


**Bushfire Assessment Report  
Proposed Residential Building Development  
Lot 2 DP 503646  
4 Coasters Retreat  
Coasters Retreat NSW 2108**



23 March 2024



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<p>Reviewed by:</p>		

**Executive Summary – Achievable (Recommended) AS 3959:2018 Level of Compliance**

Construction Standard	Building Elevation
<b>Flame Zone</b>	<b>All Elevations ('Alterations &amp; Additions' Only)</b>
BAL 40	
BAL 29	
BAL 19	
<b>BAL 12.5</b>	<b>Upgrade existing / retained elements (where practicable)</b>
NCC Provisions Only	

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**References/Further Reading**

**Appendix 1 Site Maps and Plans**

**Appendix 2 Site Photos (2/8/2023)**

## General Introduction

The following report outlines an assessment for the statutory compliance of the proposed residential building development to occur within 4 Coasters Retreat, Coasters Retreat NSW 2108 – Lot 2 DP 503646 (herewith ‘the subject property’), and at least 140m beyond (herewith ‘the study area’). Appendix 1 / Map 1 denote the subject property and study area.

Methodology for this site assessment for bushfire attack is based on the planning guideline ‘*Planning for Bush Fire Protection 2019 (PBP 2019)*’, produced by the NSW Rural Fire Service.

‘*Australian Standard 3959:2018 – Construction of buildings in bush fire prone areas*’, or alternately ‘*NASH Steel Framed Construction in Bush Fire Areas (NASH 2021)*’, pursuant to the ‘*National Construction Code/Building Code of Australia 2022 (NCC/BCA 2022)*’, are the primary building compliance documents considered for this assessment.

Terrain (slope) considered by this assessment is based on the Department of Lands Online Six Viewer contours and a site inspection 2/8/2023) of the subject property.

Vegetation extent within the subject area has been derived from available online public vegetation mapping studies, aerial photo interpretation and a site inspection 2/8/2023) conducted prior to finalising this report.

The extent and location of the proposed ‘Alterations & Additions’ to an existing residential building are based on DA Plans prepared by Hot House Architects, Newport (Project No. 1079HHA, Drawing Nos. DA001 – DA906, Issue 01, Dated 27/02/2024).

Photographic evidence of the subject property and surrounds is appended to this report (Appendix 2 – Site Photos, Dated 2/8/2023).

## 1.0 Property Details

**Applicants Name:** Sophie Howarth (herewith, 'the proponent')

**Council:** Northern Beaches Council (Northern Beaches LGA)

**Council Reference:** N/A

**Lot:** 2            **DP:** 503646            **Area:** 660.3m<sup>2</sup>

**Address/Location:** 4 Coasters Retreat, Coasters Retreat NSW 2108.

**Zoning:**                    'C3 – Environmental Management'  
Pittwater LEP 2014

### **Bushfire Prone Land: YES**

The subject property is mapped as being bushfire prone as currently shown by the Northern Beaches Council LGA Bushfire Prone Land Map (*s10.3 EP&A Act 1979*). The site is constrained by vegetation classified as 'Category 1 Bushfire Vegetation'. In this regard, any new building development should conform to the specifications and requirements of the document '*Planning for Bush Fire Protection 2019*', produced by the NSW Rural Fire Service, that are relevant to the development; as otherwise required under *Section 4.14 Environmental Planning & Assessment Act 1979 (EP&A Act 1979)*.

### **Other Known Constraints:**

The waterfront reserve, to the front, and The Ku-ring-gai Chase National Park to the rear, are mapped as being within the 'Pittwater Biodiversity Map'.

A desktop assessment of the publicly available council mapping and planning enquiry system has found no other constraints to be considered in regard to development upon the subject property.

No other known significant environmental features have been noted, recorded or advised of as part of this assessment.



**Extract Northern Beaches Council LGA Bushfire Prone Land Map**

## 2.0 Description of Proposal

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> New Building      | <input checked="" type="checkbox"/> <b>Isolated Residential</b>  | <input type="checkbox"/> Dual Occupancy |
| <input type="checkbox"/> Rural Residential | <input checked="" type="checkbox"/> <b>Alterations/Additions</b> | <input type="checkbox"/> Isolated Rural |

### Proposal Description

The proposed building development is to construct 'Alterations & Additions' to an existing residential building/dwelling structure (Class 1 (a) – as defined by NCC/BCA).

The extent and location of the proposed 'Alterations & Additions' to an existing residential building are based on DA Plans prepared by Hot House Architects, Newport (Project No. 1079HHA, Drawing Nos. DA001 – DA906, Issue 01, Dated 27/02/2024).

The approximate location/site of the proposed building (herewith 'the subject development') is as denoted in Appendix 1 – Map 1.

## 3.0 Bushfire Assessment

### 3.1 Vegetation (bushfire hazard) within 100m of the proposed building

The vegetation within the study area is mapped as 'Bushfire Prone Vegetation Category 1' on Council Bushfire Prone Land Maps.

The main body of persistent vegetation is located within the Ku-ring-gai Chase National Park, to the rear of these residential properties, running along the length of Coasters Retreat.

Further, remnant vegetation is located within the waterfront reserve that runs along the front (North West) of these residential allotments.

The waterfront reserve is partially managed, with a walking path linking Bennetts Wharf in the North East to Bonnie Doon Wharf in the South West, and provides pedestrian access to most residential allotments.

The National Park is located on very steep upslopes, separated from the waterline generally by two joint lines of residential development. Although the residential properties have varying levels of vegetation on site, most are well-maintained with 'leafy canopies' over managed mid and under storeys, in most areas.

Based on a determination of vegetation formation using the Keith 2004 Identification Key, the primary bushfire vegetation having the potential to affect the subject development, based on a site visit, is most representative of 'Northern Hinterland Wet Sclerophyll Forest'.

In addition, vegetation within the waterfront reserve is considered to be 'Remnant' vegetation, and assessed as equivalent to 'Rainforest' (pursuant to PBP A11.1) due to the disturbed nature of this vegetation, limited areas and limited fire runs towards the development site.

The subject development would potentially (currently) be prone to bushfire attack from the both the South East, and to a lesser extent from the North West. The extent of the current bushfire vegetation (hazard) is clearly denoted in Appendix 1 – Map 1.

*PBP 2019 (Appendix 1 Section A1.10) states, 'The following exclusions of AS3959 apply, and are not required to be considered for the purposes of PBP, as detailed below:*

- *Single areas of vegetation less than 1 hectare in area and greater than 100metres separation from other areas of Category 1 and 2 vegetation.*
- *Multiple areas of vegetation less than 0.25 hectares in area and not within 20m of the site, or each other or of other areas of vegetation being classified vegetation.*
- *Strips of vegetation less than 20m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20m of the site or other areas of vegetation being Category 1, 2 or 3 vegetation.*
- *Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load, including grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses such as playing areas and fairways, maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens and other non-curing crops, cultivated gardens, arboretums, commercial nurseries, nature strips and windbreaks.*
- *Existing areas of managed gardens and lawns within curtilage of buildings.*

- *Non-vegetated areas including waterways, roads, footpaths, buildings and rocky outcrops.*

The proposed development is located within a well-established, but isolated residential subdivision.

Adjoining residential sites are subject to mixed management but are generally clear of most persistent vegetation.

The approximate / estimated extent of these managed lands is clearly denoted in Appendix 1 – Map 1.

Relevant photos attached (Appendix 2 Site Photos).

### 3.2 Distance/Separation between building line and bushfire hazard

For the purposes of bushfire safety compliance, this assessment notes that the subject property is generally clear of persistent bushfire vegetation.

Considering the location of the proposed development and the extent of the bushfire vegetation on adjoining lands, the achievable separation distance has been assessed as:

Direction	South East	North West
Distance	>20m – 24m	>10m – 12m

### 3.3 Effective slope that will influence bushfire behaviour

The effective slope within approximately 100m of the subject development site, which would influence bushfire behaviour, has been assessed as predominately;

Direction	South East	North West
Slope	Flat / Upslope	>15 – 20 Degrees Downslope

### 3.4 Fire Danger Index (FDI) for Local Government Area (LGA)

100                       80                       50

Northern Beaches Council – Greater Sydney Region

*(NSW Local Government Areas Community Resilience May 2017 – NSW RFS)*



### 3.5 Determination of Bushfire Attack Level (PBP 2019 – Table A1.12.5)

Direction	Vegetation	Slope	Minimum Distance	BAL Exposure Level
South East	Forest	Flat / Upslope	>20m	BAL – 40
North West	Remnant Forest	>15 – 20 Degrees Downslope	>10m	BAL – FZ

### 4.0 AS 3959:2018 Construction Standard for Bushfire Attack Level (NCC – BCA Dts)

Building Elevations	Vegetation	Slope	Minimum Distance	Construction Standard
NE, NW & SW	Remnant Forest	>15 – 20 Degrees Downslope	>10m	BAL – FZ
SE	Forest	Flat / Upslope	>20m	BAL – FZ

Considering the subject developments location and the calculated extent of the APZ area recommended by this report, the subject development is technically capable of complying with AS 3959:2018 / NASH 2021.

### 5.0 Bushfire Protection Measures

Pursuant to 'PBP 2019 – Section 7 Residential Infill Development', there is a requirement to address certain 'Bushfire Protection Measures' (BPM) under the Section 4.14 EP&A Act 1979 for new residential 'infill' development in bushfire prone areas.

The intent of the BPM's 'is to minimise the risk of bushfire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities'.

It is also noted 'where a development expectation arises from the zoning of the land to build, rebuild, alter or add to a dwelling in pre-existing subdivisions, attempts should be made to find a solution taking into account the risk present. The expectation of building or altering a house is recognised even though the ability to provide for APZs or access requirements now required for residential development may not be possible'.

Proposals for 'infill development' are to:

- Provide a defensible space to enable unimpeded access for firefighting around the building.
- Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate to the level of development.
- Provide access, services and landscaping to aid firefighting operations.

- Not impose an increased bushfire management and maintenance responsibility on adjoining land owners.
- Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of bushfire risk.

### 5.1 Asset Protection Zones

PBP 2019 acceptable solutions for Asset Protection Zones (for this specific development location) state that;

- An APZ is provided in accordance with Table A1.12 in Appendix 1.
- APZs are managed in accordance with the requirements of Appendix 4 of PBP.
- APZs are wholly within the boundaries of the development site.
- APZs are located on lands with a slope less than 18 degrees.

The subject site will benefit from managed lands within the site, and external to the site (being some managed areas within reserves).

Asset Protection Zone recommendations are as listed in Section 6.1 (Bushfire Safety & Compliance Recommendations).

### 5.2 Access (Property Access)

The subject development is located within Coasters Retreat. Coasters Retreat is a small, isolated community on Pittwater. Access to the community is generally by boat/ferry only.

The Coasters Retreat Rural Fire Service is also located approximately 250m South West of the subject development, and a number of 'Hose Posts' service the community, supported by local fire boats (from Scotland Island), who can provide emergency access over the water.

The current access and egress arrangements, servicing the proposed development, are able to provide only limited operational access for emergency services and egress in varying directions for evacuating residents.

### 5.3 Water Supplies

Yes       No       Proposed

The subject development/building is not currently connected to a reticulated water supply.

PBP acceptable solutions for a non-reticulated water supply require that;

- *the minimum water supply required for firefighting purposes for each occupied building excluding drenching systems, is provided in accordance with Table 4.2.*

- *a suitable connection for firefighting purposes is made available and located within the IPA and away from the structure. A 65mm Storz outlet with a gate or Ball valve is provided.*
- *gate or Ball valve and pipes are adequate for water flow and are metal rather than plastic.*
- *any underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank. A hardened ground surface for truck access is supplied within 4 metres of the access hole.*
- *above ground tanks are manufactured of concrete or metal and raised tanks have their stands protected. Plastic tanks are not used. Tanks on the hazard side of a building are provided with adequate shielding for the protection of fire fighters.*
- *all above ground water pipes external to the building are metal including and up to any taps. Pumps are shielded.*

In this respect, PBP water supply requirements (acceptable solutions) for firefighting (*Table 4.2 – Dedicated water supply requirements for various non reticulated subdivision developments*) include;

- **5 000 L/lot for Residential Lots (<1000m<sup>2</sup>)**

Firefighting water supply recommendations are as listed in Section 6.4 (Bushfire Safety & Compliance Recommendations).

#### **5.4 Electricity Services**

*PBP 2019* acceptable solutions for electrical services (relevant to the subject development) state that:

- *Where practicable, electrical transmission lines are located underground; and*
- *Where overhead electrical transmission lines are proposed, as follows:*
  - *Lines are installed with short pole spacings (30m), unless crossing gullies, gorges or riparian areas; and*
  - *No part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'ISSC3 Guideline for Managing Vegetation Near Power Lines'.*

The subject development site is currently serviced by an underground electrical supply grid which services the residential subdivision within Coasters Retreat.

The connection to the new residence is also proposed to be located underground. Electrical service recommendations are as listed in Section 6.5 (Bushfire Safety & Compliance Recommendations).

## 5.5 Gas Services

Reticulated Gas:  Yes  No

Bottled Gas:  Yes  No

*PBP 2019* acceptable solutions for gas services (relevant to the subject development) state that:

- Reticulated or bottled gas is installed and maintained with AS/NZ 1596:2014 and the requirements of relevant authorities.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Polymer-sheathed flexible gas supply lines are not used.
- Above-ground gas service pipes are metal, including up to any outlets.

Gas service recommendations are as listed in Section 6.6 (Bushfire Safety & Compliance Recommendations).

## 6.0 Bushfire Safety & Compliance Recommendations

### 6.1 Defendable Space / Asset Protection Zone (APZ) Recommendations

#### Recommendation 1.

##### **Inner Protection Area**

As denoted in Appendix 1 – Map 1, the area identified as ‘**Inner Protection Area**’ (IPA) is to be managed / maintained as an APZ for the life of the development.

The IPA is the area closest to the building and creates a fuel managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defendable space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens. When establishing and maintaining an IPA the following requirements apply.

## Trees

- Tree canopy cover should be less than 15% at maturity;
- Trees at maturity should not touch or overhang the building;
- Lower limbs should be removed up to a height of 2m above the ground;
- Tree canopies should be separated by 2m to 5m; and
- Preference should be given to smooth barked and evergreen trees.

## Shrubs

- Create large discontinuities or gaps in the vegetation, to slow down or break the progress of fire towards buildings;
- Shrubs should not be located under trees
- Shrubs should not form more than 10% ground cover; and
- Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

## Grass

- Grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- Leaves and vegetation debris should be removed.

## 6.2 Construction Standard Recommendations

Construction standards have been determined from the following sections of the planning guidelines and are based on the relevant bushfire assessment as discussed above.

*AS 3959:2018 Section 3 Construction General*

(See Recommendation 2)

*AS 3959:2018 Section 5 Construction for Bushfire Attack Level 12.5 (BAL – 12.5)*

(See Recommendation 3)

*AS 3959:2018 Section 9 Construction for Bushfire Attack Level Flame Zone (BAL – FZ)*

(See Recommendation 4)

*Steel Framed Construction in Bushfire Areas (NASH 2014)*

### **Recommendation 2.**

Where any part of a garage, carport, veranda or similar roofed structure is attached to, or shares a common roof space with, or is within 6m of, a building required to comply with the standard, the entire structure shall comply with the construction requirements of the standard (as per Recommendation 3), as applicable to the subject building.

Alternatively, the structure may be separated from the subject building by a wall complying with AS 3959:2018 Section 3.2.1 a) or b) i.e. fire rated construction as specified.

### **Recommendation 3.**

Predicated upon the maintenance of the APZ area as per Recommendation No. 1 of this report, it is recommended the proposed development incorporate, as a minimum, the following levels of construction as per AS 3959:2018 *Construction of buildings in bushfire prone areas*;

#### ***All Elevations ('Alterations & Additions' Only)***

#### **Construction for Bushfire Attack Level Flame Zone (BAL – FZ) – Section 9 (AS 3959:2018)**

Alternately, the relevant sections of '*NASH Standard – Steel Framed Construction in Bushfire Areas (NASH 2021)*' may be applied.

#### ***Existing / Retained Building Elements***

The existing primary building is required to be upgraded to improve ember protection, as per the *Building Best Practice Guide – Upgrading of Existing Buildings (Development Assessment & Planning, NSW Rural Fire Service, Reference 0914)*. This is to be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm.

Where applicable, this includes any sub floor areas, open able windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders.

### **Recommendation 4.**

#### ***Sarking***

All sarking used shall be:

- Non-combustible, **or**
- Breather type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 (see AS 1530.2) and sarked on the outside of the frame, **or**
- An insulation material conforming to the appropriate Australian Standard for that material.

#### ***Fences & Gates***

All new fences and gates should be constructed of non-combustible materials

## ***Retaining Walls***

All new retaining walls should be constructed of a non-combustible material.

### **6.3 Vehicle Access / Egress Recommendations**

#### **Recommendation 5.**

The proposed building development will continue to be assessed only overwater.

No additional vehicle access requirements are recommended.

### **6.4 Water Supplies Recommendations**

#### **Recommendation 6.**

- A static water supply is provided where no reticulated water is available.
- All above-ground water service pipes external to the building are metal, including and up to any taps.
- Where no reticulated water supply is available, water for firefighting purposes is provided in accordance with Table 5.3d (**i.e. 5,000 L in this instance**).
- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Stortz outlet with a ball valve is fitted to the outlet.
- Ball valve and pipes are adequate for water flow and are metal.
- Supply pipes from tank to ball valve have the same bore size to ensure flow volume.
- Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank.
- A hardened ground surface for truck access is supplied within 4m.
- Above-ground tanks are manufactured from concrete or metal.
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (Appendix F of AS 3959).
- Unobstructed access can be provided at all times.
- Tanks on the hazard side of the building are provided with adequate shielding for the protection of firefighters.
- All exposed water pipes external to the building are metal, including any fittings.
- Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel powered pump, and are shielded against bushfire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter.

## 6.5 Electricity Services Recommendations

### **Recommendation 7.**

As any future transmission lines within the site will be located underground, no additional electricity supply conditions (above and beyond standard Council and Energy Supplier conditions) are required for *PBP 2019* compliance.

## 6.6 Gas Services Recommendations

### **Recommendation 8.**

- Any future / new bottled gas is installed and maintained with AS/NZ 1596:2014 and the requirements of relevant authorities.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Connections to and from gas cylinders are metal.
- Polymer-sheathed flexible gas supply lines are not used.
- Above-ground gas service pipes are metal, including up to any outlets.

## 6.7 Bush Fire Survival Plan Recommendations

### **Recommendation 9.**

Discuss and prepare a simple 'Bush Fire Survival Plan' pursuant to the NSW Rural Fire Service's advice (<https://www.rfs.nsw.gov.au/plan-and-prepare/bush-fire-survival-plan>).

## 7.0 Compliance or non-compliance with PBP 2019 Specific Objectives for Infill Development (as per *PBP 2019 Section 7.3*)

Specific Objective	Comment
Provide a defensible space to enable unimpeded access for firefighting around the building	A complying APZ (defendable space) has been recommended. This space consists of an area maintained as an IPA.
Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate with the scale of works proposed.	Bushfire fuel management, and other bushfire protection measures, contained within the subject property will effectively reduce the risk to both the subject property and adjoining premises.



Design and construct buildings commensurate with the bushfire risk.	Recommendations, relating to the construction of the development include BAL FZ building construction standards.
Provide access, services and landscaping to aid firefighting operations.	The recommendations (above) relating to the design and construction of the development include a range of 'bushfire protection measures' that will enhance the chances of occupant and building survival.
Not impose an increased bushfire management and maintenance responsibility on adjoining landowners.	The subdivision is pre-existing. The construction of this development will not increase the bushfire risk to adjoining land, nor increase bushfire management and maintenance responsibility on adjoining landowners.
Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of bushfire risk.	The site is located within an existing residential subdivision, and the existing residence will be subject to a minor upgrade to improve ember proofing.

### 8.0 Compliance or non-compliance with PBP 2019 Performance Criteria and intent for bushfire safety protection measures for infill development.

Performance Criteria	Comment
<p><b>APZ</b></p> <p>APZs are provided commensurate with the construction of the building.</p> <p>A defensible space is provided.</p> <p>APZs are managed and maintained to prevent the spread of fire to the building.</p> <p>The APZ is provided into perpetuity.</p> <p>APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</p>	<p><b>Can Comply</b> – Recommendation No. 1</p> <p>A defensible space will be provided within the site boundaries with part of the site being maintained as an IPA.</p> <p>This is complimented by some limited 'cleared and managed lands' on adjoining properties.</p>
<p><b>Access</b></p> <p>Firefighting vehicles are provided with safe all-weather access to structures and hazard vegetation.</p> <p>The capacity of access roads is adequate for firefighting vehicles.</p>	<p><b>Can Comply</b> – Recommendation No. 5</p> <p>Access/Egress is provided overwater.</p> <p>The access arrangements are sufficient for operational firefighting and emergency egress.</p>

<p>There is appropriate access to water supply.</p> <p>Firefighting vehicles can access the dwelling and exit the property safely.</p>	
<p><b>Water Supplies</b></p> <p>An adequate water supply is provided for firefighting purposes.</p> <p>Water supplies are located at regular intervals.</p> <p>The water supply is accessible and reliable for firefighting operations.</p> <p>Flows and pressures are appropriate.</p> <p>The integrity of the water supply is maintained.</p> <p>A static supply is provided for firefighting purposes in areas where reticulated water is not available.</p>	<p><b>Can Comply</b> – Recommendation No. 6</p>
<p><b>Electrical Services</b></p> <p>Location of the electrical services limits the possibility of ignition of surrounding bushland or the fabric of the buildings.</p>	<p><b>Can Comply</b> – Recommendation No. 7</p>
<p><b>Gas Services</b></p> <p>Location and design of the gas services will not lead to of ignition of surrounding bushland or the fabric of the buildings.</p>	<p><b>Can Comply</b> – Recommendation No. 8</p>
<p><b>Construction Standards</b></p> <p>The proposed building can withstand bushfire attack in the form of embers, radiant heat and flame contact.</p> <p>Proposed fences and gates are designed to minimise the spread of bushfire.</p> <p>Proposed Class 10a buildings are designed to minimise the spread of bushfire.</p>	<p><b>Can Comply</b> – Recommendation Nos. 2 – 4</p> <p>Predicated upon the recommended APZ areas and siting requirements, BAL FZ building construction standards can achieve the performance requirements of the planning legislation.</p>
<p><b>Landscaping</b></p> <p>Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions.</p>	<p><b>Can Comply</b> – Recommendation No. 1</p>

## 9.0 Statement assessing the environmental impact of any proposed bushfire protection measures.

Bushfire Protection Measure	Likely Environmental Impact	Comment
<b>APZ</b> (Rec. No. 1)	Insignificant	The site is generally clear of persistent vegetation.
<b>Construction Standard</b> (Rec. Nos. 2 - 4)	Insignificant	Building to be constructed within approved building envelope.
<b>Water Supply for fire fighting</b> (Rec. No. 6)	Insignificant	A non-reticulated water supply will service the development, which will be located within the proposed APZ.
<b>Utility service protection</b> (Rec. Nos. 6 - 8)	Insignificant	Utilities are currently located within the APZ, or underground.
<b>Vehicle Access</b> (Rec. No. 5)	Insignificant	Direct access to public road system will be by way of short, cleared pathway, located within the APZ.

## 10.0 Conclusion/Summary

Based on the above assessment and the 9 recommendations to protect persons and property from danger that may arise from a bushfire, the Consent Authority should determine that this development proposal can comply with *Planning for Bush Fire Protection 2019* as required under *Section 4.14 of the Environmental Planning and Assessment Act 1979*.

As a considered opinion, the recommended mitigation measures and construction requirements as stated in this report would reasonably address the aims and objectives of *PBP 2019*, consistent within the relative and current bushfire risk to the subject development site.

As infill development, the residence will be able to fully comply with the Acceptable Solutions provided within *PBP 2019*. In this regard, the subject development can reasonably facilitate *PBP 2019* objectives in as far as;

- Afford buildings and their occupants protection from exposure to a bushfire;
- Provide for a defensible space to be located around buildings;
- Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely spread to buildings;
- Ensure the appropriate operational access and egress for emergency service personnel and residents is available;
- Provide for ongoing management and maintenance of bushfire protection measures; and
- Ensure that utility services are adequate to meet the needs of firefighters.

Should any of the above information require clarification or further discussion, please contact the author.



**Scott Jarvis**

Graduate Diploma Design for Bushfire Prone Areas  
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**(Note: Scott Jarvis is a recognised / suitably qualified consultant pursuant to Rural Fire Service of NSW requirements - Community Resilience Fact Sheet - Requirements for Suitably Qualified Consultants 8/15, Fast Fact 5/10 Version 3 Dated 7 March 2011 & Development Control Practice Note 1/10 Version 2 Dated 4 February 2011)**

## References/Further Reading

*Australian Standard 3959:2018, Construction of buildings in bushfire prone areas* – Standards Australia.

*Building Best Practice Guide – Upgrading of Existing Buildings* (Development Assessment & Planning, NSW Rural Fire Service, Reference 0914).

*NASH Standard – Steel Framed Construction in Bushfire Areas (2021)* – National Association of Steel-Framed Housing Inc.

*National Construction Code – Building Code of Australia (2021)* – Australian Building Codes Board, Canprint.

*Environmental Planning and Assessment Act (1979)* – NSW Government Printer.

- Section 4.14 Consultation and Development Consent Certain Bushfire Prone Land
- Section 10.3 Bushfire Prone Land

*Rural Fires Act (1997)* – NSW Government Printer

*Landscape and building design for bushfire areas (2003)* – Ramsay G C & Rudolf L, CSIRO Publishing, Collingwood Victoria.



*Ocean shores to desert dunes: the native vegetation of NSW and the ACT (2004)* – Keith D, NSW Dept of Environment and Conservation, Hurstville NSW.



*Planning for Bush Fire Protection. A guide for councils, planners, fire authorities and developers (November 2019)* – NSW Rural Fire Service.

## Appendix 1

### Map 1 – Study Area / Subject Lot / Slopes / APZ extent



-  Subject development (approximate)
-  Subject Property Lot 2 DP 503646

-  Study Area
-  Inner Protection Area

**Appendix 2 – Site Photos (2/8/2023)**



**Subject site, looking South East from waterfront reserve**



**Pittwater, looking North West from waterfront reserve**



**Adjacent residential, looking North East**



**Adjacent residential, looking South West**



**Adjacent residential, looking South East**



**Existing Hose Post (RFS)**



**Bushfire risk, within waterfront reserve, looking North West**



**Bushfire risk, within National Park, looking South**



**Bushfire risk, within National Park, looking South East**



**Underground electrical supply**