



AUSTRALIAN BUSHFIRE CONSULTING SERVICES



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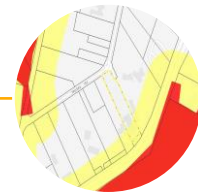
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**BRONZE
MEMBER**
Fire Protection
Association Australia

ABN 23 622 676 493
PO Box 212 Berowra Heights 2082

Bush Fire Assessment Report



Proposed change of use to include veterinary
practice:

**16 Myoora Road
Terrey Hills NSW 2084**

16th October 2019
Reference 19-085

Contents:

	<u>Page No.</u>
Abbreviations	2
1.0 Introduction	3
2.0 Property details	3
3.0 Legislative context	3
4.0 Referenced documents and people	4
5.0 Copyright, scope and disclaimer	4
6.0 Assessment summary table	5 - 6
7.0 Images and maps	7 - 9
8.0 Bushfire hazard assessment	10 - 13
9.0 Recommendations	14
10.0 Conclusion	15
11.0 List of attachments	16

Abbreviations:

ABCS	Australian Bushfire Consulting Services Pty Ltd
APZ	Asset Protection Zone
AS2419	Australian Standard 2419.1:2017 Fire hydrant installations System design
AS3959	Australian Standard 3959 – 2009 Construction of buildings in bushfire prone areas Including amendments 1-3
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Northern Beaches Council
DA	Development Application
EP&A Act	Environmental Planning and Assessment Act - 1979
ESD	Ecologically Sustainable Development
FR NSW	Fire & Rescue NSW
IPA	Inner Protection Area
LGA	Local Government Area
NCC	National Construction Codes
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection – 2006
ROW	Right of Way
RF Act	Rural Fires Act - 1997
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

1.0 Introduction.

The subject site contains an existing two storey building currently occupied by the Dalmacija Sydney Croatian Club and used for club community purposes and recreational activities. The development proposal seeks approval for the conversion of an internal part of the existing building for use as a veterinary practice. The subject site is mapped as bushfire prone land and therefore the application of Planning for Bushfire Protection 2006 is appropriate for the development application.

The aims of PBP 2006 are 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.* For commercial and industrial development this is achieved by compliance with the aims and objectives of PBP 2006 by ensuring adequate access and egress has been provided, providing safe service supply and adequate water provisions for occupants and attending emergency services. Construction measures and AS3959 – 2009 *Construction of buildings in bushfire prone areas* are only applied on a case by case basis where the aims and objectives of PBP 2006 for access, water and services, emergency planning and landscaping/vegetation management are not satisfied.

The development is classified as infill and other development (section 4.3 PBP 2006) and assessed under section 4.14 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

2.0 Property details.

Address: 16 Myoora Road Terrey Hills NSW 2084
Lot/DP: Lot 100 DP 709585
Zoned: RU4 Primary Production Small Lots
LGA: Northern Beaches Council

The site has frontage to Myoora Road to the northwest, abuts a small reserve and Mona Vale Road to the southeast and similar developed RU4 Primary Production properties to the remaining northeast and southwest aspects. The area identified as a bushfire hazard to the subject site is within Garigal National Park to the southeast of the property beyond Mona Vale Road.

3.0 Legislative context.

Under Section 4.14 of the EP&A Act, Council can determine a development application on bushfire prone land providing;

Council is satisfied that the development conforms to the specifications and requirements of *Planning for Bush Fire Protection* that are relevant to the development or

Council has been provided with a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment stating that the development conforms to the relevant specifications and requirements *Planning for Bush Fire Protection*.

If the Council is satisfied that the development does not conform to the relevant specifications and requirements of *Planning for Bush Fire Protection* Council may grant consent but only if it has consulted with the Commissioner of the NSW Rural Fire Service concerning measures to be taken with respect to the development to protect persons, property and the environment from danger that may arise from a bush fire.

The highest bushfire attack level (BAL) to the existing building footprint has been determined to be BAL 12.5. Suitable recommendations have also been made herein to enable Council to issue development consent inclusive of conditions required to ensure compliance with all requirements of PBP 2006.

The proposal meets the aims and objectives of PBP 2006 by means of compliance with the deemed to satisfy provisions of this document. I am a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment and I have attached a certificate to this report satisfying the requirements of s4.14. As such Council can approve the application without referral to the NSW Rural Fire Service.

4.0 Referenced documents and people.

The following documents have been referenced in the preparation of this report;

- AS3959 – 2009 Construction of buildings in bushfire prone areas,
- Planning for Bush Fire Protection 2006,
- Rural Fires Act 1997
- Rural Fires Regulation 2013
- 10/50 Vegetation Clearing Code of Practice,
- NSW RFS Guide for bush fire prone land mapping V5b Nov 2015,
- NSW Fire Brigades Guidelines for Emergency Vehicle Access Policy No 4
- Ocean Shores to Desert Dunes – David Andrew Keith 2004,

The application plans by Cyclo Dwgs A103 & A104 Rev A have been reviewed and relied upon in the preparation of this report. I undertook an inspection of the property on 9/10/2019, at that time free access was available within the subject site and the bushfire hazard to the southeast enabling an accurate assessment of the bushfire hazardous vegetation.

5.0 Copyright, scope and disclaimer.

This assessment of possible bushfire impact (including smoke, ember, radiant heat and flame contact) and compliance with other matters such as access and service supply is pertinent to the subject site only. Where reference has been made to the surrounding lands, this report does not assess impact to those lands rather it is an assessment of possible bushfire progression and impact on or from those lands towards the subject site.

Apart from any use permitted under the Copyright Act 1968 no part of this document, including any wording, images, or graphics, can be modified, changed or altered in any way without written permission from Australian Bushfire Consulting Services Pty Ltd. This report may only be referenced, distributed or forwarded to other parties in its original format.

This report has been prepared as a submission document in support of a development application to Council and cannot be relied upon for commencement of works or construction until it has been included within the consent conditions issued by Council as part of the DA determination. **The onus is on the applicant to cross reference this document with any conditions of consent issued by Council or any requirements supplied by the NSW Rural Fire Service following development approval.** I can review and cross reference these documents however the onus is on the applicant / client to provide them to me and request this review.

Where any difference between this document and the development consent (or the NSW Rural Fire Service requirements) is found, the conditions of consent always take precedence until an application to review, amend or vary those conditions is approved.

The statements and opinions contained in this report are given in good faith and in the belief that such statements and opinions are correct and not misleading. AS3959 – 2009 states that “...*there can be no guarantee that a building will survive a bushfire event of every occasion. This is substantially due to the unpredictable nature and behaviour of fire and extreme weather conditions*”. The NSW RFS state “*Homes are not designed to withstand fires in catastrophic conditions*”. Correspondingly any representation, statement of opinion, or advice expressed or implied in this document is made on the basis that Australian Bushfire Consulting Services Pty Ltd is not liable to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice made by Australian Bushfire Consulting Services Pty Ltd.

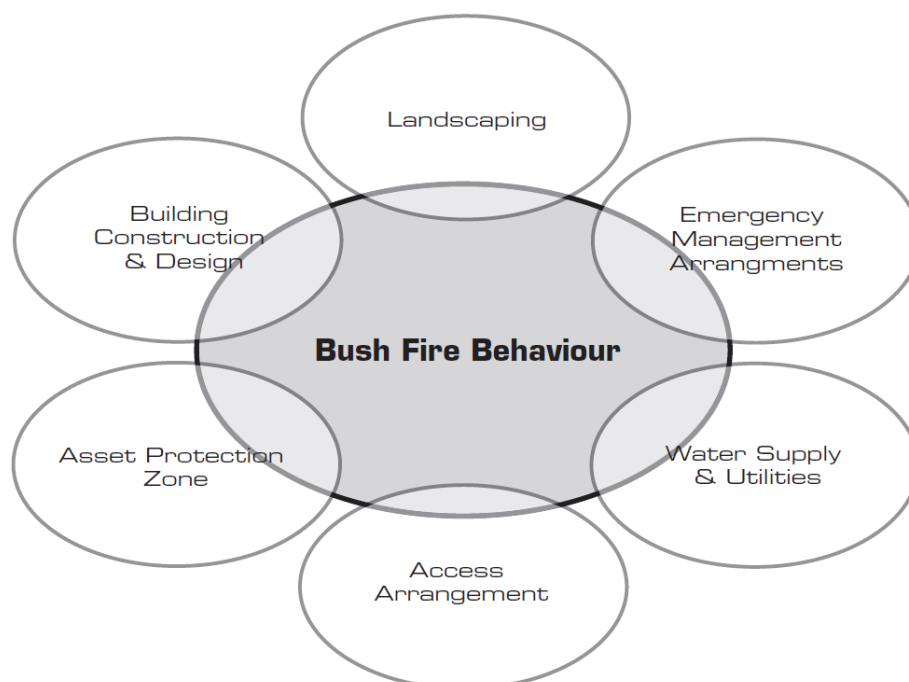
6.0 Assessment summary table.

Aspect	Northeast	Southeast	Southwest	Northwest
Vegetation Structure	n/a	Forest	n/a	n/a
Slope	n/a	0-5° down slope	n/a	n/a
Separation distance	n/a	65 metres	n/a	n/a
Features that may mitigate the impact of bush fire on the proposed development.	The existing development footprint remains unchanged and there is no new external works proposed. Mona Vale Road provides a significant separation from the hazardous vegetation and also access to the hazard interface. A fire trail network exists within Garigal NP to the south of Mona Vale Road.			
Noteworthy landform & environmental features.	Maintained commercial allotment (Antiques Art and Textiles supply)	Managed roadside verge and Mona Vale Road	Maintained commercial allotment (Nursery)	Myoora Road
Threatened Species	n/a	Not known APZ existing	n/a	n/a
Aboriginal Relics	n/a	Not known APZ existing	n/a	n/a
Bushfire Attack Level	n/a	BAL 12.5	n/a	n/a
Required Construction Level	n/a - PBP states: <i>The BCA does not provide for any bush fire 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 aim and objectives of PBP apply in relation to other matters such as access, water and services, emergency planning and landscaping/vegetation management.</i> Construction measures and AS3959 – 2009 Construction of buildings in bushfire prone areas are only applied on a case by case basis where the aims and objectives of PBP 2006 for access, water and services, emergency planning and landscaping/vegetation management are not satisfied.			
Proposed Construction Level	n/a - The proposed development is an internal fit out only. There are no new external works proposed as part of the change of use.			

Aims and objectives of PBP in relation to other matters such as access, water and services, emergency planning and landscaping & vegetation management.

Guideline Ref	Proposed Development Determinations
Property Access	<p>The subject site has access to Myoora Road to the northwest. The existing building is located > 70 metres from Myoora Road and property access requirements of s4.1.3(2) Property Access of PBP 2006 should be considered. The existing access provides access from Myoora Road and to the building footprint and turning areas onsite suitable for a Category 1 fire appliance.</p> <p>Access along the hazard interface is provided from Mona Vale Road without the need to enter the subject site. The existing access is considered acceptable and meets the aims and objectives of PBP 2006.</p>
Water Supply	<p>Hydrants are available within Myoora Road and Mona Vale Road and are available for the replenishment of fire service vehicles.</p> <p>The existing water supply is considered acceptable and meets the aims and objectives of PBP 2006.</p>

<p>Services supply (electricity and gas)</p>	<p>Existing above ground electrical supply is provided along Myoora Road and Mona Vale Road and the subject site has an overhead connection to the service from Mona Vale Road.</p> <p>Recommendations will be included in this report that vegetation management around the onsite electricity is to comply with section 4.1.3 of Planning for Bush Fire Protection 2006 so that location of electricity limits the possibility of ignition of surrounding bushland or the fabric of buildings.</p> <p>Reticulated gas supply is available within Myoora Road, however there are no new gas installations proposed as part of this development.</p> <p>This recommendation will ensure the proposal meets the aims and objectives of PBP 2006.</p>
<p>Emergency planning</p>	<p>Evacuation is possible by utilising existing road infrastructure which is not altered as part of this application. Occupants should complete a Bush Fire Safety Plan addressing "Prepare, Act, Survive" as advocated by the NSW RFS http://www.rfs.nsw.gov.au/ under publications / bushfire safety.</p> <p>This plan should include a trigger for safe refuge onsite to avoid relocation in times of imminent bushfire impact and measures for relocation offsite in the event of a bushfire in this area.</p> <p>This will ensure the proposal meets the aims and objectives of PBP 2006.</p>
<p>Landscaping & vegetation management.</p>	<p>Recommendations will be included within this report that all grounds within the subject property are to be maintained as an Asset Protection Zone / Inner Protection Area as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 2 of Planning for Bushfire Protection 2006.</p> <p>Any new landscaping is to comply with Appendix 5 'Landscaping and Property Maintenance' under Planning for Bushfire Protection 2006.</p> <p>This recommendation will ensure the proposal meets the aims and objectives of PBP 2006.</p>



7.0 Images and maps.

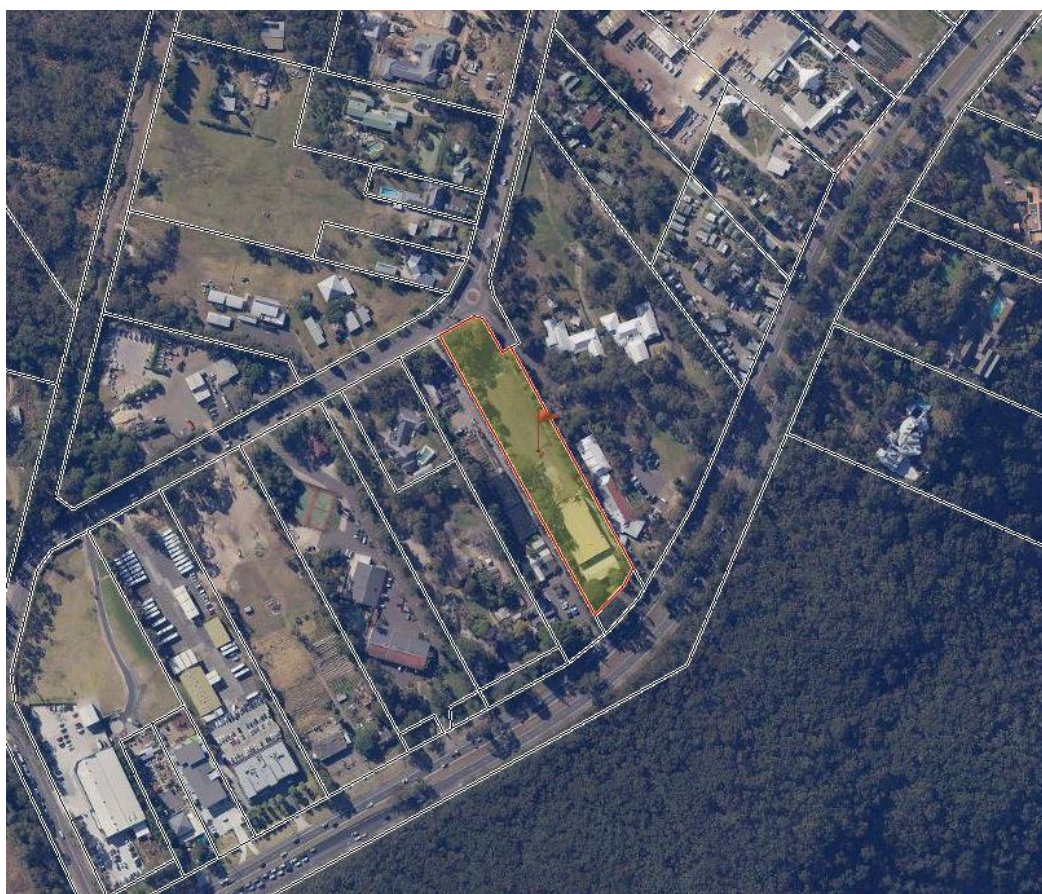


Image 01: Aerial image from NSW Land &Property Information / Spatial Information Exchange



Image 02: Topographic image from NSW Land &Property Information / Spatial Information Exchange

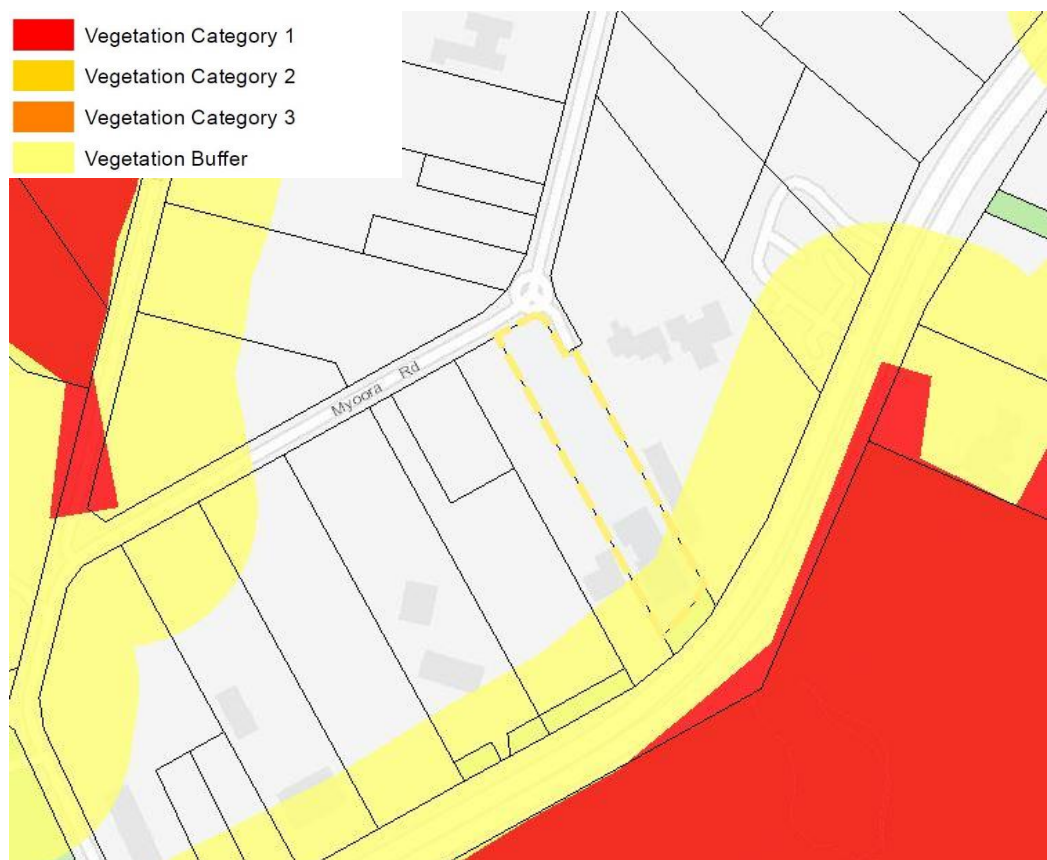


Image 03: Bushfire prone land map from Dept Planning Property Information online mapping services.

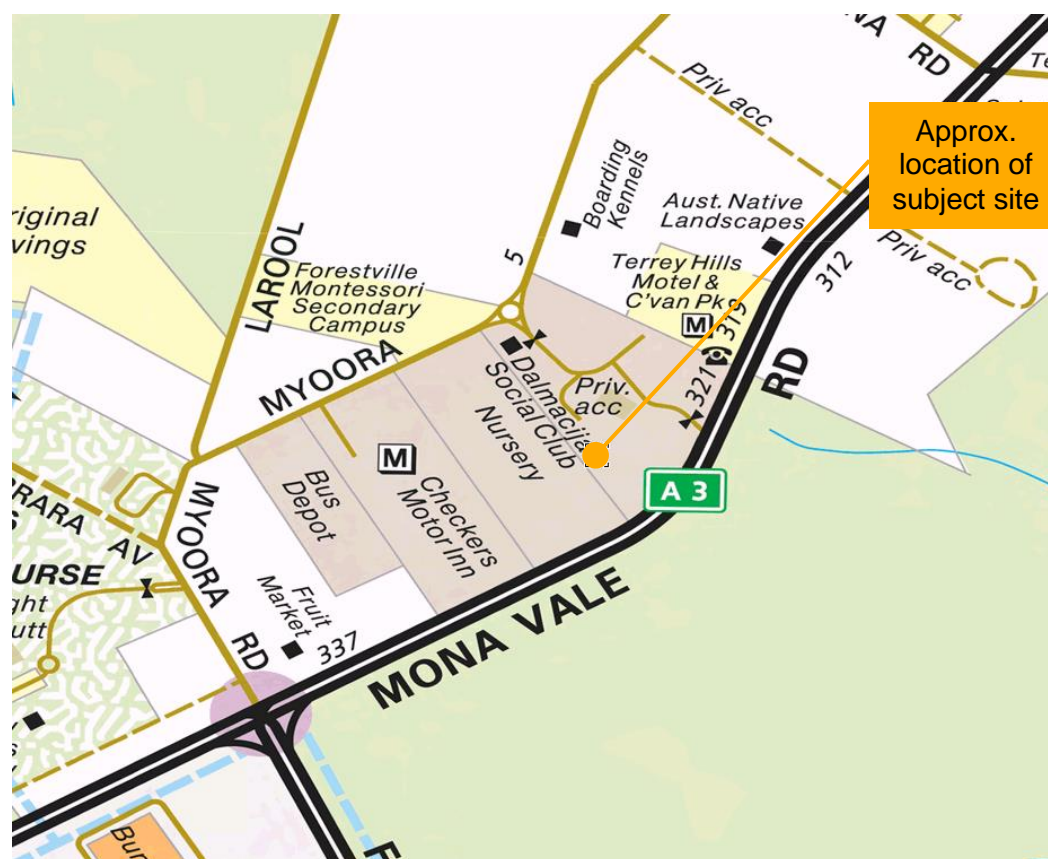


Image 04: Extract from street-directory.com.au

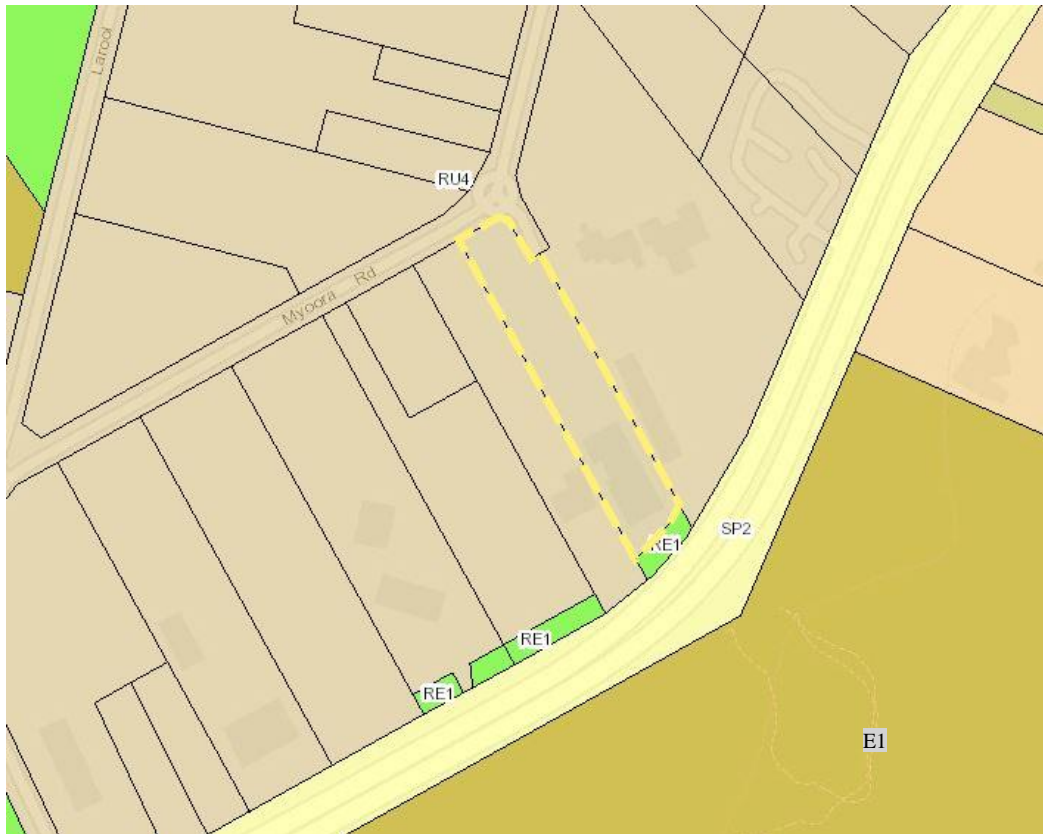


Image 05: Council LEP Zones from Dept Planning Property Information online mapping services.

8.0 Bushfire hazard assessment

Properties considered to be bushfire prone land are identified on Councils Bushfire Prone Land Map as being:

- *within or within 100 m of Category 1 (high) hazards or,*
- *within or within 30 m of Category 2 (low) hazards or,*
- *within or within 30 m of Category 3 (medium) hazards.*

The NSW RFS document PBP – 2006 is applicable to all development on bushfire prone land, this includes an assessment of the proposals adequacy in providing an appropriate combination of bushfire protection measures in terms of asset protection zones, landscaping, access and service supply. This document also provides a means of determining the necessary level of building construction under AS3959 - 2009. All development on bushfire prone land must be accompanied with a bushfire hazard assessment that includes;

- *a statement that the site is bush fire prone land, where applicable,*
- *the location, extent and vegetation formation of any bushland on or within 100 metres of the site,*
- *the slope and aspect of the site and of any bush fire prone land within 100 metres of the site, which may determine the likely path of any bush fires,*
- *any features on or adjoining the site that may mitigate the impact of a high intensity bush fire on the proposed development, and*
- *a statement assessing the likely environmental impact of any proposed Bush Fire Protection Measures.*
- *whether any building is capable of complying with AS 3959-2009 in relation to the construction level for bush fire protection.*

By incorporating bush fire protection measures into a development, the six objectives of PBP 2006 are addressed:

1. *afford occupants of any building adequate protection from exposure to a bush fire*
2. *provide for a defensible space to be located around buildings*
3. *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition*
4. *ensure that safe operational access and egress for emergency service personnel and residents is available*
5. *provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ)*
6. *ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush fire fighting).*

8.1 Site

The site has frontage to Myoora Road to the northwest, abuts a small reserve and Mona Vale Road to the southeast and similar developed RU4 Primary Production properties to the remaining northeast and southwest aspects.

Councils Bushfire Prone Land Map depicts the subject site as being within the 100 metre buffer zone from a Category 1 Vegetation. The area identified as a bushfire hazard is within Garigal National Park to the southeast of the property beyond Mona Vale Road.



Photograph 01: View south from Myoora Road along the access to the subject site.

8.2 Vegetation

In accordance with Planning for Bush Fire Protection 2006 the vegetation structure must be determined under Keith 2004 for a distance out to 140 metres from the subject site.

The area identified as a bushfire hazard to the subject site is within the Garigal National Park to the southeast. The vegetation to the was found to be dominated by eucalypts 10 – 25 m tall having foliage cover of approx. 50% with an understorey of small trees and shrubs. For the purposes of this assessment it has been determined that the vegetation present is classified as Dry Sclerophyll Forest



Photograph 02: View southeast from Mona Vale Road into Garigal National Park.

8.3 Topography

The slope must be assessed over a distance of at least 100m from the existing property boundary (or building footprint) towards the various vegetation communities constituting the hazard. In assessing the slope, it may be found that there are a variety of slopes covering different distances. The gradient within the hazard (vegetation) which will most significantly influence the fire behaviour must be determined.

The slope was assessed onsite using an inclinometer and verified from topographic mapping to be.

- 0 - 5 degrees downslope to the southeast

8.4 Asset Protection Zones

An APZ is a buffer zone between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack. A fuel-reduced, physical separation between buildings and bush fire hazards is the key element in the suite of bushfire protection measures.

There are no minimum APZs required for commercial and industrial development. The subject site and neighbouring allotments are currently maintained around the built assets. The separation from the hazard interface is 65 metres which includes maintained land within the subject site and the existing maintained and formed areas within Mona Vale Road reserve.

Recommendations will be included within this report to ensure the subject site is continued to be maintained in accordance with Appendix 2 & 5 of PBP 2006.



Photograph 03: View southeast from the rear of the subject site (taken from boundary fence)

8.5 Access & egress

The intent of measures required by PBP 2006 is to *provide safe access to / from the public road system for firefighters providing property protection during a bush fire and for occupants faced with evacuation*. The performance requirement is that *access to properties is provided in recognition of the risk to fire fighters and / or evacuating occupants*.

The subject site has access to Myoora Road to the northwest. The existing building is located > 70 metres from Myoora Road and property access requirements of s4.1.3(2) Property Access of PBP 2006 should be considered. The existing access provides access from Myoora Road and to the building footprint and turning areas onsite suitable for a Category 1 fire appliance.

Access along the hazard interface is provided from Mona Vale Road without the need to enter the subject site. The existing access is considered acceptable and meets the aims and objectives of PBP 2006.

8.6 Emergency Management

Evacuation is possible by utilising existing road infrastructure which is not altered as part of this application. Occupants should complete a Bush Fire Safety Plan addressing “Prepare, Act, Survive” as advocated by the NSW RFS <http://www.rfs.nsw.gov.au/> under [publications / bushfire safety](#).

This plan should include a trigger for safe refuge onsite to avoid relocation in times of imminent bushfire impact and measures for relocation offsite in the event of a bushfire in this area.

This will ensure the proposal meets the aims and objectives of PBP 2006.

8.7 Services

Existing above ground electrical supply is provided along Myoora Road and Mona Vale Road and the subject site has an overhead connection to the service from Mona Vale Road.

Recommendations will be included in this report that vegetation management around the onsite electricity is to comply with section 4.1.3 of Planning for Bush Fire Protection 2006 so that location of electricity limits the possibility of ignition of surrounding bushland or the fabric of buildings.

Reticulated gas supply is available within Myoora Road, however there are no new gas installations proposed as part of this development.

This recommendation will ensure the proposal meets the aims and objectives of PBP 2006.

8.8 Construction

Australian Standard 3959 – 2009 ‘Construction of buildings in bushfire-prone areas’ provides for six (6) levels of building construction these being BAL - Low, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 and BAL - FZ. The Australian Standard 3959 specifies construction standards for buildings within various Bushfire Attack Levels as determined by the Planning for Bushfire Protection – 2006 document. The NSW Rural Fire Service will not accept deemed to satisfy provisions for BAL Flame Zone.

For commercial and industrial buildings PBP 2006 states:

The BCA does not provide for any bush fire 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 aim and objectives of PBP apply in relation to other matters such as access, water and services, emergency planning and landscaping/vegetation management.

In circumstances where the aim and objectives of PBP (section 1.1) are not met, then the construction requirements for bush fire protection will need to be considered on a case-by-case basis.

The proposal meets the aims and objectives of PBP 2006 in relation to access, water and services, emergency planning and landscaping/vegetation management therefore construction details under AS3959 – 2009 only needs to be considered on a case by case basis.

This point is irrelevant for the proposed development as all new works relate to an internal fit out only. There are no new external works proposed as part of the change of use.

9.0 Recommendations

9.1 Asset Protection Zones / landscaping

1. That all grounds within the subject property not built upon is continued to be maintained as an Asset Protection Zone / Inner Protection Area as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 2 of Planning for Bushfire Protection 2006.
2. That any new landscaping is to comply with Appendix 5 'Landscaping and Property Maintenance' under Planning for Bushfire Protection 2006.

9.2 Services

Electricity

3. That electricity supply to the building is to comply with section 4.1.3 of Planning for Bush Fire Protection 2006, in particular;
 - Overhead electrical transmission lines onsite are maintained with no part of a tree closer to a power line than the distance set out in accordance with the specifications in 'Vegetation Safety Clearances' issued by Energy Australia (NS179, April 2002).

9.3 Emergency management plan.

4. That occupants should complete a Bush Fire Safety Plan addressing "Prepare, Act, Survive" as advocated by the NSW RFS <http://www.rfs.nsw.gov.au/> under [publications / bushfire safety](#).

10.0 Conclusion

The subject property is determined to be bushfire prone land and the proposal must achieve compliance with the NCC by meeting the aims and objectives of PBP 2006.

This bushfire hazard and determination has been made on a site-specific basis which includes an assessment of the local bushland area and its possible impact to the subject property. The highest bushfire attack level (BAL) to the existing building footprint has been determined to be BAL 12.5. Suitable recommendations have also been made herein to enable Council to issue development consent inclusive of conditions required to ensure compliance with all requirements of PBP 2006.

The proposal meets the aims and objectives of PBP 2006 by means of compliance with the deemed to satisfy provisions of this document. I am a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment and I have attached a certificate to this report satisfying the requirements of s4.14. As such Council can approve the application without referral to the NSW Rural Fire Service.

In consideration of the bushfire risk posed to the proposed development in combination with the recommended bushfire protection measures contained within this report I am satisfied they will provide a reasonable and satisfactory level of bushfire protection to the proposed development.

I am therefore in support of the development application.

Australian Bushfire Consulting Services Pty Ltd



Wayne Tucker

Managing Director
G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
Ass Dip Applied Science
FPA Australia BPAD Level 3 Accredited Practitioner
BPAD Accreditation No. BPAD9399

11.0 List of attachments

Attachment 01: s4.14 Certificate



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BUSH FIRE RISK ASSESSMENT CERTIFICATE

Issued in accordance with Section 4.14 of the Environmental Planning Act 1979 No.203

PROPERTY DETAILS	16 Myoora Road Terrey Hills NSW 2084 Lot 100 DP 709585				
DEVELOPMENT TYPE	Infill – Proposed change of use to include veterinary practice				
PLAN REFERENCE	Application plans by Cyclo Dwgs A103 & A104 Rev A				
BAL RATING	BAL 12.5	NOTE - If BAL FZ the application is to be referred to the NSW RFS.			
ARE ALTERNATE SOLUTIONS REQUIRED	No	NOTE - If YES the application is to be referred to the NSW RFS.			
IS REFERRAL TO NSW RFS REQUIRED	No	ABCS REF.	19-085	Issue date:	16 th October 2019

I *Wayne Tucker*, of Australian Bushfire Consulting Services Pty. Ltd., hereby certify in accordance with Section 4.14 of the Environmental Planning Act 1979 No.203 that –

1. I am a person recognized by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment and
2. Subject to the recommendations contained in the Bushfire Risk Assessment Report, the proposed development conforms to specifications and requirements of the document entitled *Planning for Bushfire Protection* (prepared by the NSW Rural Fire Service in co-operation with the Department of Planning) and any other documents as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No.203.

Further, I am aware that the Bushfire Risk Assessment Report prepared for the abovementioned site is to be submitted in support of a Development Application for this site. This report will be relied upon by Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with the document entitled *Planning for Bushfire Protection* 2019.

Australian Bushfire Consulting Services:



Wayne Tucker

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BPAD Accreditation No. BPAD9399