

Bush Fire Assessment Report

Proposed:
**Alterations &
Additions**

At:
**5 Florida Road,
Palm Beach NSW**

Reference Number: 191276

Prepared For:
Beecraft Pty Ltd

29th July 2019

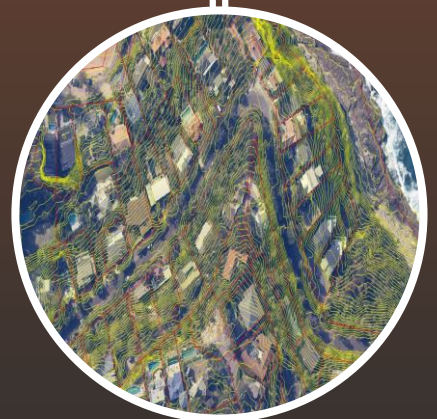
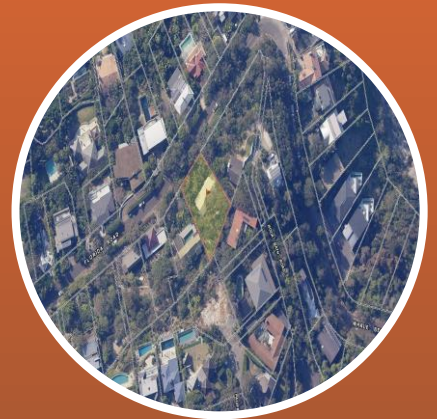


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List of Abbreviations:

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2009 as amended.
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
ELVIS	Elevation and Depth Foundation Spatial Data – Geoscience Australia
EP&A Act	Environmental Planning and Assessment Act - 1979
ESD	Ecologically Sustainable Development
FRNSW	Fire & Rescue NSW
IPA	Inner Protection Area
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	Planning for Bush Fire Protection - 2006
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 development proposal relates to the alterations and additions of an existing sole occupancy dwelling within an existing residential allotment located at 5 Florida Road, Palm Beach (Lot 12 DP 10167).

The subject property is a residential allotment which has street frontage to Florida Road to the northwest and abuts private residential allotments to all remaining aspects. The vegetation identified as being the hazard is within the vegetated allotments to the east of the subject property.

Northern Beaches Council's Bushfire Prone Land Map identifies the subject property as marginally containing designated 100 metre buffer zone associated with Category 1 Vegetation therefore the application of Planning for Bush Fire Protection - 2006 (PBP) must apply in this instance.

2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide the owners and Council with an independent bushfire hazard determination together with appropriate recommendations for both new building construction and bushfire mitigation measures considered necessary having regard to construction within a designated 'bushfire prone' area.

The recommendations contained within this report may assist in forming the basis of any specific construction conditions and/or bushfire mitigation measures that Council and/or the NSW Rural Fire Service may elect to place within any consent conditions issued for the subject Development Application.

3.0 Scope of this Report

The scope of this report is limited to providing a bushfire hazard assessment and recommendations for the subject property. Where reference has been made to the surrounding lands, this report does not purport to directly assess those lands; rather it may discuss bushfire impact and/or progression through those lands and possible bushfire impact to the subject property.

Where Council considers a bushfire risk is associated with surrounding private lands or lands owned by an authority, Council could seek to issue notice under Section 66 of the Rural Fires Act on any or all surrounding properties for the purposes of reducing and maintaining safe levels of vegetation and thus reducing the possibility of bushfire impact to the subject property and any adjoining properties.

4.0 Referenced Documents and Persons

Comments provided are based on the requirements of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act), the RFS document known as 'Planning for Bush Fire Protection – 2006' for the purposes of bushfire hazard determination and Australian Standard AS3959 – 2009 titled 'Construction of buildings in bushfire-prone areas' as amended for building/structural provisions.

Company representatives have made several site inspections of the subject property and the surrounding area.

The site plan by Beecraft, Drawing No 07-19-FLO, Date July 2019 has been referenced in the preparation of this report.

5.0 Compliance Tables & Notes

The following table sets out the projects compliance with *Planning for Bush Fire Protection – 2006*.

	North	South	East	West
Vegetation Structure	Maintained Curtilages	Maintained Curtilages	Forest	Maintained Curtilages
Slope	N/A	N/A	0 degrees and across	N/A
Asset Protection Zone	N/A	N/A	>100 metre	N/A
Significant Environmental Features	Florida Road	Neighbouring private residential allotments	Neighbouring private residential allotments	Neighbouring private residential allotments
Threatened Species	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Aboriginal Relics	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Bushfire Attack Level	N/A	N/A	BAL Low	N/A
Recommended Construction Level	BAL 12.5	BAL 12.5	BAL 12.5	BAL 12.5

Asset Protection Zones Compliance

The available Asset Protection Zones were measured to be >100 metre from the hazard interface to all aspects. The APZs consists of maintained grounds within the subject property and land equivalent to an Asset Protection Zone being neighbouring properties and Whale Beach Road.

Construction Level Compliance

The highest Bushfire Attack Level to the proposed works was determined to be 'BAL Low' and there are therefore no specific requirements for construction under AS 3959 – 2009 Construction of buildings in bushfire prone areas, specifically this is detailed within section 4 of the standard which states "*The Bushfire Attack Level BAL—LOW is based on insufficient risk to warrant specific bushfire construction requirements*".

Owing to the leafy nature of the area, it is recommended that the proposed works comply with section 3 and BAL 12.5 section 5 under AS 3959 – 2009.

Access and Services

Guideline Ref.	Proposed Development Determinations
Property Access (Driveway)	The most distant external point of the subject dwelling is less than 70 metres from a public through road supporting a hydrant system and therefore access requirements are not applicable to this development.
Water Supply	The most distant external point of the building footprint will be less than 70 metres from a public road supporting a hydrant network and therefore a Static Water Supply is not required.
Evacuation	Evacuation is possible by utilising existing road infrastructure. It is encouraged that the occupants 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.
Electrical Supply	Existing supply provided.

6.0 Aerial view of the subject allotment



Image 01: Aerial view of the subject area C/- sixmaps

7.0 Bushfire Hazard Assessment

7.01 Preface

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council and or the Rural Fire Service. All property development within affected areas is subject to the conditions detailed in the document 'Planning for Bush Fire Protection - 2006' (PBP). Set back distances for the purpose of creating Asset Protection Zones (APZ's) must be applied and any buildings must then conform to corresponding regulations detailed in Australian Standard 3959 – 2009 'Construction of buildings in bushfire prone areas'.

Planning for Bush Fire Protection – 2006, (PBP) formally adopted on the 1st March 2007 provides for the protection of property and life (including fire-fighters and emergency service personnel) from bushfire impact.

The thrust of the document is to ensure that developers of new properties or sub-divisions include the constraints associated with the construction of buildings in bushfire prone areas within their proposed development sites. PBP is applicable to proposed development inside determined Category 1 or 2 areas and also inside a buffer zone radius of 100m from a Category 1 bushfire area or 30m from a Category 2 bushfire area.

The document also acknowledges 'infill' developments associated with re-development of existing properties and allows some higher levels of building safety where the increased 'set backs' (APZ's) may not be achievable.

The subject development relates to the alterations and additions to an existing sole occupancy dwelling within an existing residential allotment. To accord with PBP the development is classified as infill development and assessed as a s4.14 application under the Environmental Planning and Assessment Act 1979.



Image 02: Extract from Northern Beaches Council's Bushfire Prone Land Map

7.02 Location

The subject property is known as 5 Florida Road, Palm Beach and is a residential allotment located within Northern Beaches Councils Local Government Area. The subject property is a residential allotment that has street access to Florida Road to the northwest and abuts private residential allotments to all remaining aspects.

The vegetation identified as being the hazard is within the vegetated allotments to the east of the subject property.



Photograph 01: View south from Florida Road toward the subject property



Image 03: Extract from street-directory.com.au

7.03 Vegetation

The vegetation identified as being the hazard is within the vegetated allotments to the east of the subject property. The vegetation posing a hazard was found to consist of trees 10 - 20 metres in height with 50 - 70% foliage cover, the understorey consisted of low trees, shrubs and weed species.

For the purpose of assessment under PBP we have determined the vegetation posing a hazard to the east to be Forest.

7.04 Slope and Topography

The slope that would most significantly influence bushfire behaviour must be assessed for a distance of 100 metres from within the hazard. The most significant bushfire impact from the east is expected to be a fire travelling across slope toward the subject property.

The slope that would **most significantly** influence bushfire impact was determined onsite using an inclinometer and verified from topographic imagery to be:

- 0 degrees across within the hazard to the east

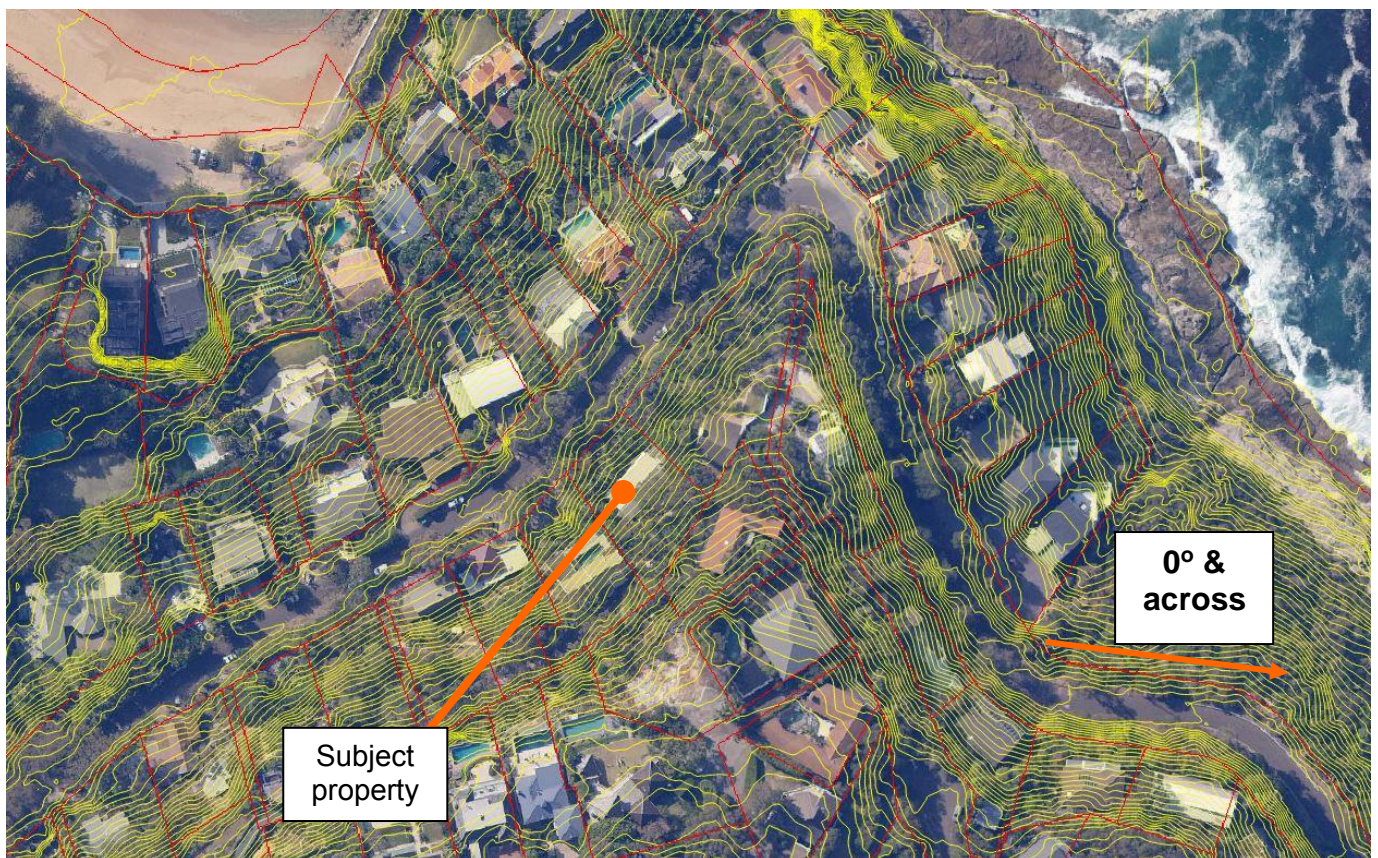


Image 04: Extract ELVIS - Geoscience (1 metre contours)

7.05 Asset Protection Zones

The available Asset Protection Zone was measured to be >100 metre to the hazard interface to the east. The APZs consists of maintained grounds within the subject property and land equivalent to an Asset Protection Zone being neighbouring properties and Whale Beach Road.

All grounds within the subject property not built upon are to be maintained in accordance with an Asset Protection Zone as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.

7.06 Property Access – Fire Services & Evacuation

The subject property has street access to Florida Road to the northwest via an existing access drive. Persons seeking to egress from the subject property will be able to do so via the existing access way.

The most distant external point of the building footprint will be less than 70 metres from a public road supporting a hydrant network and therefore the Property Access requirements detailed in section 4.1.3(2) of PBP are not required.

Access to the hazard is available via Whale Beach Road for hazard reduction for fire suppression activities.

7.07 Fire Fighting Water Supply

Hydrants are available throughout Florida Road and surrounding streets for the replenishment of fire service vehicles. The most distant external point of the subject dwelling is within 70 metres of a public road that supporting a hydrant network and therefore a Static Water Supply is not required.

The existing water supply is considered adequate and is not being altered as part of this development.

8.0 Site & Bushfire Hazard Determination

8.01 Planning for Bush Fire Protection - 2006

Planning for Bush Fire Protection – 2006 (PBP) is applicable to those lands determined as being within a 'bushfire prone area' in accordance with a local Bushfire Prone Land Map as provided by the Rural Fire Service and Council.

The most appropriate method of determining site bushfire hazard under the terms of PBP is to consider the site in a singular form.

Bushfire prone areas are defined as those areas;

- *within or within 100m of high or medium bushfire hazards; or*
- *within or within 30m of low bushfire hazards.*

In this instance the subject property has been identified as being bushfire prone land therefore it is appropriate to apply PBP as follows:

8.02 Australian Standard AS 3959 – 2009 'Construction of buildings in bushfire –prone areas'

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 Bush Fire Protection – 2006 document. The NSW Rural Fire Service will not accept deemed to satisfy provisions for BAL Flame Zone and therefore have a NSW variation to the listed standard provisions of BAL FZ under AS3959 - 2009.

8.03 Correlation between bushfire impact and AS3959

Bushfire Attack Level	Maximum radiant heat impact (kW/m ²)	Level of construction under AS3959-2009
Low		No special construction requirements
12.5	≤12.5	BAL - 12.5
19	12.6 to 19.0	BAL - 19
29	19.1 to 29.0	BAL - 29
40	29.1 to 40.0	BAL - 40
Flame Zone	>40.0	BAL FZ No deemed to satisfy provisions

8.04 Site Specific Bushfire Hazard Determination

All property development must be assessed on an individual basis as broad-brush approaches of documents such as PBP may not be applicable in every instance. The proposed development located at 5 Florida Road, Palm Beach was assessed against the requirements of Planning for Bush Fire Protection 2006 noting the following:

- a) Water supplies for fire fighting purposes are adequate.
- b) Access to the subject property is available from Florida Road.
- c) Fire services can access the hazard without the need to access the subject property.
- d) Recommendations to maintain the Asset Protection Zones within the subject property will be included.

8.05 Viable Construction Method

The objectives of Planning for Bush Fire Protection – 2006 are for the protection of life including fire fighters. Provided these objectives can be met the construction of buildings is feasible and both the Rural Fire Service and Council should be in a position to consider such applications.

The highest Bushfire Attack Level to the proposed works was determined to be 'BAL Low' and there are therefore no specific requirements for construction under AS 3959 – 2009 Construction of buildings in bushfire prone areas, specifically this is detailed within section 4 of the standard which states "*The Bushfire Attack Level BAL—LOW is based on insufficient risk to warrant specific bushfire construction requirements*".

Owing to the leafy nature of the area, it is recommended that the proposed works comply with section 3 and BAL 12.5 section 5 under AS 3959 – 2009.

9.0 Recommendations

The following recommendations are provided as the minimum necessary for compliance with Planning for Bush Fire Protection – 2006 and Australian Standard 3959 'Construction of buildings in bushfire-prone areas - 2009. Additional recommendations are provided to supplement these minimum requirements where considered necessary.

Asset Protection Zones

1. That all grounds within the subject property not built upon be maintained as an Asset Protection Zone as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 2 of Planning for Bush Fire Protection 2006.

Construction

2. That all construction shall comply with BAL 12.5 under section 5 of Australian Standard A53959-2009 "Construction of buildings in bush fire-prone areas"

Landscaping

3. That any new landscaping is to comply with Appendix 5 'Landscaping and Property Maintenance' under *Planning for Bush Fire Protection* 2006.

10.0 Conclusion

Given that the property is deemed bushfire prone under Northern Beaches Council's Bushfire Prone Land Map any development would need to meet the requirements of Planning for Bush Fire Protection – 2006 and of the construction requirements of AS3959 – 2009. The determination of any bushfire hazard must be made on a site-specific basis that includes an assessment of the local bushland area and its possible impact to the subject property.

The subject property is a residential allotment within an area of similar properties. The vegetation identified as being the hazard is within vegetated allotments to the east of the subject allotment. The vegetation posing a hazard was determined to be Forest on 0 degrees across slope to the east.

The proposed works was found to provide a >100 metre Asset Protection Zone (APZ) to the east. The APZ consists of maintained grounds within the subject property and land equivalent to an Asset Protection Zone being neighbouring properties and Whale Beach Road.

The highest Bushfire Attack Level to the proposed works was determined to be 'BAL Low' and there are therefore no specific requirements for construction under AS 3959 – 2009 Construction of buildings in bushfire prone areas, specifically this is detailed within section 4 of the standard which states "*The Bushfire Attack Level BAL—LOW is based on insufficient risk to warrant specific bushfire construction requirements*".

Owing to the leafy nature of the area, it is recommended that the proposed works comply with section 3 and BAL 12.5 section 5 under AS 3959 – 2009.

The existing water supply and access provisions are considered adequate in this instance and will not be altered as part of this development.

In accordance with the bushfire safety measures contained in this report, and consideration of the site specific bushfire risk assessment it is our opinion that when combined, they will provide a reasonable and satisfactory level of bushfire protection to the subject development and also satisfy both the Rural Fire Service's concerns and those of Council in this area.

We are therefore in support of the development application. Should you have any enquiries regarding this project please contact me at our office.

Prepared by
Building Code & Bushfire Hazard Solutions



Andrew Muirhead

Bushfire Consultant
Diploma of Engineering

Reviewed and endorsed by
Building Code & Bushfire Hazard Solutions P/L



Stuart McMonnies

Manager Bushfire Section
G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
Fire Protection Association of Australia BPAD – L3 Accredited Practitioner
Certification number – BPAD 9400



11.0 Annexure 01

List of Referenced Documents

- a) Environmental Planning and Assessment Act - 1979
- b) 'Planning for Bush Fire Protection'- 2006 - NSW Rural Fire Services & Planning NSW
- c) 'Construction of buildings in bushfire prone areas' - AS 3959 – 2009 (as - amended) – Standards Australia
- d) 'Northern Beaches Council's Bushfire Prone Land Map'
- e) Site plan by Beecraft, Drawing No 07-19-FLO, Date July 2019
- f) Acknowledgements to:
 - NSW Department of Lands – SIXMaps
 - Street-directory.com.au
 - Geoscience Australia

Attachments

Attachment 01: s4.14 Compliance Certificate



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BUSHFIRE RISK ASSESSMENT CERTIFICATE UNDER PART 4 DIVISION 4.3 SECTION 4.14 OF THE EP&A ACT 1979 NO 203

PROPERTY ADDRESS:	5 Florida Road, Palm Beach
DESCRIPTION OF PROPOSAL:	Alterations and Additions
PLAN REFERENCE: (relied upon in report preparation)	Site Plan by Beecraft, Drawing No 07-19-FLO, Date July 2019
BAL RATING:	BAL 12.5 <small>(If the BAL rating is FZ the application is to be referred to NSW RFS for assessment)</small>
DOES THE PROPOSAL RELY ON ALTERNATE SOLUTIONS:	YES <input type="radio"/> NO <input checked="" type="radio"/> <small>(Circle the relevant response)</small> <small>(If YES the application is to be referred to NSW RFS for assessment)</small>
BUSHFIRE ASSESSMENT REPORT REFERENCE:	191276
REPORT DATE:	29 th July 2019
CERTIFICATION NO/ACCREDITED SCHEME	BPAD9400

I Stuart McMonnies of Building Code and Bushfire Hazard Solutions Pty Ltd hereby certify, in accordance with Part 4 Division 4.3 Section 4.14 of the *Environmental Planning and Assessment Act 1979 No 203*:

- That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in bushfire risk assessment; and
- That subject to the recommendations contained in the Bushfire Risk Assessment Report the proposed development conforms specifications and requirements of the documents entitled *Planning for Bush Fire Protection* prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other documents as prescribed by Part 4 Division 4.3 Section 4.14 of the *Environmental Planning and Assessment Act 1979 No 203*.

I am aware that the Bushfire Assessment Report, prepared for the above mentioned site is to be submitted in support of a development application for this site and 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 *Planning for Bushfire Protection 2006*.

Signature:  Date: 29th July 2019

