn Area

Access

- Access to Neighbourhood Safer Place

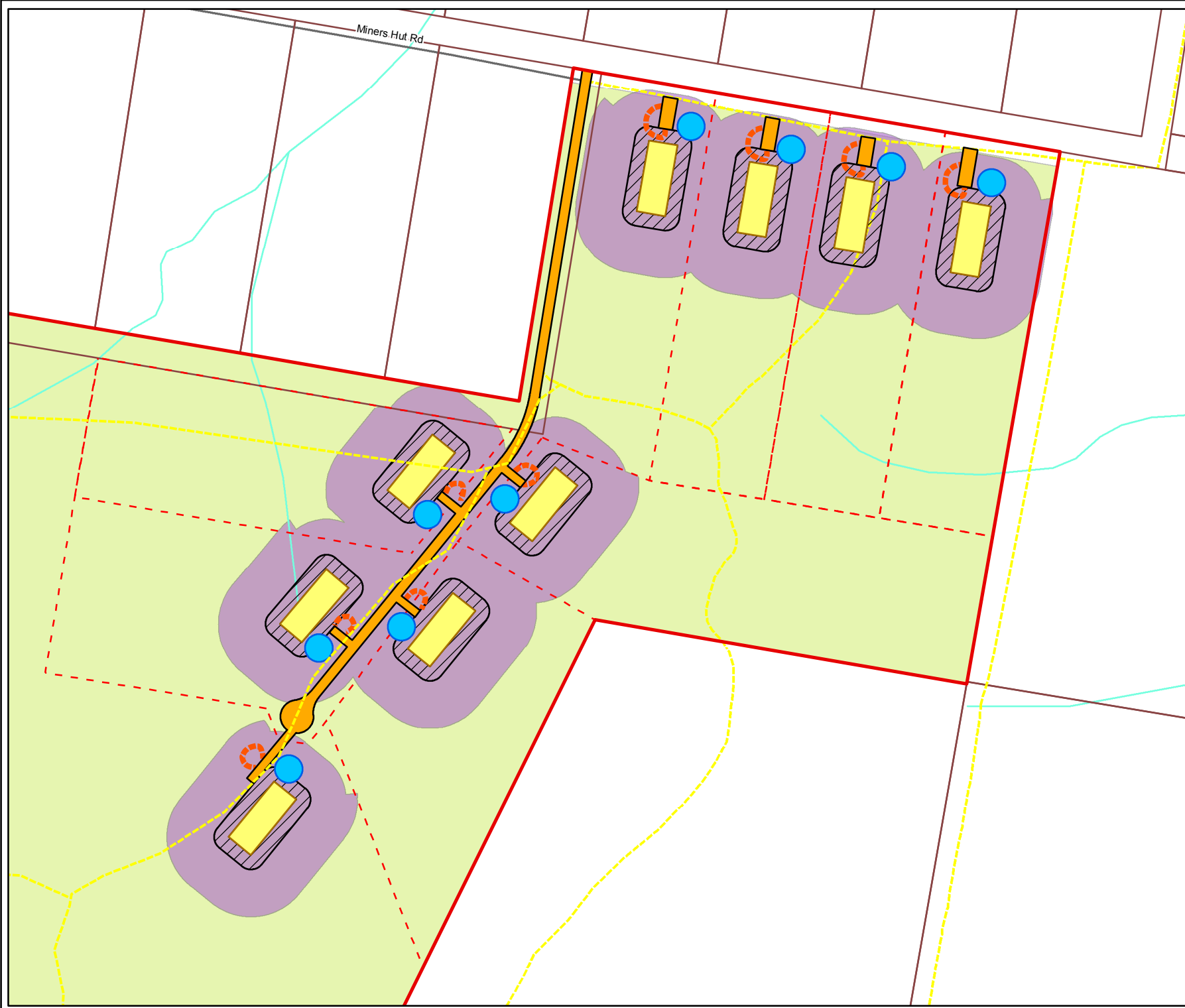
Attachment 2
Bushfire Hazard Landscape Assessment
 Miners Hut Road, Carngham



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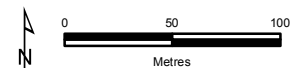
5 ATTACHMENT 3 – BUSHFIRE MANAGEMENT PLAN



Legend

- Subject Site
 - Lot boundaries
 - Dwelling
 - 10m buffer
 - Defendable space (35m and 43m)
 - Proposed access roads
 - Turned circle for firefighting vehicle
 - Existing tracks
 - 10,000L static water tank (nominal location)
 - Minor Watercourse
 - Property boundaries
- Vegetation**
- Vegetation

Attachment 3
Bushfire Management Plan
 Miners Hut Road, Carngham



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5.1 Defendable Space Management Requirements

- Within 10 metres of a building, flammable objects, such as plants, mulches and fences will not be located close to the vulnerable parts of the building such as windows, decks and eaves;
- Trees will not overhang or touch any elements of the building;
- Grass will be short cropped (<5cm) and maintained;
- All leaves and vegetation debris will be removed at regular intervals;
- Shrubs will not be planted under trees;
- Plants greater than 10 centimetres in height at maturity will not be placed directly in front of a window or glass feature;
- The canopy of trees will be separated by at least 2 metres with an overall canopy cover of no more than 15% at maturity.

5.2 Water supply for firefighting purposes

Provide 10,000 litres of effective water supply for firefighting purposes which will meet the following requirements:

- Stored in an above-ground water tank constructed of concrete or metal;
- All fixed above-ground water pipes and fitting required for firefighting purposes must be made of corrosive resistant metal;
- Incorporate a ball or gate valve (British Standard Pipe (BSP)) 65mm and coupling (64mm CFA 3 thread per inch male fitting);
- The outlet of the water tank will be within 4 metres of the access way and be unobstructed;
- Be readily identifiable from the building or appropriate identification signage to the satisfaction of the CFA must be provided;
- Any pipework and fittings will be a minimum of 65mm (excluding the CFA coupling); and,
- The water supply may be provided in the same water tank as other water supplies, provided they are separated with different outlets, with a minimum reserve of 10,000 litres below the domestic water outlet.

5.3 Access designed to accommodate CFA access

- Curves will have a minimum inner radius of 10 metres;
- The average grade will be no more than 1 in 7 (14.4%) (8.1 degrees) with a maximum of no more than 1 in 5 (20%) (11.3 degrees) for no more than 50 metres;
- Dips will have no more than a 1 in 8 (12.5%) (7.1 degrees) entry and exit angle; and,

- Will have a minimum trafficable width of 3.5 metres and be clear of encroachments for at least 0.5 metres on each side, and 4 metres above the access way;

In addition to the above, a turning area for firefighting vehicles must be provided close to the building by one of the following:

- a turning circle with a minimum radius of 8 metres;
- a driveway encircling the dwelling; or,
- other vehicle turning heads such as a T or Y head which meet the specification of Austroad Design for an 8.8 metre service vehicle.

5.4 Construction

The defendable space of 35 metres on flat land/upslope and 43 metres downslope has been determined using a minimum Bushfire Attack Level of **BAL-19** that any building/dwelling will be designed and constructed to in accordance with AS3959.