

Bushfire Assessment Report

Proposed:
**Sole Occupancy
Dwelling**

At:
**32 Bower Street,
Manly**

Reference Number: 160013B

Prepared For:
Ive Got Time Pty Ltd

22nd February 2019

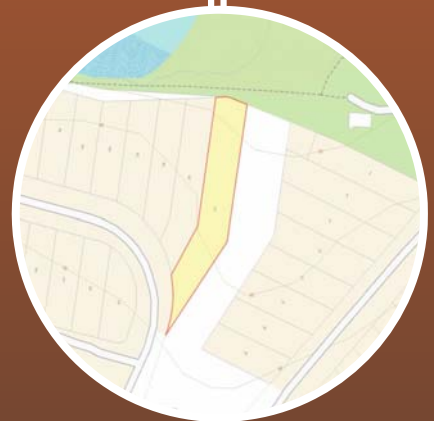
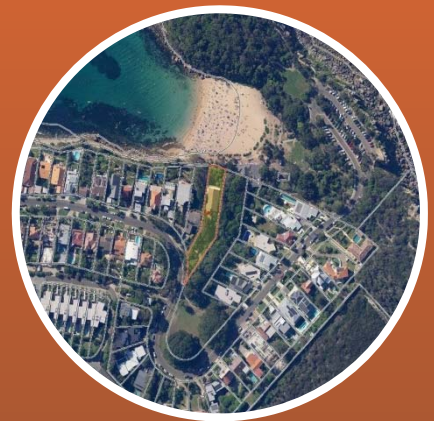


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Section 4.14 applications (under the Environmental Planning and Assessment Act 1979) and all infill development applications *may be* referred by Council to the NSW Rural Fire Service for review and concurrence during the DA process. S100B applications under the Rural Fires Act 1997 (subdivisions and Special Fire Protection Purpose Developments), Flame Zone determinations and Alternate Solutions *must be* referred by Council to the NSW Rural Fire Service for review and receipt of a Bushfire Safety Authority (BSA) or other such recommended conditions from the NSW Rural Fire Service before the consent can be granted.

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. BCBHS can review and cross reference these documents however the onus is on the applicant to provide them to us and request this review – Building Code and Bushfire Hazard Solutions Pty. Ltd. is not in a position to track every DA through Council and we rely upon the applicant to undertake this role as project co-ordinator.

Where any discrepancy between this document and the development approval or the NSW Rural Fire Service requirements is found, the conditions of consent always take precedence until such time as an application to review, amend or vary these conditions is approved.

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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	Manly Council
DA	Development Application
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
NSP	Neighbourhood Safer Places
OPA	Outer Protection Area
PBP	Planning for Bush Fire 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 development proposal relates to the construction of a new sole occupancy dwelling within an existing allotment located at 32 Bower Street, Manly. The existing dwelling will be demolished as part of this application. The subject site has street frontage to Bower Street to the southwest and abuts private residential allotments to the west, Bower Street Reserve to the south and east and Shelly Beach to the north.

The subject allotment is identified on Manly Council's Bushfire Prone Land Map as containing the 30m buffer zone from designated 2 Vegetation. The application of Planning for Bushfire Protection 2006 is therefore required.

2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide the owners, the Rural Fire Service 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 site. 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 site.

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 site 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 Rural Fires Act 1997, the Rural Fires Regulation 2013, 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.

A company representative has made a site inspection of the subject property and surrounding area. The Plans prepared by Campbell Architecture, Job No 1802, Revision A, Date 19.02.2019 have been relied upon for this assessment.

5.0 Compliance Tables & Notes

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

	North	East	South	West
Vegetation Structure	Tall Heath / <1 Ha	Tall Heath	Maintained parkland	Maintained curtilages
Slope	N/A	N/A	N/A	N/A
Available Asset Protection Zone	N/A not considered a bushfire hazard	>140 metres	>130 metres	>140 metres
Significant Environmental Features	Shelly Beach	Bower Street Reserve	Bower Street / Neighbouring private allotments	Neighbouring private allotments
Threatened Species	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Aboriginal Relics	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Bushfire Attack Level	BAL LOW	N/A	N/A	N/A
Required Construction Level	N/A	N/A	N/A	N/A

Asset Protection Zones Compliance

The closest point of the proposed works to any hazard will be 80 metres to the north from an area of vegetation <1Ha in size and >100m from any other hazard. Under the terms of the pre-release of Planning for Bush Fire Protection 2018 and under s2.2.3.2 (b) of AS3959 - 2009 it should not be considered a bushfire threat. The existing separation from the hazard interface exceeds the minimum requirements under PBP 2006 and includes maintained grounds within the subject property and land considered 'equivalent to an APZ' being maintained grounds within neighbouring private allotments and Shelly Beach.

Construction Level Compliance

The highest Bushfire Attack Level to the proposed dwelling 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*".

Access and Services

Guideline Ref.	Proposed Development Determinations
Property Access (Driveway)	<p>The subject site has street frontage to Bower Street to the southwest. The proposed lots will have direct street access to Bower Street which supports the operational use of fire-fighting vehicles (hydrants).</p> <p>In consideration of the site specific circumstances and actual bushfire threat to the subject development no further access provisions are considered necessary.</p>
Water Supply	<p>Hydrants are available along Bower Street for the replenishment of attending fire services. The most distant external point of any new dwelling will be located greater than 70 metres from an existing hydrant however in considering the site and bushfire risk no additional water supply is recommended.</p>
Evacuation	<p>Evacuation is possible by utilising existing road infrastructure. It is recommended 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</p>

6.0 Aerial view of the subject allotment

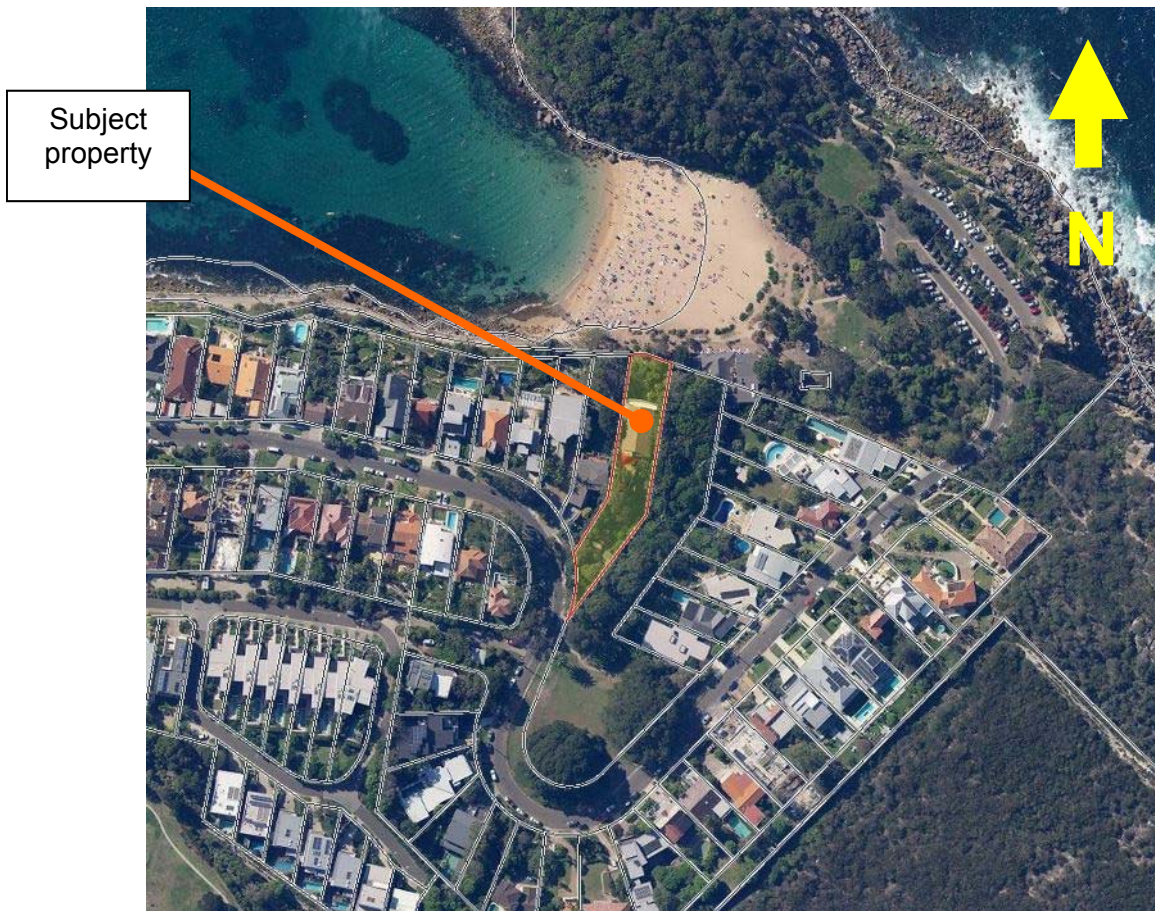


Image 01: Aerial view of the subject area Courtesy SIXMaps 2019

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 and amended May 2010 (Appendix 3) 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 construction a new sole occupancy residential dwelling within an existing residential allotment. The project is assessed as infill development under section 4.14 of the *Environmental Planning and Assessment Act 1979*.

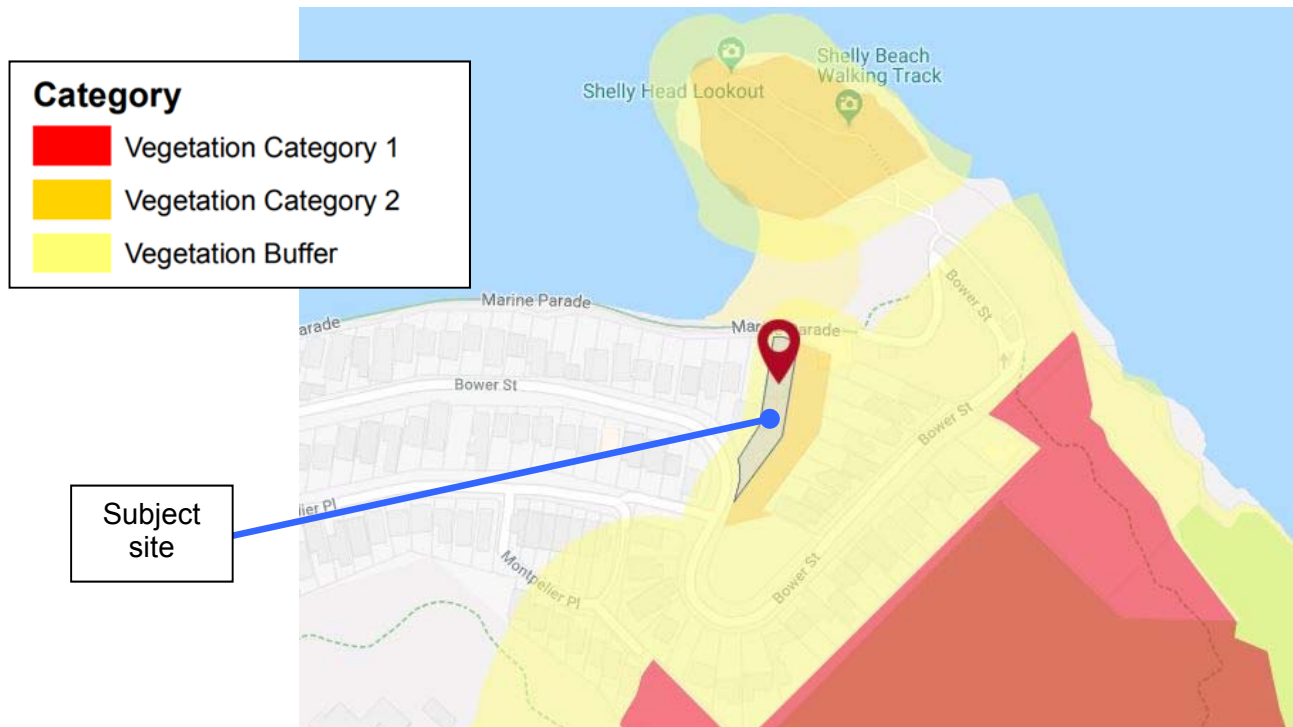


Image 02: Extract from Manly Council's Bushfire Prone Land Map

7.02 Location

The subject property is known as 32 Bower Street, Manly (Lot 28 DP 8075) and is within Manly Councils Local Government Area. The subject site has street frontage to Bower Street to the southwest and abuts private residential allotments to the west, Shelly Beach to the north and Bower Street Reserve to the east.



Photograph 01: View north from Bower Street toward the subject property

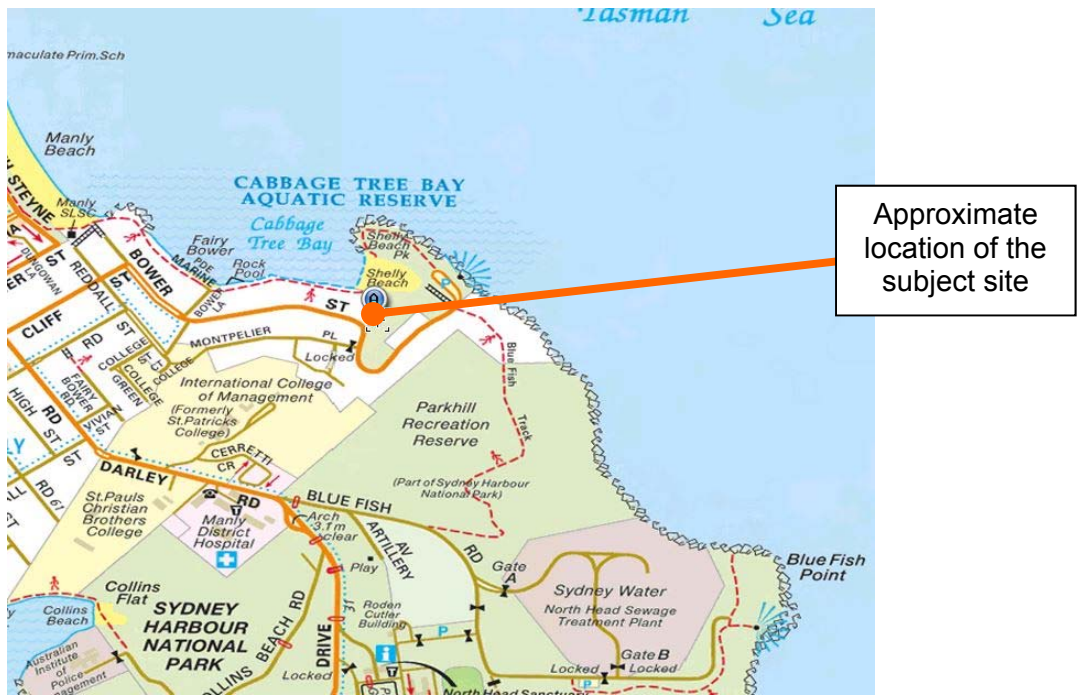


Image 03: Extract from street-directory.com.au

7.04 Vegetation

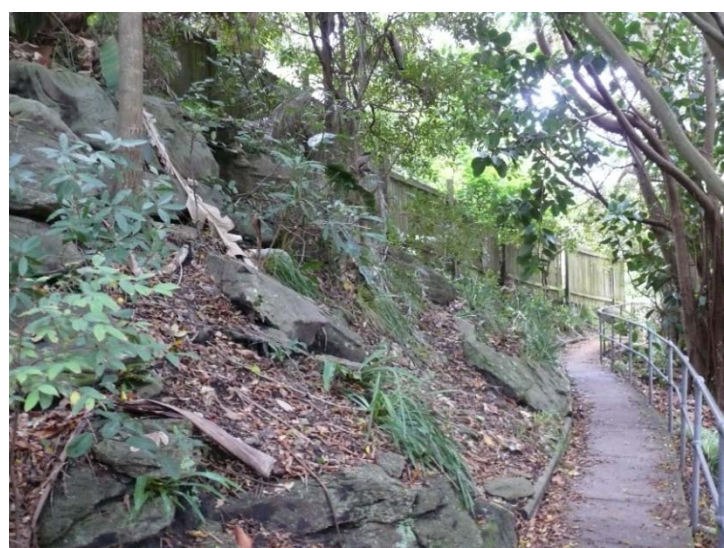
The predominant vegetation found within the neighbouring private residential allotments was found to consist of maintained lawns and gardens.

The vegetation that is posing a threat to the subject building is located to the north and is associated with Shelly Beach Park. The vegetation posing a bushfire hazard within Shelly Beach Park was found to consist of trees 2 – 10 metres in height. The vegetation to the north is <1Ha in size and >100m from any other hazard and is therefore not considered a bushfire hazard under the terms of the pre-release of Planning for Bush Fire Protection 2018 and s2.2.3.2 (b) of AS3959 - 2009.

The vegetation indicated as Category 2 Vegetation on Councils Bushfire Prone Land Map immediately east of this site was ground truthed and found to comprise of an access path and creek line from Bower Street. The vegetation along this path consists of fig trees and rainforest type plants (known hard to burn species) and is not considered to be a bushfire hazard under the terms of the pre-release of Planning for Bush Fire Protection 2018 and s2.2.3.2 (b) of AS3959 - 2009.



Photograph 02: View to the north within the mapped Category 2 vegetation



Photograph 03: View along the path within the mapped Category 2 vegetation



Photograph 04: View west across Shelly Beach Park, showing the APZ of Shelly Beach.

7.05 Slope and Topography

The slope that would most significantly affect bushfire behaviour must be assessed for at least 100 metres from the available building footprint. There was no bushfire hazard found within this 100 metre assessment area and therefore slope reporting in this instance is not necessary.

7.05 Asset Protection Zones

There was no bushfire hazard identified within 100 metres and therefore there is no minimum specified Asset Protection Zone.

The existing Asset Protection Zone was found to consist of maintained land within the subject site and land considered 'equivalent to an APZ' being maintained grounds within neighbouring private allotments, Shelly Beach and Bower Street. All Asset Protection Zones within the subject site will be maintained in accordance with the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.



Photograph 05: View north from within the subject property.

7.06 Fire Fighting Water Supply

Hydrants are available along Bower Street for the replenishment of attending fire services. The most distant external point of the proposed building footprint will be located greater than 70 metres from an existing hydrant however in considering the site and bushfire risk no additional water supplies are recommended.

Subject property



Hydrant

Photograph 06: View north from an existing hydrant in Bower Street

7.07 Property Access – Fire Services & Evacuation

The subject site has street frontage to Bower Street to the southwest. Persons seeking to egress from the subject allotment can do so freely along the existing road infrastructure.

Access for Fire Services and opportunities for occupant evacuation are considered adequate for this property.

In consideration of the site specific circumstances and actual bushfire threat to the subject development no further access provisions are considered necessary.



Photograph 07: View south from the existing allotment along Bower Street

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.*

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 32 Bower Street, Manly was assessed against the requirements of Planning for Bush Fire Protection 2006 noting the following:

- a) Existing water supplies for fire fighting purposes are considered adequate.
- b) No bushfire hazard was found within 100 metres
- c) 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 dwelling was determined from Table 2.4.2 of Australian Standard 3959 'Construction of buildings in bushfire-prone areas' – 2009 to be 'BAL LOW'

AS3959 – 2009 *This Standard does not provide construction requirements for buildings assessed in bushfire-prone areas in accordance with Section 2 as being BAL—LOW.*

AS3959 – 2009 *The Bushfire Attack Level BAL—LOW is based on insufficient risk to warrant specific bushfire construction requirements.*

No construction recommendations are applicable to the proposed dwelling.

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 are required to be maintained as an Asset Protection Zone (inner protection area) and in accordance with Appendix 5 'Landscape and Property Maintenance' of PBP. This will allow for gardens (including native trees and shrubs) in the APZ managed as clumps or islands, covering no more than 20% of the area.
2. That all new landscaping is to comply with Appendix 5 'Landscaping and Property Maintenance' under Planning for Bushfire Protection 2006.

10.0 Conclusion

Given that the property is deemed bushfire prone under Manly 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 Australian Standard 3959 'Construction of buildings in bushfire-prone areas - 2009 if any are applicable. 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 site.

The subject property is an existing residential allotment within an area of similar properties. The vegetation indicated on Councils Bushfire Prone Land Map as being a potential bushfire hazard is located to the north within Shelly Beach Park and east associated with Bower Street Reserve (Category 2 vegetation).

The vegetation to the north is <1Ha in size and >100m from any other hazard and is therefore not considered a bushfire hazard under the terms of the pre-release of Planning for Bush Fire Protection 2018 and s2.2.3.2 (b) of AS3959 - 2009.

The vegetation indicated as Category 2 Vegetation on Councils Bushfire Prone Land Map immediately east of this site was ground truthed and found to comprise of an access path and creek line from Bower Street. The vegetation along this path consists of fig trees and rainforest type plants (known hard to burn species) and is not considered to be a bushfire hazard under the terms of the pre-release of Planning for Bush Fire Protection 2018 and s2.2.3.2 (b) of AS3959 - 2009.

The highest Bushfire Attack Level to the proposed dwelling within the existing allotment was determined to be 'BAL Low'. Therefore there are no construction provisions applicable to the proposed dwelling.

The existing access and water provisions are considered adequate.

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 P/L



Duncan Armour

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



Stuart McMonnies

G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
Fire Protection Association of Australia BPAD – L3 Accredited Practitioner
Accreditation 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) Plans prepared by Campbell Architecture, Job No 1802, Revision A, Date 19.02.2019
- e) 'Manly Council's Bushfire Prone Land Map'
- f) Acknowledgements to:
 - Googlemaps
 - NSW Department of Lands – SIXMaps
 - Street-directory.com.au

Attachments

Attachment 01: S4.14 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:	32 Bower Street, Manly
DESCRIPTION OF PROPOSAL:	Sole Occupancy Dwelling
PLAN REFERENCE: (relied upon in report preparation)	Plans by Campbell Architecture, Job No 1802, Revision A, Date 19.02.2019
BAL RATING:	BAL Low <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 NO <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:	160013B
REPORT DATE:	22 nd February 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*:

1. That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in bushfire risk assessment; and
2. 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: 22nd February 2019

