

# BUSH FIRE ASSESSMENT REPORT

Lot 105 in DP 260058

247 Mungo Brush Road  
HAWKS NEST

**PREPARED BY  
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## *Executive Summary*

This Bush Fire Risk Assessment has been prepared for a caravan park with 175 long term sites to be located at 247 Mungo Brush Road Hawks Nest, in the Midcoast Local Government Area – Lot 105 in DP 260058.

The proposal has previously been referred to and approved by the RFS, however, the resulting changes are such that this should be re-referred.

The proposal has been assessed as a residential development for the purposes of this report, and the proposal is fully compliant with all aspects of *Planning for Bush Fire Protection 2019*, excepting for localised minor non-conformances relating to the internal road widths, and this technical transgression has been approved by the RFS previously. It is specifically noted that no dwelling or structure will be required to be constructed to a BAL exceeding 29.

## 1.0 INTRODUCTION

Tattersall Lander Pty Ltd has been commissioned to undertake a Bush Fire Risk Assessment for a proposed development at 247 Mungo Brush Road, Hawks Nest in the Midcoast Local Government Area (LGA). The property is identified as Lot 105 in DP 260058.

This Bush Fire Risk Assessment was originally prepared in October 2019 and was based upon the guidelines as defined in the document, *Planning for Bush Fire Protection Guidelines 2006* (PBP) which has been written by the *NSW Rural Fire Service*. This assessment outlines the risk posed from bush fire, and hence identifies the constraints with regard to bush fire, thereby providing direction to the proposed development, and ultimately assessing the acceptability or otherwise of the development.

This report has been prepared by myself (Ben Folbigg); I have a Diploma in Planning for Bush Fire Protection and am BPAD accredited (Level 2) with the FPA Australia. Since this report was originally prepared in October 2019, there have been several significant amendments to the proposal. This current revision of the assessment has been prepared using the current guidelines (*PBP 2019*).



**Figure 1 – Site Location**

## 2.0 METHODOLOGY

This assessment is conducted entirely in accordance with the guidelines, as outlined in *Planning for Bush Fire Protection* (NSW Rural Fire Service) 2019 (PBP) – it is noted that the original assessment and report was prepared using *PBP 2006*, however, it is considered appropriate to utilise the current version of *PBP* for this update. A site investigation was undertaken on Friday 18 October 2019 and a subsequent site visit has concluded that the vegetation classifications have not altered.

This assessment:

- identifies the slope and aspect of the property;
- identifies all vegetation categories within 140 metres of the site;
- determines the bush fire attack category which applies to the site;
- identifies Asset Protection Zones/Setbacks;
- identifies the bush fire Construction level required in relation to the above for the proposed development (AS 3959-2018)

## 3.0 SITE DESCRIPTION

The subject site encompasses an area of 43.25 hectares with frontage to Mungo Brush Road. The site also abuts the Myall River and in this location, the Myall River is saline.

The site is currently vacant. Previous use of the site has been for a mineral sand mine and this has affected the vegetation within the site. Vegetation within the site is varied, with saline wetland in the western portion, forest in the central and also the eastern portion, and an area of what is effectively cleared and managed land approximately centrally located but more towards the east. This cleared and managed land is the area in which the proposal is to be located.

Topography of the site is flat with only minor, and insignificant, variations in levels.

Aerial photographs of the site and surrounds are provided in Appendix A. Appendix B includes photographs of the site and surrounds and the approximate location and direction of these photographs is depicted on the aerial photographs.

The site is located in the MidCoast Local Government Area (LGA) and hence is afforded a Fire Danger Index (FDI) rating of 80.

## 4.0 THE PROPOSAL

The proposal is for a caravan park with 175 long term sites – there will not be any short term sites; of the 175 long term sites, it is noted that 148 of these shall ultimately contain moveable dwellings and 27 shall contain caravans. The proposal also includes community facilities for use by the occupants of the park, as well as roads, drainage and servicing infrastructure.

The proposal layout includes an 8m wide perimeter road and two entrance ways, one of which shall be located towards the south of the site and the other is to be located approximately centrally. Both shall access the park from Mungo Brush Road which abuts the site to the east. The internal road network (i.e. those roads excluding the perimeter road) proposes roads will run in a general east west direction, linking at each end with the perimeter road. These internal roads have a straight, flat alignment that offers clear visibility from one end to the other. No cul-de-sacs or other such no-through roads are included in this proposal. A copy of the proposed site layout is included in Appendix C.

As the proposal does not include any short term sites, it has been assessed in this report as residential development and a principal requirement is that no dwelling is to be constructed or placed with a BAL requirement exceeding 29; it is noted that correspondence with a caravan Manufacturer has confirmed that they are able to construct caravans which are BAL-29 compliant. The structures which are not dwellings and which are to be located greater than 6 metres from any dwelling, simply need to comply with the aim and objectives of *PBP*, and effectively this means that they cannot be located in flame zone (amongst other requirements).

The aim of *PBP* is:

*To use the NSW development assessment system to provide for the protection of human life (including firefighters) and to minimise impacts on property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment.*

The objectives of *PBP* (which, by meeting, will ensure the aim is met) are:

- (i) *afford occupants of any building adequate protection from exposure to a bush fire;*
- (ii) *provide for a defensible space to be located around buildings;*
- (iii) *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;*
- (iv) *ensure that safe operational access and egress for emergency service personnel and residents is available;*

- (v) *provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ);*
- (vi) *ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bush fire fighting).*

## **5.0 SITE ANALYSIS**

### **5.1 Northern Aspect**

The northern aspect presents a mixture of managed lands, scrublands, and forest; as forest is the worst case vegetation category with regard to bush fire threat, this is what is to be utilised for the assessment. This forest is to be located directly to the north of the perimeter road; the breakdown of the area between proposed caravan sites and the forest vegetation is 3.8 metres of managed land within each caravan site, 1 metre of mown turf; 8 metres of pavement (road), then another 4.7metres of mown turn and a 2.5 metres pedestrian/cycle path.

The effective slope under the vegetation to the north is in the upslope/flat category.

### **5.2 Southern Aspect**

The southern aspect presents a mixture of scrubland and forest; as forest is the worst case vegetation category with regard to bush fire threat, this is the category which is to be used for the assessment. There is to be an APZ of 20 metres to the south and the breakdown of this APZ is 2.5 metres (minimum) within the frontage of each dwelling site, 1 metre of managed turf area, 8 metres of pavement (road), and a further 7 metres of managed turf area and a 2.5 metres pedestrian/cycle path.

The effective slope under the vegetation to the south is in the upslope/flat category.

### **5.3 Eastern Aspect**

The eastern aspect presents forest and the effective slope under this forest is in the upslope/flat category. There is to be a 20 metres APZ to the east and the breakdown of this APZ is (up to) 2.0 metres within each dwelling site, 8 metres of pavement (road), and a further variable width section of managed

turf area and/or pavement for parking areas (minimum 7.5m), and finally a 2.5 metre pedestrian/cycle path..

#### **5.4 Western Aspect**

The western aspect presents forest and the effective slope under this forest is in the upslope/flat category. There is to be a 20 metre APZ to the west and this APZ is to consist of a 2.5 metre pedestrian/cycle path., 8.0m pavement, and managed turf and stormwater management areas.

## 6.0 SITE ANALYSIS

**Table 1 – Asset Protection Zones Requirements**

Aspect	Vegetation Classification	Slope (degrees) Under Vegetation	Minimum Required Asset Protection Zone (metres) to achieve BAL-29	Potential APZ (metres)	BAL
<b>North</b>	Forest	Upslope/flat	20	20-<29	29
				29-<40	19
				40-<100	12.5
<b>South</b>	Forest	Upslope/flat	20	20-<29	29
				29-<40	19
				40-<100	12.5
<b>East</b>	Forest	Upslope/flat	20	20-<29	29
				29-<40	19
				40-<100	12.5
<b>West</b>	Forest	Upslope/flat	20	20-<29	29
				29-<40	19
				40-<100	12.5



## 7.0 Services

### 7.1 Water

The site is not currently connected to the reticulated town water supply, however, the water supply is to be extended to the site and double headed fire hydrants will be located appropriately throughout the part of the site relevant to this proposal. This arrangement will ensure that compliance is achieved with the relevant guidelines with regard to water supply. The Consent shall be Conditioned accordingly.

### 7.2 Electrical

Electrical supply is available to the site and this supply shall be extended within the site. This supply shall be underground to ensure that there is no ignition source for bush fire resulting from electrical supply. This is appropriate and ensures compliance with *PBP*.

### 7.3 Gas

Reticulated gas is not available to the site. It is proposed that bottled gas be installed within the site and this bottled gas system is to be installed in accordance with all of the requirements of *PBP 2019* as well as the requirements of any other relevant regulatory authority. The Consent shall be conditioned accordingly.

## 8.0 ACCESS

### 8.1 Road Capacity and Design

The site is accessed via Mungo Brush Road which, in this location, is a bitumen sealed two way road. This road is capable of carrying fully laden fire fighting vehicles including tankers.

The proposed roads which are to form part of the development will be constructed to an appropriate standard so that they also will be capable of carrying fully laden fire fighting tankers.

The perimeter road shall be 8 metres in width and all other roads shall be 6 metres in width, excepting for the traffic control devices/landscaped blisters, where the road width shall be locally reduced to 4.5 metres for a 4.5m length; whilst this is technically non-compliant by 1 metre, the internal road widths overall are greater than the minimum required by 0.5 of a metre. These internal roads have a straight, flat alignment that offer clear visibility from one end to the other. In reality, the internal roads would only need to be

utilised by fire fighting personnel in the event that a fire was to break out in one of the dwellings resulting from ember attack. All emergency service vehicle movements should generally be restricted to the perimeter road.

Cross falls do not exceed 3 degrees. There are no cul-de-sac or other no through roads. All roads are sealed and are well under the maximum grade of 15 degrees and well under the average grade of 10 degrees. The road network is compliant in all regards except for the minor width issue as discussed above and it is further noted *that the RFS have previously assessed this situation and issued their approval.*

## **8.2 Road Linkages to Fire Trails**

There are no official fire trails on the site and no fire trails are proposed. No fire trails are required.

## **8.3 Emergency Access/Egress**

Emergency access and egress shall be via one of the two proposed access roads, onto Mungo Brush Road. Access and egress will most likely be from and to the south along Mungo Brush Road as the northern route runs through the Myall Lakes National Park and includes a vehicular ferry. The northern route is an option if the southern route is cut off.

# **9.0 Landscaping**

Landscaping is proposed for this development and a copy of the landscape plan is attached in Appendix D. The proposed landscaping includes predominantly fire resistant vegetation and plantings have been positioned to ensure canopy separation at maturity and overall canopy site coverage of less than 15% (actual measure of approximately 7%).

The proposed landscaping vegetation is positioned within the APZ and the development overall, however, the layout is such that the proposed landscaping should not represent a bush fire threat of any significance given appropriate management; the fire-resistant landscaping shall contribute to ember filtration in the event of a bush fire and may result in a better outcome than if landscaping was not included in the design.

Management and maintenance of the caravan park and therefore also the landscaped areas, is to be undertaken by park management. Excepting for the water quality basins, all landscaped areas shall have a mown turf surround or the equivalent. The water quality basins are a wet environment and therefore these areas should have a high level of fire resistance.

The proposed situation with regard to landscaping is considered acceptable and should not compromise any asset protection zones.

## **10.0 DISCUSSION and RECOMMENDATIONS**

The proposal will require a minimum 20 metre APZ for all the dwellings and this has been achieved in the design. All other potentially combustible structures (such as the amenities buildings and maintenance shed) require a minimum 15 metre APZ as this will result in them being located outside of the flame zone and they do not require construction to any BAL – such structures are to be located at least 6 metres from any dwelling unless they are also located such that they have a 20 metres APZ and in this instance they are to be treated the same as a dwelling. The proposal is completely compliant in this regard. A site plan which also includes the relevant BAL zones is included in Appendix C.

The only area of non-compliance is that of the internal roads (i.e. roads excluding the perimeter road) and this has been discussed previously within this report and it is reiterated that this has been approved previously by the NSW RFS.

The objectives of *PBP* are:

- (i) *afford occupants of any building adequate protection from exposure to a bush fire;*

**Comment** – The occupants of the proposed dwellings will have an adequate level of protection due to the fact that the dwellings will be constructed to the appropriate BAL relating to the APZ (not exceeding BAL-29). Occupants of non-habitable structures are afforded adequate protection by the structures either being totally non-combustible, or otherwise, located outside of the flame zone.

- (ii) *provide for a defensible space to be located around buildings;*

**Comment** – The appropriate APZs shall ensure a defensible space to meet this objective.

- (iii) *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;*

**Comment** – The proposed appropriate APZ, combined with the appropriate road network and water supply, shall ensure compliance with this objective is achieved.

- (iv) *ensure that appropriate operational access and egress for emergency service personnel and occupants is available;*

**Comment** – The proposed road network shall ensure that this objective is achieved.

- (v) *provide for ongoing management and maintenance of BPMs;*

**Comment** – The management of the proposal will be undertaken appropriately so as to ensure that the APZ and all BPMs are maintained appropriately and this objective will be met.

- (vi) *ensure that utility services are adequate to meet the needs of firefighters.*

**Comment** – The reticulated water supply is to be extended to the proposal and double headed fire hydrants shall be installed appropriately so that this objective will be met.

## **11.0 CONCLUSION**

This assessment was undertaken for a long term caravan park at 247 Mungo Brush Road, Hawks Nest in the MidCoast LGA – Lot 105 in DP 260058.

The proposal does not include any dwellings, however, the assessment has taken into account the likely positioning of future dwellings and it is noted that no dwellings will be, or will be required to be, constructed to a BAL exceeding 29; it is considered that proposal is compliant with *Planning for Bush Fire Protection 2019* excepting for the one minor technical transgression of internal road widths and as discussed within this report.

## **12.0 DISCLAIMER**

All effort has been made to ensure the accuracy of this report, however, it is noted that bush fires can be unpredictable and this report in no way implies that any part of the proposed development is totally safe from fire.

Additionally it is noted that despite the site details at the time of writing this report, the situation may change; factors resulting in change to bush fire hazard include (but are not limited to) vegetation regrowth and improper maintenance of asset protection Zones.

No responsibility is accepted or implied for damage to, or loss of, life and/or property at any time resulting from bush fire or bush fire related issues (or any other factors) on this site.

## Appendix A: Aerial Photographs







Source: LPI Six Viewer website

## Appendix B:

### Photographs



**Photograph 1**



**Photograph 2**





**Photograph 3**



**Photograph 4**





**Photograph 5**



**Photograph 6**



**Photograph 7**



## Appendix C:

### Site/BAL Plan

