




Member of the Fire Protection Association of Australia

Bushfire Risk Assessment for lot 1, DP 394351, 1 Weemala Road Duffys Forest.

Wednesday, 15 November 2017

Prepared and certified by:	Matthew Willis <i>BPAD – level 3 Certified Practitioner Certification No: BPD-PA 09337</i>		15/11/2017
Can this proposal comply with AS3959-2009 (inc PBP addendum 3)?	AS 3959 does not apply.		
What is the recommended AS 3959-2009 level of compliance?	12.5		
Is referral to the RFS required?	At the discretion of council.		
Can this development comply with the relevant sections of Planning for Bushfire Protection?	Yes		

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1. General

Bushfire Planning Services has been requested to supply a bushfire risk assessment for the proposed works to be undertaken on lot 1, DP394351, 1 Weemala Road Duffys Forest.

This proposal is for the construction of a new horse stable with storage above, see attached plans for details. The National Construction Code (NCC) class for the building is class 10a.

The proposed new building is greater than 10m from the existing dwelling and any neighbouring dwelling.

The NCC 2016 calls up AS 3959 2009 as the deemed to satisfy construction requirements for some classes of buildings in bushfire prone areas.

- Volume 1 of the NCC refers to a Class 2 or Class 3 buildings, or a class 10a building or deck associated with a class 2 or 3 building in a designated bushfire prone area.
- Volume 2 refers to class 1 and 10a (class 10 building or deck associated with a class 1 building).

As the proposal is considered to be a class 10a structure when assessed in accordance with the requirements of the NCC, AS 3959 2009 does not apply to this building.

Although AS 3959 2009 is not considered appropriate for this type of building, Planning for Bushfire Protection (PBP) applies to *'all development applications on land that is classified as Bushfire Prone Land (BPL), identified on a councils BPL map'*.¹

Planning for Bushfire Protection states in relation to 'other classes of buildings';

- *Class 10b buildings in bushfire prone areas should be non-combustible and where an aboveground swimming pool is erected it should not adjoin or be attached directly to a wall of the building of class 1-4.....*
- *"The BCA² does not provide for any bushfire specific performance requirements and as such AS 3959 does not apply as a set of "deemed to satisfy" provisions. The general fire safety construction provisions are taken as acceptable solutions, but the aims and objectives of PBP apply in relation to other matters such as access water and services, emergency planning and landscape/vegetation management."*

The following outlines both the aim and objectives of Planning for Bushfire Protection.

The aim of PBP is as follows;

"The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including fire fighters) and to minimise impacts on property from the

¹ PBP section 1.1

² BCA has been superseded by the NCC

threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment".

The objectives of Planning for Bushfire Protection are as follows;

- *Afford occupants of any building adequate protection from exposure to a bush fire;*
- *Provide for a defendable space to be located around buildings;*
- *Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition*
- *Ensure that safe operational access and egress for emergency service personnel and residents is available*
- *Provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ);*
- *Ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush firefighting).*

The following table outlines the relevant *aim and objectives*, the method of compliance/non-compliance and opinion of compliance or non-compliance with those aims and objectives;

<u><i>Aims of Planning for Bushfire Protection</i></u>	<u><i>Opinion</i></u>	<u><i>Compliant</i></u>
<i>The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including fire fighters) 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".</i>	The development assessment procedure has identified that the subject lot is considered to be bushfire prone land. It is considered that this proposal can comply with the aim of PBP of <i>minimising</i> the impacts of a bushfire on the property.	Yes
<u><i>PBP specific objectives</i></u>	<u><i>Opinion</i></u>	<u><i>Compliant</i></u>
<i>Afford occupants of any building adequate protection from exposure to a bush fire;</i>	The proposal in non-habitable and therefore has no occupants to protect.	N/A
<i>Provide for a defendable space to be located around buildings;</i>	The establishment of defendable space is part of the recommendations of this assessment.	Yes
<i>Provide appropriate separation between a</i>	Under adverse conditions there is the potential for direct flame	Possible

<i>hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition</i>	contact from the neighbouring properties however the plans indicate the external surfaces of the building will be constructed from brick and metal and therefore potential material ignition is lessened.	
<i>Ensure that safe operational access and egress for emergency service personnel and residents is available</i>	It is considered that the access and egress for the site is adequate.	Yes
<i>Provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ);</i>	Normal property maintenance can provide this.	Yes
<i>Ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush firefighting).</i>	It is assumed that all utilities are in accordance with the requirements of the Building Code of Australia and appropriate Australian Standards.	Yes

2. Specific Objectives for Infill.

In addition to the aims and objectives of PBP the Specific Objections for Infill developments need to be considered.

Infill developments are defined as “new houses and alterations/additions in pre-existing subdivisions”.

The objectives are;

- *Ensure that the bushfire risk to adjoining lands is not increased;*
- *Provide a minimum defensible space;*
- *Provide better bushfire protection on a re-development site than the existing situation. This should not result in new works being exposed to greater risk than an existing building;*
- *Ensure that the footprint of the proposed building does not extend towards the hazard beyond existing building lines on the neighbouring land;*
- *Not result in an increased bushfire management and maintenance responsibility on adjoining land owners unless they have agreed to the development; and*

- *Ensure building design and construction enhance the chances of occupant and building survival.*

The following table outlines the objectives and the proposals level of compliance with those objectives.

<u><i>Specific Objectives for Infill</i></u>	<u><i>Opinion</i></u>	<u><i>Compliant</i></u>
Ensure that the bushfire risk to adjoining lands is not increased	The new proposal does not increase the threat to adjoining lands	Yes
Provide a minimum defensible space	There will be adequate defensible space surrounding the building	Yes
Provide better bushfire protection on a re-development site than the existing situation. This should not result in new works being exposed to greater risk than an existing building	The new proposal will increase the APZ for the existing house.	Yes
Ensure that the footprint of the proposed building does not extend towards the hazard beyond existing building lines on the neighbouring land	The new proposal is behind the existing building lines of the significant hazard to the north west.	Yes
Not result in an increased bushfire management and maintenance responsibility on adjoining land owners unless they have agreed to the development	The proposal has no impact on the neighbours' bushfire responsibilities.	Yes
Ensure building design and construction enhance the chances of occupant and building survival	BAL-12.5 construction is recommended.	Yes

3. General

I have undertaken informal discussions with the Rural Fire Service with regard to this proposal. The Rural Fire Service acknowledged that as this building is a class 10 structure and has a separation distance to the existing dwelling of greater than 10m that strictly speaking the proposal is beyond the requirements of AS 3959.

Notwithstanding the above it was also discussed that the proposal has the potential for direct flame contact and therefore may not comply with the aims and objectives of Planning for Bushfire Protection.

To compensate for this situation it was suggested that, although not strictly applicable, that the building is constructed in line with the requirements of BAL-12.5 and that the entire property is to be managed as an Asset Protection Zone which would not only enhance the proposals resistance to the effects of bushfire attack would also increase the existing dwellings chances of surviving a bushfire.

The combination of the recommendations outlined in this assessment combine to provide a "Better Bushfire Outcome" for the proposal and the existing dwelling.

4. Recommendations

- 1) *New construction shall comply with the requirements of section 3 of Australian Standard AS3959-2009 "Construction of buildings in bush fire-prone areas" and,*
- 2) *New construction shall also comply with the requirements of BAL-12.5 of Australian Standard AS3959-2009 "Construction of buildings in bush fire-prone areas" and section A3.7 Addendum Appendix 3 of "Planning for Bush fire Protection".*
- 3) *Any new fencing to be property should be in accordance with Rural Fire Service "Fast Fact 2/06".*
- 4) *New roofing valleys and guttering should be fitted with a non-combustible leaf protection to stop the accumulation of debris.*
- 5) *At the commencement of building works and in perpetuity the entire property shall be managed as an Asset Protection Zone in accordance with the requirements of Planning for Bushfire Protection, the RFS document Standards for Asset Protection Zones and in a manner that does not create a bushfire hazard to the property. The establishment of the Asset Protection Zone will also provide defensible space is required.*

5. Conclusion.

The subject lot is covered by the local councils Bushfire Prone Land Map and is therefore considered to be bushfire prone. (Appendix 1)

Normally this class of building does not require bushfire construction consideration however given the position of the proposal it would be 'Best Practice' to incorporate some form of protection into the building, BAL-12.5 has been suggested as appropriate to give an enhanced level of protection to the building.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.

This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

If any further clarification is required for this report please do not hesitate to contact me using the details above.

Yours Sincerely



*Matthew Willis
Grad Dip Planning for Bushfire Prone Areas
Bushfire Planning Services Pty Limited.*

6. Appendix 1, bushfire prone land map



Map 1 the red indicator on the bushfire prone land map shows the location of the subject lot.

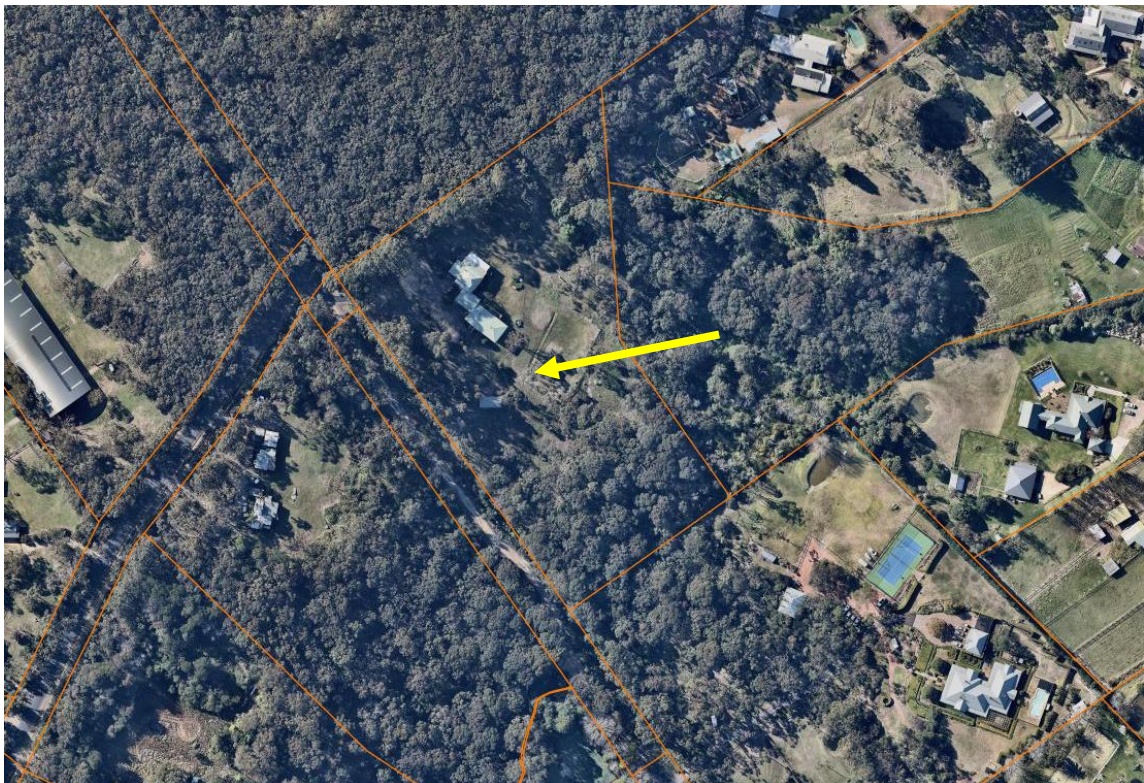


Photo 1. The arrow on the above aerial photograph indicates the approximate position of the new stable.



