

**BUSHFIRE CERTIFICATE**

**PROPOSED LAND REZONING PROPOSAL**



**PART LOT 2 DP 519945 AND PART LOT 22 DP 879368  
22 Hill Street, Belmont**

Date: **29/03/2022**

Prepared for: **Lake Macquarie City Council**

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## 1.0 EXECUTIVE SUMMARY AND COMPLIANCE TABLES

This report has assessed the land rezoning proposal against the requirements of Section 9.1(2) of the Environmental Planning and Assessment Act 1979 and Planning for Bush Fire Protection 2019.

This report establishes that the development is capable of complying with the objectives of Planning for Bush Fire Protection 2019.

TABLE 1 – PROPERTY DETAILS AND TYPE OF PROPOSAL

<b>Applicant Name</b>	Lake Macquarie City Council		
<b>Site Address</b>	22 Hill Street, Belmont	<b>Lot/Sec/DP</b>	Part Lot 2 DP 519945 and Part Lot 22 DP 879368
<b>Local Government Area</b>	Lake Macquarie	<b>FDI</b>	100
<b>Bushfire Prone Land</b>	Yes, mapped bushfire prone land		
<b>Type of development</b>	Land rezoning proposal	<b>Type of Area</b>	Urban/Bushland Interface
<b>Special Fire Protection Purpose</b>	No	<b>Flame Temperature</b>	1090K
<b>Application Complies with Acceptable Solutions</b>	Yes. Relevant specifications and requirements are satisfied	<b>Referral to NSW Rural Fire Service (NSW RFS) required</b>	No

TABLE 2 – BUSHFIRE THREAT ASSESSMENT FOR 22 HILL STREET, BELMONT

	<b>North</b>	<b>East</b>	<b>South</b>	<b>West</b>
<b>Vegetation Structure</b>	Maintained Lands	Forest	Maintained Lands	Forest Remnant < 1 hectare in size
<b>Accurate Slope Measure</b>	N/A	14 degrees downslope	N/A	5 degrees upslope
<b>Slope Range</b>	N/A	11 to 15 degrees downslope	N/A	Level/Upslope
<b>AS3959 (2018) Bushfire Attack Level (BAL) Minimum Setback BAL-29</b>	N/A	45 metres	N/A	11 metres
<b>AS3959 (2018) BAL</b>	BAL-LOW	BAL-FZ	BAL-LOW	BAL-12.5

The above specific BAL is based on the individual dwelling located on 22 Hill Street, Belmont and dwellings located north and east of the subject site. The dominant threat is the forest on the subject site due to the close proximity.

## **2.0 INTRODUCTION**

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### **2.1 PURPOSE OF REPORT**

The purpose of this report is to establish suitable analysis of risk to surrounding development for the land rezoning proposal of part Lot 2 DP 519945 and part Lot 22 DP 879368, 22 Hill Street, Belmont.

The recommendations within this report address the aims and objectives of Planning for Bush Fire Protection 2019 to reduce the risk of ignition of surrounding developed land in a bushfire event.

### **2.2 PROPOSED DEVELOPMENT**

The proposed development includes the below changes to part of the land:

- This site will be rezoned from RE1 Recreation to C3 Environmental Management. The site is part of the Council's native vegetation corridor and is identified as contaminated land.

The land to the east of the subject site is a riparian corridor greater than 1 hectare in size that has been assessed as forest. The Council has identified that the rezoning will reduce potential risk by limiting public accessibility to potentially contaminated land. Dwellings already exist on these parcels of land and the E2 zone will not increase their potential for further development.

### **2.3 LEGISLATIVE REQUIREMENTS**

#### **Environmental Planning and Assessment Act 1979**

Section 9.1(2) of the Environmental Planning and Assessment Act 1979 issues directions to be followed when considering rezoning. Direction 4.4, Planning for Bushfire Protection identifies matters for consideration for planning proposals that will affect, or are in proximity to land mapped as bush fire prone. Under these directions, draft LEPs should follow the below objectives:

- i. to protect life, property and the environment from bush fire, by discouraging the establishment of incompatible land uses in bush fire prone areas; and
- ii. to encourage sound management of bush fire prone areas.

Under Direction 4.4, a relevant authority must consult with the Commissioner of the NSW RFS during the preparation of a draft LEP and take into account any comments made. The draft LEP shall also have regard to Planning for Bush Fire Protection 2019.

This document forms the submission for the rezoning identifying the suitability of the proposal in relation to bushfire.

### Planning for Bush Fire Protection 2019

Planning for Bush Fire Protection 2019 was developed by the NSW Rural Fire Service to provide development standards for building in bush fire prone areas in NSW. It provides for the protection of human life and helps to minimise the impacts on property from the threat of bush fire. Examination of Planning for Bush Fire Protection 2019 Section 4.4 Local Environmental Plans is made in Table 3 below:

TABLE 3 – PLANNING FOR BUSH FIRE PROTECTION 2019 COMPLIANCE SECTION 4.4.1  
CONSIDERATION OF BUSH FIRE ISSUES

Performance Criteria	Objective
<b>Suitable Land Uses</b>	To protect life, property and the environment from bush fire, by discouraging the establishment of incompatible land uses in bush fire prone areas.
<p><b>Compliance:</b> The subject land is a vegetated riparian corridor, connecting to the council's native corridor. The zoning change is deemed appropriate due to the land being on private property and not a public park. The subject site has contaminated land and the zoning change will restrict public access adjacent to the existing residential dwellings.</p> <p>The existing management will remain unchanged following the zoning change, however weed management is recommended.</p>	
<b>Land Management</b>	To encourage sound management of bush fire prone areas.
<p><b>Compliance:</b> The subject site is presently forest vegetation. The Rural Fires Act 1997 requires all landowners to exercise a duty of care to prevent bushfire from spreading on or from their land under Section 63.</p> <p>The rezoning of the land will not remove the legal requirement to exercise a duty of care in managing the land and the rezoning may encourage weed management, reducing available fuel.</p>	
<b>Private and or Public Road Infrastructure</b>	Provision of safe access and egress to emergency service personnel and the public.
<p><b>Compliance:</b> The subject land is surrounded by residential land containing dwellings and a vegetation corridor. There is presently good access to the subject site via the property access on 22 Hill Street Belmont. The zoning change will not restrict or change the current public road infrastructure or existing property accesses which are deemed adequate to fight fire.</p>	



<b>Strategic Planning Considerations</b>	Strategic Nature of the Development.
<b>Compliance:</b> The subject land is small in area and will not reduce the suitability of existing public road infrastructure. The proposed zoning change is not deemed strategic in nature and a Strategic Bushfire Study is not required.	

### 3.0 BUSHFIRE ATTACK ASSESSMENT

#### 3.1 VEGETATION CLASSIFICATION

Potential bushfire hazards were identified from Lake Macquarie Council's Bushfire Prone Mapping as occurring within the investigation area. Aerial mapping and inspection of the site reveals that the bushfire prone land map is reasonably accurate in respect to the current bushfire hazard.

The major vegetative threats have been determined using Keith (2004) to derive vegetation structures listed in Planning for Bush Fire Protection 2019.

Primary vegetation structures have been identified in Figure 1 – Site Constraints Map and separation distances shown in Table 2 – Bushfire Attack Assessment.



PHOTOGRAPH 1 – SUBJECT LAND LOOKING EAST

View of the subject vegetation located east of the dwelling. The vegetation is forest dominated by eucalypts, with a dense understorey of native and exotic shrubs.



### 3.2 EFFECTIVE SLOPE

Effective Slope was measured using 0.5-metre contour data obtained from the Department of Lands and verified by a laser hypsometer on site. The laser hypsometer verified slope within the vegetation, calculating effective fire run slope from 5 separate measurements in each dominant direction.

Effective Slopes have been identified in Figure 1 – Site Constraints Map and slope ranges are shown in Table 2 – Bushfire Threat Assessment.

### 3.3 BUSHFIRE ATTACK LEVELS

BALs and relevant construction levels in accordance with Planning for Bush Fire Protection 2019 have been demonstrated in Section 1 Executive Summary and Compliance Tables.



PHOTOGRAPH 2 – NORTHERN RIPARIAN CORRIDOR AND FOREST

View of forest and riparian corridor located north of the site. There is a clear delineation of managed residential land and forest.





FIGURE 1 – SITE CONSTRAINTS MAP



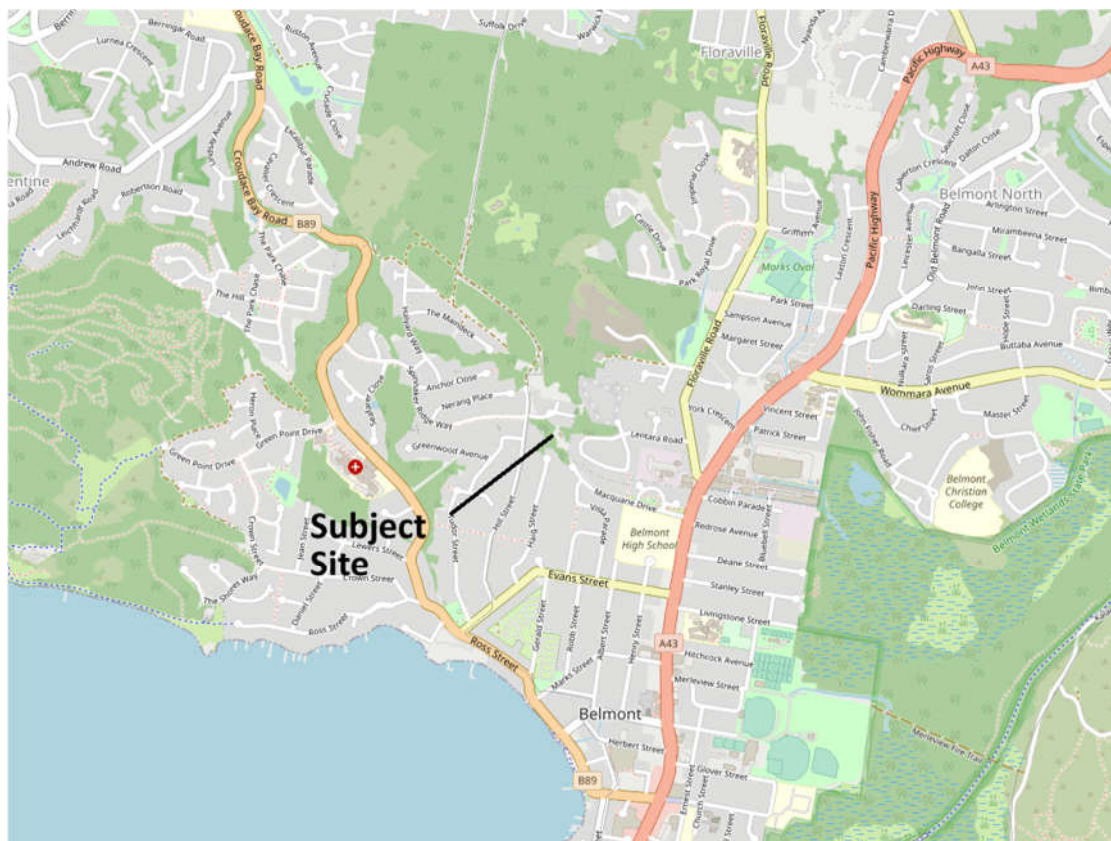
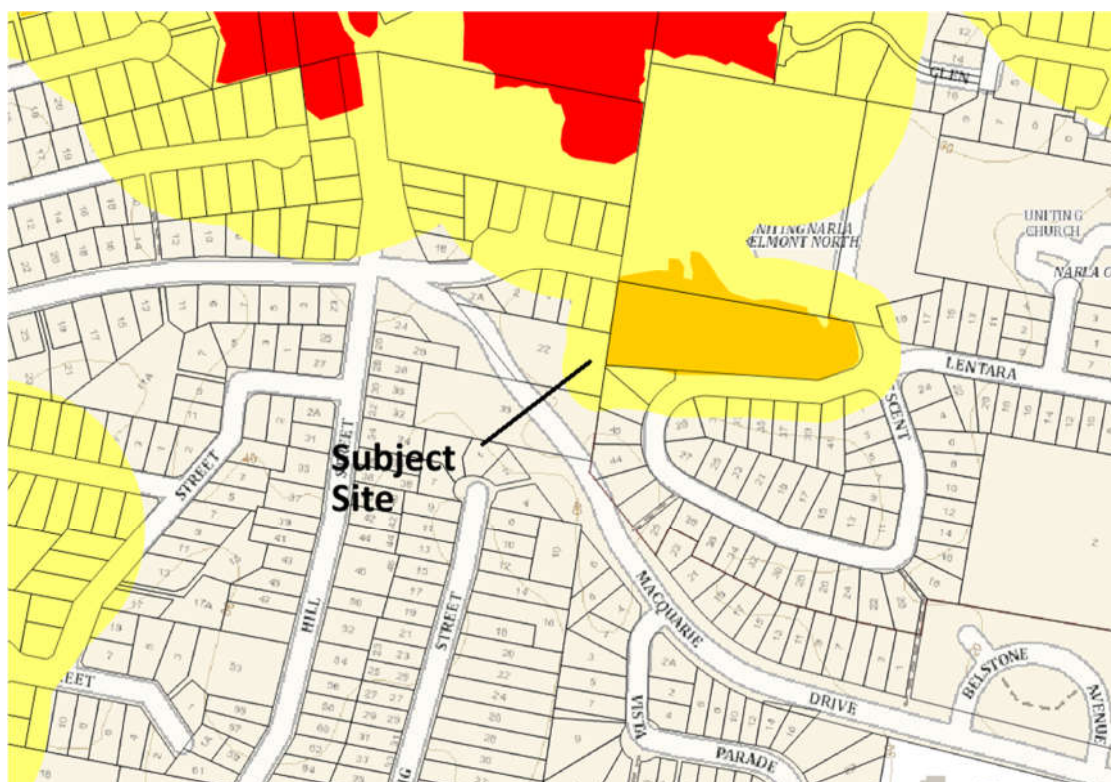


FIGURE 2 – LOCALITY MAP  
Courtesy of OpenStreetMap



**FIGURE 3 – COUNCIL'S BUSHFIRE PRONE LAND MAP**

## **4.0 UTILITY SERVICES AND INFRASTRUCTURE**

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### **4.1 WATER SERVICES**

A reticulated water supply and street hydrant access are available providing coverage to existing residential development. The proposed development will not increase building density or modify existing services.

### **4.2 ELECTRICITY SERVICES**

The existing electrical supply to the local area is via overhead electrical transmission lines. The subject site shall be managed so that no part of a tree is 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).

### **4.3 GAS SERVICES**

No gas services are proposed for this rezoning.



**PHOTOGRAPH 3 – EXISTING DWELLING ADJACENT TO THE SUBJECT SITE**

View of existing approved dwelling located adjacent to the forest on 22 Hill Street. The dwelling is exposed to BAL-FZ (Flame Zone) due to the close proximity of the forest.



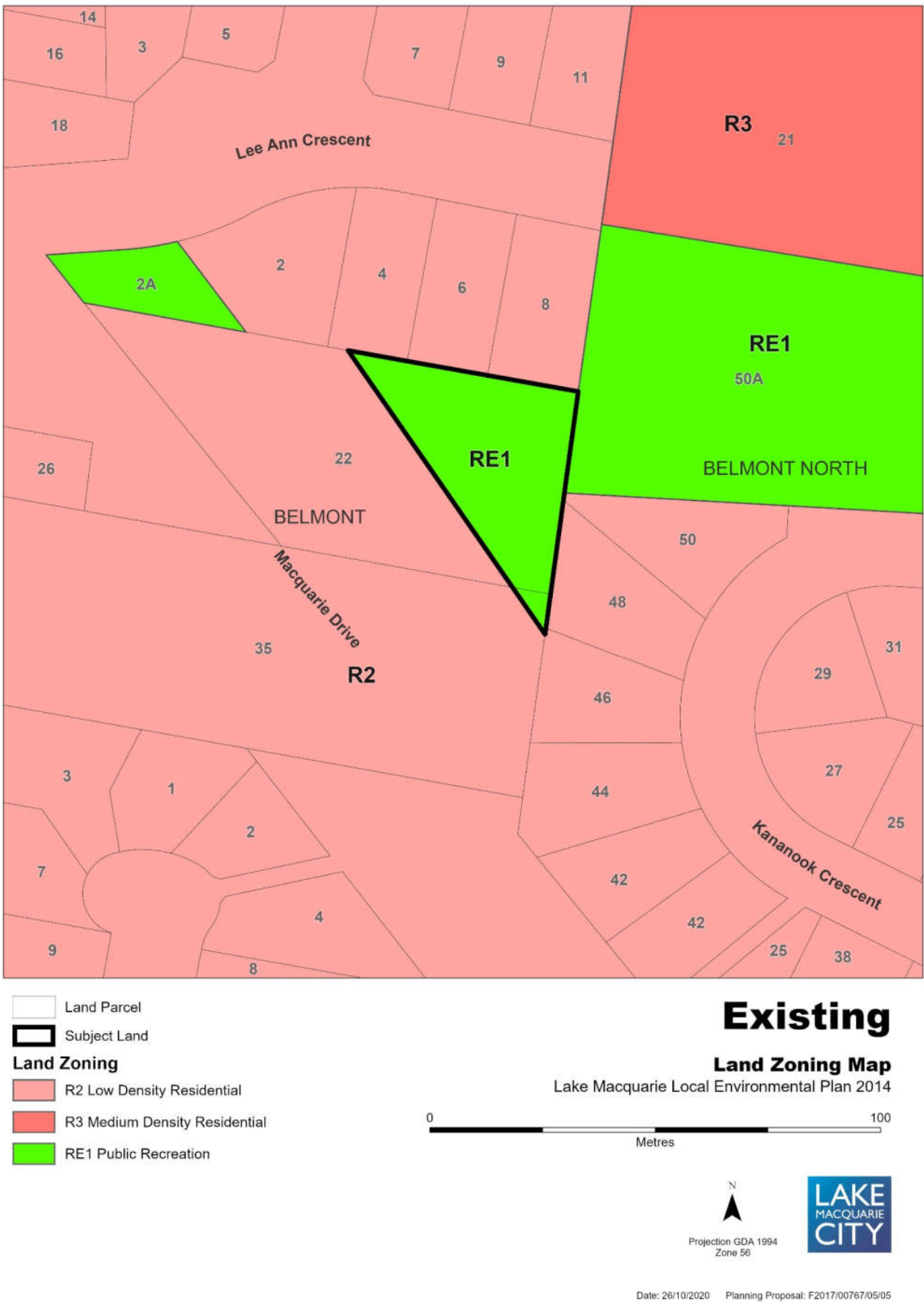


FIGURE 4 – PROPOSED REZONING MAP



## **5.0 PUBLIC ROAD ACCESS**

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The existing public road access is by way of Hill Street and Macquarie Drive. The public road network via Kananook Crescent will support direct and parallel firefighting efforts for low intensity fires in the adjacent green corridor. The vegetation on the subject site is accessible by private residential property 22 Hill Street Belmont.

## **6.0 LANDSCAPING MAINTENANCE**

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The residential development adjacent to the bushland should have existing asset protection zones and landscaping maintenance imposed on the development as part of the development approval.

If no recommendations are in place for wider surrounding residential properties, the below landscaping maintenance is recommended to be reviewed and implemented. Landscaping is maintained in accordance with Planning for Bush Fire Protection (2019) Appendix 4 and will be maintained for the life of the development.

Trees should be located greater than 2 metres from any part of the roofline of a building. Garden beds of flammable shrubs are not to be located under trees and should be no closer than 10 metres from an exposed window or door. Trees should have lower limbs removed up to a height of 2 metres above the ground.

The landscaped area should be maintained free of leaf litter and debris. The gutter and roof should be maintained free of leaf litter and debris.

Landscaping should be managed so that flammable vegetation is not located directly under windows.

Ground fuels such as fallen leaves, twigs (less than 6 millimetres in diameter) and branches should be removed on a regular basis, and grass needs to be kept closely mown and, where possible, green.

## **7.0 BUSHFIRE PROTECTION MEASURES**

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Bushfire protection measures described in Planning for Bush Fire Protection 2019 aim to minimise the risks from bushfire and ensure that the aims and objectives of Planning for Bush Fire Protection 2019 are met. The following key bushfire protection measures have been addressed in this assessment:

- Asset Protection Zones (APZ)
- Water supplies
- Infrastructure (including access road provisions and other services)
- Landscape management and garden design principles.

## **8.0 CONCLUSION**

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Based upon an assessment of the plans and information received for the proposal, the Draft Amendment to Lake Macquarie Local Environmental Plan 2014 rezoning for the subject site is deemed appropriate. The proposed development offers compliance with the intent of Planning for Bush Fire Protection 2019. The existing dwellings adjacent to the subject site are exposed to BAL-FZ (Flame Zone), and the rezoning will not increase that bushfire risk to the dwellings. The rezoning change will reduce public access to the subject vegetation resulting in a better bushfire outcome and more appropriate zoning for the vegetation.

## 9.0 APPENDIX 1.0 – ASSET PROTECTION ZONES SUMMARY

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Below is a summary of asset protection zones (APZ) outlined in Planning for Bush Fire Protection 2019 Appendix 4 and the NSW RFS's Standards for Asset Protection Zones. The property owner(s) should obtain these two documents and familiarise themselves with their content.

### Generally

APZ refer to the area between the bushfire threat and the asset (i.e. building). The APZ may contain two areas; the Inner Protection Area (IPA) and the Outer Protection Area (OPA). Some areas should be managed entirely as an IPA. Refer to the plans for locations of APZ and distances from assets.

### IPA

The IPA is located adjacent to the asset and is identified as a fuel-free zone.

#### A. Shrubs (consisting of plants that are not considered to be trees)

1. Shrubs must be located away from a building's glazing and vent openings.
2. Avoid planting around entryways if the vegetation is flammable.
3. A maximum 20% of the IPA may contain shrubs.
4. A minimum 1.5 metre separation of shrubby vegetation from the building shall be maintained.
5. Shrubs must not have a connection with the tree canopy layer; remove/trim shrubs or underprune trees.
6. Ensure turf is suitably mown and/or grasslands are continually slashed to restrict to maximum 100 millimetres high.

#### B. Trees: Maintain a minimum 2-5 metre canopy separation.

1. Trees are allowed in the IPA however they should not touch or overhang buildings. No tree should be within 2 metres of the roofline.
2. Underprune branches between the shrub layer and the canopy layer.
3. Ensure branches do not overhang buildings.
4. Ensure all trees in the IPA within 3 metres of buildings do not provide a serious fire threat.
5. Trees should have lower limbs removed up to a height of 2 metres above the ground.

### OPA

The OPA is located adjoining the vegetation. The OPA should be maintained as a fuel-reduced area. This assumes trees may remain but with a significantly reduced shrub, grass, and leaf litter layer. In many situations leaf litter and the shrub layer may not require maintenance at all.

#### A. Shrubs:

1. Reduce or trim large stands of shrubs.

#### B. Trees:

1. Existing trees can be retained.
2. Ensure a separation is available between shrubs and tree canopy.
3. Reduce tree canopy so there is no interlocking canopy.

## **10.0 REFERENCES AND DISCLAIMER**

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### **References**

Standards Australia AS3959 (2018) Construction of buildings in bushfire-prone areas.

Keith D. "Ocean Shores to Desert Dunes", Department of Environment and Conservation, Sydney, (2004).

Environmental Planning and Assessment Act 1979.

New South Wales Rural Fire Service Planning for Bush Fire Protection 2019.

### **Disclaimer**

Despite the recommendations in this report, it is impossible to remove the risk of fire damage to the building entirely. This report assesses and provides recommendations to reduce that risk to a manageable level. It is of paramount importance that the recommendations are adhered to for the life of the structure and that all maintenance is performed to ensure a level of protection is provided to the building, occupants and firefighters.

Planning for Bush Fire Protection 2019 states that notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains.

AS3959 (2018) Construction of buildings in bushfire-prone areas states that the standard is designed to lessen the risk of damage to buildings occurring in the event of the onslaught of bushfire. There can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.

This bushfire assessment is limited to the subject land only and does not provide comment on the suitability of existing approved development surrounding the site.