

Bushfire Hazard Assessment Report 66a Kaludabah Rd, Piambong. NSW 2850
23rd October 2023

Steve Brooks Bushfire Consultant

Bushfire Hazard Assessment Report

For Proposed.

Construction of a dual occupancy dwelling

66a Kaludabah Rd, Piambong. NSW 2850



23rd October 2023

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Steve Brooks Bushfire Consultant
Bushfire Risk Assessment Certificate


This form is to be completed by a recognised consultant in Bushfire Risk Assessment in accordance with Section 4.14 of the Environmental Planning and Assessment Act

<i>Property Address</i>	66a Kaludabah Rd, Piambong. NSW 2850
<i>Description of the Proposal</i>	Construction of a dual occupancy dwelling
<i>Plan Reference</i>	23 rd October 2023 - 1
<i>BAL Rating</i>	BAL-19
<i>Does Proposal rely on Alternate Solutions?</i>	No
<i>Is Referral to NSW RFS Required?</i>	No

I, Steve Brooks have carried out a Bushfire Risk Assessment on the above-mentioned property and the proposed development. A detailed Bushfire Assessment Report is attached which includes the requirements set out in Appendix 1 of Planning for Bushfire Protection 2019.

I hereby certify that in accordance with Section 4.14 of the Environmental Planning and Assessment Act 1979, I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk management. The bushfire risk assessment report for the development conforms to the relevant specifications and requirements of Planning for Bushfire Protection 2019 (NSWRFS).

I acknowledge that the Bushfire Assessment Report prepared for the above-mentioned property will be submitted and relied upon by Council in support of the proposed Development Application as the basis for ensuring that the bushfire requirement aspects of the proposed development have been met in accordance with Planning for Bushfire Protection 2019 (NSWRFS).


BPAD - Certification No. 40765
Graduate Diploma Bushfire Planning and Design (UWS)
Graduate Certificate in Fire Investigation (CSU)



Terms and Conditions

This Bushfire Hazard Assessment Report may only be copied, distributed or forwarded to other parties in its original format with the permission of Steve Brooks. This document cannot be altered in any way unless given permission by myself, Steve Brooks.

Disclaimer

Quote from Standards Australia *"It should be borne in mind that measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature of behaviour of fire, and extreme weather conditions.*

This report has been prepared with all honesty and the opinions contained in this report are provided in good faith and all comments and opinions are not misleading.

AS 3959-2018 is designed to improve the performance of buildings in designated Bushfire Prone Areas but there is no guarantee of a structure surviving a bushfire event due to the sometimes erratic and unpredictable behaviour of bushfires.

Steve Brooks is therefore not liable to any person or company for any damage or loss incurred in a bushfire event due to a person or company taking actions in respect to advice or statements contained within this Bushfire Hazard Assessment Report.

Document Control

Document Name	Project Ref	Date	Author	Status
66a Kaludabah Rd	1	23/10/2023	S. Brooks	Complete

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List of Abbreviations

APZ	Asset Protection Zone
AS3959	Australian Standard 3959-2018
BAL	Bushfire Attack Level
BCA	Building Code of Australia
EP&A Act	Environmental Planning and Assessment Act 1979
FDI	Fire Danger Index
FRNSW	Fire & Rescue NSW
IPA	Inner Protection Area
NCC	National Construction Code
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection – 2019
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

Executive Summary

I have been requested to undertake a Bushfire Hazard Assessment Report at 66a Kaludabah Rd, Piambong. NSW 2850, on behalf of the proponents, for the construction of a dual occupancy dwelling on the subject Lot.

The proposed development is Residential Infill Development, and the subject Lot has not been identified as being Bushfire Prone Land. However, in my opinion, there is hazardous bushfire vegetation located within the boundaries of the subject Lot and is therefore subject to consideration under Section 4.14 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Planning for Bushfire Protection 2019. The subject Lot is located within the Mid-Western Regional Council LGA which has an FDI of 80.

Section 8.2.1 – Increased Residential Densities of PBP 2019 states, “*This increase in residential density does not necessarily require a subdivision approval. However, the same principles and criteria associated with subdivisions in bush fire prone areas will apply. This includes ensuring an APZ based on a radiant heat threshold of 29kW/m² for any new dwellings, along with suitable provision for construction, access, water and landscaping*”. Therefore, the proposed dual occupancy dwelling must meet the threshold of BAL-29.

The bushfire hazard vegetation that is deemed to pose a potential bushfire risk to the proposed dual occupancy dwelling is Woodland Classified Vegetation located 20m in the Northern Southern, Eastern and Western aspects from the proposed dual occupancy dwelling. The effective slope under the Woodland Classified Vegetation is Upslope/Flat in all aspects.

The proposed dual occupancy dwelling has been found to be in the BAL – 19 range as per Table A1.12.6. of PBP 2019. It will also need to meet the Performance Criteria of Table 7.4a of Planning for Bushfire Protection 2019.

The proposed dual occupancy dwelling will also need to comply with Section 7.5 - Additional Construction Requirements of PBP 2019. Therefore, any proposed deck, veranda, stairs, ramps or landings are rated as BAL-29 in accordance with Section 7.5 of PBP 2019 and are to be constructed to the requirements outlined in Section 7 of AS3959-2018.

This report makes recommendations to approve the development as it meets the requirements of both the Building Code of Australia 2019, AS3959-2018 Construction of buildings in bushfire prone areas and Planning for Bushfire Protection 2019.

Aspect	Northern	Southern	Eastern	Western
Vegetation Type	Woodland	Woodland	Woodland	Woodland
Slope	Upslope/Flat	Upslope/Flat	Upslope/Flat	Upslope/Flat
Total APZ	20m	20m	20m	20m
BAL Rating	BAL-19	BAL-19	BAL-19	BAL-19

Table 1 – Final BAL Ratings for the proposed dual occupancy dwelling.

1 Introduction

I have been engaged by the proponents to prepare a Bushfire Hazard Assessment Report for inclusion in a Development Application to Mid-Western Regional Council for the construction of a dual occupancy dwelling on the subject Lot located at 66a Kaludabah Rd, Piambong. NSW 2850 as required by Section 4.14 of the Environmental Planning and Assessment Act 1979.

The subject Lot has not been identified as being Bushfire Prone Land as per the Mid-Western Regional Council LGA Bushfire Prone Land Map. The subject Lot is not classified as being within any Category 1, 2 or 3 Bushfire Hazard Vegetation Zone as per the Mid-Western Regional Council LGA Bushfire Prone Land Map. However, the subject Lot does contain hazardous bushfire vegetation and therefore compliance with Bushfire Legislation is required as per Section 4.14 of the Environmental Planning and Assessment Act 1979.

The development is Residential Infill Development as defined by Planning for Bushfire Protection 2019 and this report has been prepared in accordance with the submission requirements of Section 4.14 of the Environmental Planning and Assessment Act 1979 and Appendix 2 of Planning for Bushfire Protection 2019.

Property Details

Council:	Mid-Western Regional
Council Reference	N/A
Address:	66a Kaludabah Rd, Piambong. NSW 2850 Lot 11 DP 575997
Site Area:	27.87 Ha approx.
Zoning	R5 – Large Lot Residential

1.1 Purpose of this Report

The purpose of this Bushfire Hazard Assessment Report is to provide the owners, consent authority and the NSW Rural Fire Service with an independent Bushfire Hazard Assessment for the subject Lot. The report makes recommendations and details how the development proposal complies/not complies with the performance criteria of Planning for Bushfire Protection 2019.

1.2 Scope of the Report

This Bushfire Hazard Assessment Report and its' recommendations are limited to the subject Lot and the proposed development only and not neighbouring properties or lands. This report considers the current bushfire legislation, planning controls and standards for building in bushfire prone land areas.

This report is based on site plans, a site visit and relevant information from the local council and government agencies.

1.3 Referenced Documents.

This Bushfire Hazard Assessment Report has been prepared with consideration given to the relevant legislation and regulations pertaining to developments in bushfire prone land areas including the *Environmental Planning and Assessment Act 1979*, the Building Code of Australia 2019, *Planning for Bushfire Protection 2019* and AS 3959-2018 *Construction of buildings in bushfire prone areas*.

1.4 Methodology of the Report

The methodology for the Bushfire Hazard Assessment adheres to the method described in Appendix 1 of Planning for Bushfire Protection 2019.

- Determine all vegetation formations within 140m of the proposal.
- Determine the distance of each vegetation formation identified and the building.
- Determine the effective slope for each vegetation group.
- Determine the relevant FDI.
- Match the relevant FDI, appropriate vegetation, distance, and effective slope classes to determine the category of bushfire attack applicable to the site.
- Determine the appropriate level of construction found in Table A1.12.6 of PBP 2019 for LGAs with an FDI of 80.

1.5 The Proposed Development

The proponents seek to construct a dual occupancy dwelling on the subject Lot located at 66a Kaludabah Rd, Piambong. NSW 2850. The subject Lot is also known as Lot 11 DP 575997 and has rural development to the North, South, East and West.

The subject Lot is not classified as being within any Category 1, 2 or 3 Bushfire Hazard Vegetation Buffer Zone as per the Mid-Western Regional Council LGA Bushfire Prone Land Map. However, it is apparent that the subject Lot contains hazardous bushfire vegetation and therefore, is to be assessed under Section 4.14 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

To the Northern, Southern, Eastern and Western aspects of the proposed dual occupancy dwelling is Woodland Classified Vegetation which is not mapped as hazardous bushfire vegetation on the Mid-Western Regional Council LGA Bushfire Prone Land Map. However, I am deeming the Woodland Classified Vegetation to be Category 1 Bushfire Hazard Vegetation.

The hazardous bushfire vegetation that is deemed to be a potential bushfire risk to the proposal is Category 1 Bushfire Hazard Vegetation - Woodland Classified Vegetation located 20m in the Northern aspect, 20m in the Southern aspect, 20m in the Eastern aspect and 20m in the Western aspect.

The subject Lot is zoned R5 – Large Lot Residential and the proposal constitutes “Residential Infill Development” as defined by Section 7 of PBP 2019 and as such must meet the performance criteria of Table 7.4a *Planning for Bushfire Protection* 2019.

Type of Proposal PBP 2019

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

1.6 Bushfire Prone Land Map

The subject Lot has been identified on the Mid-Western Regional Council LGA Bushfire Prone Land Map which covers the entire site.

A copy of the bushfire prone land status is shown below (Figure 1).

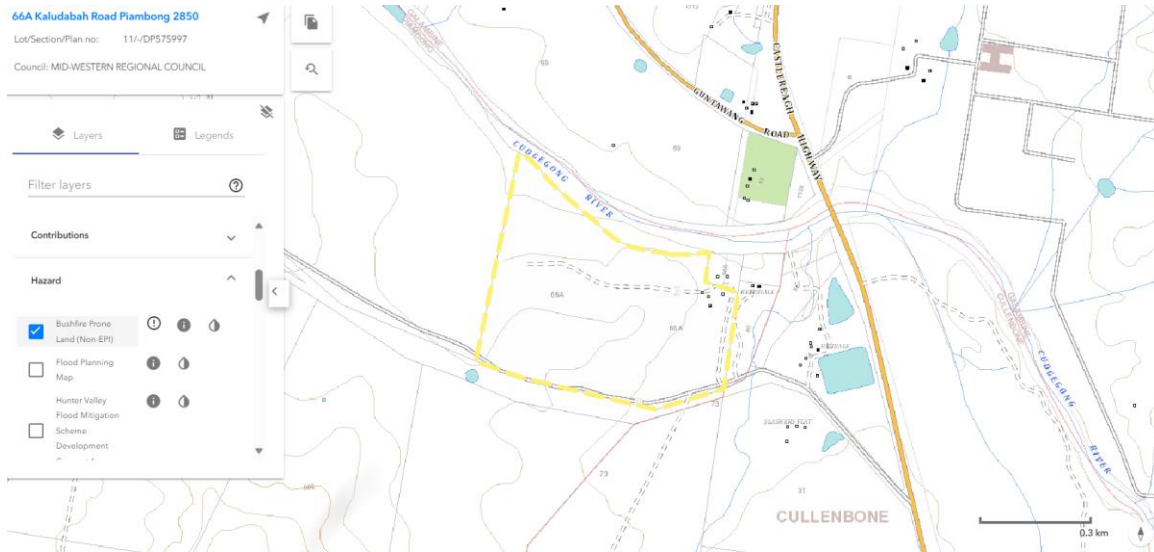


Figure 1 – 66a Kaludabah Rd, Piambong. NSW 2850 Bushfire Prone Land Map (NSW Government 2023). It should be noted that the Bushfire Prone Land Map above indicates that the subject Lot is not located within a Category 1, 2 or 3 Bushfire Hazard Vegetation Zone. However, the subject Lot does contain hazardous vegetation and is assessed under Section 4.14 of the EP&A Act.

Hazard

Bushfire Prone Land

- Vegetation Category 1
- Vegetation Category 2
- Vegetation Category 3
- Vegetation Buffer

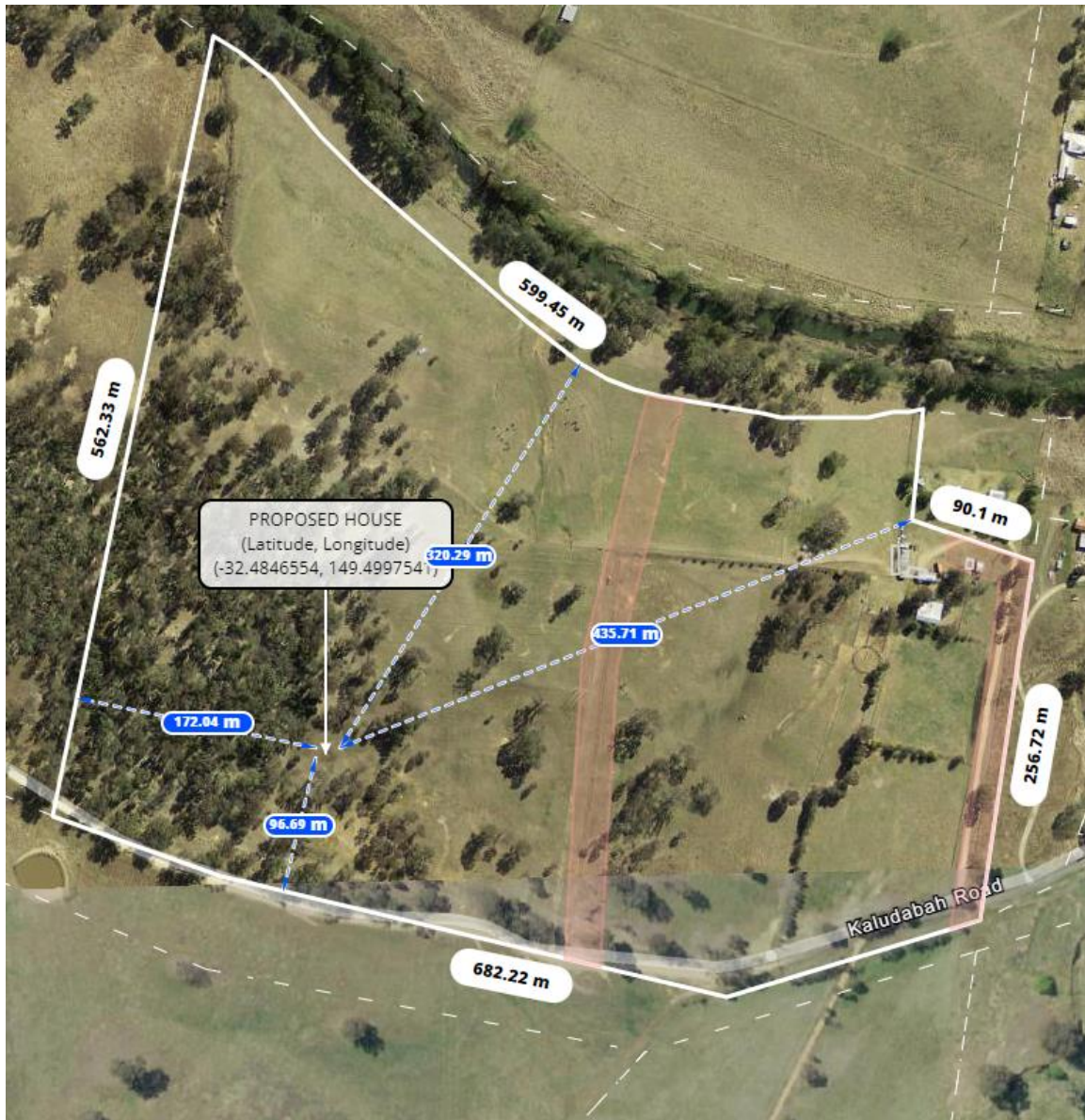


Image 1 – Indicates an aerial image of the approx. location of the proposed dual occupancy dwelling on the subject Lot (Google Earth 2023)

2 Bushfire Hazard Assessment

2.1 Preface

The bushfire hazard assessment was conducted for the development using the methodology described in Appendix 1 of PBP 2019 to determine the bushfire attack level (BAL) likely upon the development.

Properties that are located within a designated Bushfire Prone Area as identified by a Council Area Bushfire Prone Map and Registered with the NSWRFSS, must have either a Bushfire Hazard Assessment or a Bushfire Hazard Certificate (in certain Complying Development instances) completed and submitted prior to Council or a Private Certifier being able to approve the development.

The construction of a dual occupancy dwelling on the subject Lot is Residential Infill Development and as such must comply with Section 4.14 of the EP&A Act 1979, AS3959-2018 and Section 7 of PBP 2019.

The proposed dual occupancy dwelling will have access to Kaludabah Rd to the South, via a 4m wide unsurfaced two-wheel drive all-weather driveway approx. 110m in length, with a vertical clearance of at least 4m. Passing bays along the access driveway are not required as the proposed dual occupancy dwelling is <200m from Kaludabah Rd.

The vegetation that is deemed to be a bushfire risk to the proposal is Woodland Classified Vegetation located 20m to the North, 20m to the South, 20m to the East and 20m to the West of the proposed dual occupancy dwelling building footprint.

2.2 Location

The subject Lot is located at 66a Kaludabah Rd, Piambong. NSW 2850 (Lot 11 DP 575997) and is within a rural area of the Mid-Western Regional Council LGA.



Image 2 - Site Aerial (NSW Government 2023)

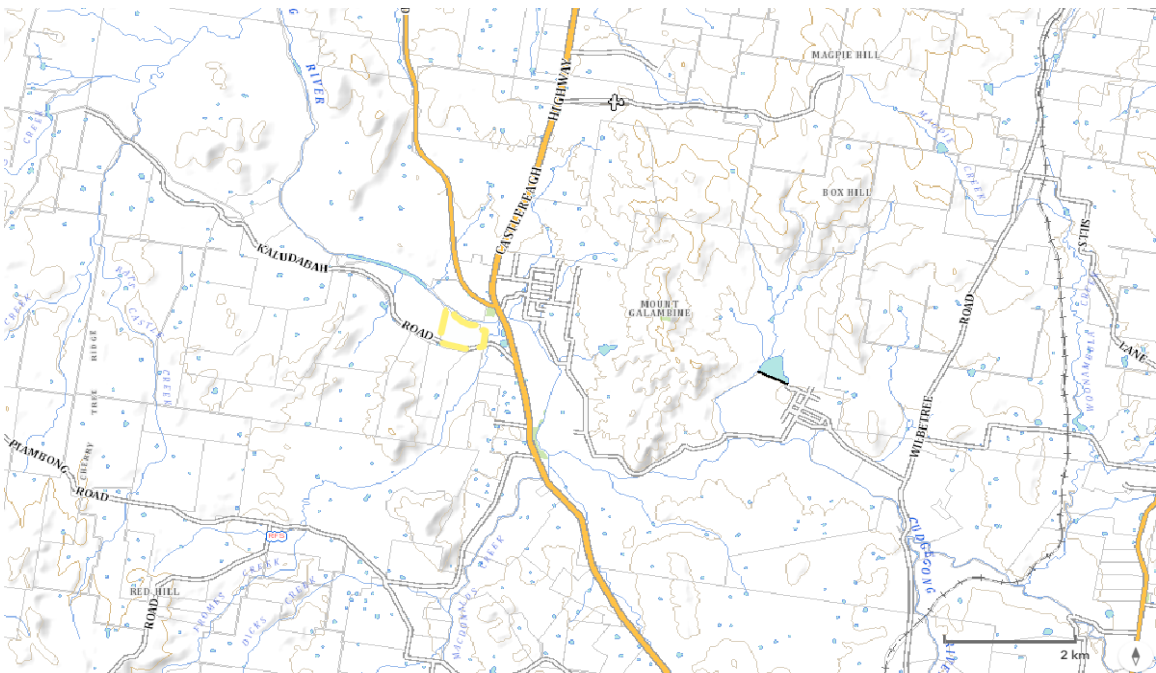


Figure 2 - Street Location of Property (NSW Government 2023)

2.3 Vegetation

The vegetation that is deemed the hazard and poses a potential bushfire risk to the proposed development is Woodland Classified Vegetation located in the Northern, Southern, Eastern and Western aspects of the proposed dual occupancy dwelling.

The subject Lot is not classified as being within any Category 1, 2 or 3 Bushfire Hazard Vegetation Buffer Zone as per the Mid-Western Regional Council LGA Bushfire Prone Land Map. However, it is apparent that the subject Lot contains hazardous bushfire vegetation and therefore, is to be assessed under Section 4.14 of the Environmental Planning and Assessment Act 1979 (EP&A Act). I have deemed the Woodland Classified Vegetation to be Category 1 Bushfire Hazard Vegetation.

The hazardous bushfire vegetation that is deemed to be a potential bushfire risk to the proposal is Woodland Classified Vegetation located 20m to the North, 20m to the South, 20m to the East and 20m to the West from the proposed dwelling building footprint.

A search on the NSW Government website, Trees Near Me, identified the Woodland Classified Vegetation to be Blakely's Red Gum – Yellow Box Woodland (Western Slopes Grassy Woodland).

There is also vegetation within the boundaries of the subject Lot which I have deemed to be Category 3 Bushfire Hazard Vegetation – Grassland Classified Vegetation but this is located >50m from the proposed dual occupancy dwelling and is not deemed to pose a bushfire risk to the proposed dual occupancy dwelling.

Aspect	Vegetation Formation	Distance to Hazard
Northern	Woodland	20m
Southern	Woodland	20m
Eastern	Woodland	20m
Western	Woodland	20m

Table 2 – Distances to Category 1 Bushfire Hazard Vegetation



Image 3 – Indicates the distances to hazardous bushfire vegetation (Google Earth 2023)



Photo 1 – Indicates the Woodland Classified Vegetation to the North of the proposed dual occupancy dwelling (Sonya Robinson 2023)



Photo 2 – Indicates the Woodland Classified Vegetation in the North-Eastern aspect of the proposed dual occupancy dwelling (Sonya Robinson 2023)



Photo 3 – Indicates the Woodland Classified Vegetation in the Eastern aspect of the proposed dual occupancy dwelling (Sonya Robinson 2023)



Photo 4 – Indicates the Woodland Classified Vegetation in the South-Eastern aspect of the proposed dual occupancy dwelling (Sonya Robinson 2023)



Photo 5 - Indicates the Woodland Classified Vegetation in the Western aspect of the proposed dual occupancy dwelling (Sonya Robinson 2023)



Photo 6 - Indicates the Woodland Classified Vegetation in the South-Western aspect of the proposed dual occupancy dwelling (Sonya Robinson 2023)



Photo 7 - Indicates the Woodland Classified Vegetation in the North-Western aspect of the proposed dual occupancy dwelling (Sonya Robinson 2023)

2.4 Slope

The effective slope that would most significantly affect bushfire behaviour is assessed for no less than 100 metres from the proposed development. The effective slope is measured is under the identified hazard.

The effective slope under the Woodland Classified Vegetation is Upslope/Flat in all aspects of the proposed dual occupancy dwelling.

	North	South	East	West
	<input type="checkbox"/> N/A >100m	<input type="checkbox"/> N/A >100m	<input type="checkbox"/> N/A >100m	<input type="checkbox"/> N/A >100m
	<input checked="" type="checkbox"/> Upslope Flat	<input checked="" type="checkbox"/> Upslope Flat	<input checked="" type="checkbox"/> Upslope Flat	<input checked="" type="checkbox"/> Upslope Flat
	<input type="checkbox"/> 0-5	<input type="checkbox"/> 0-5	<input type="checkbox"/> 0-5	<input type="checkbox"/> 0-5
	<input type="checkbox"/> >5-10	<input type="checkbox"/> >5-10	<input type="checkbox"/> >5-10	<input type="checkbox"/> >5-10
	<input type="checkbox"/> >10-15	<input type="checkbox"/> >10-15	<input type="checkbox"/> >10-15	<input type="checkbox"/> >10-15
	<input type="checkbox"/> > 15-20	<input type="checkbox"/> > 15-20	<input type="checkbox"/> > 15-20	<input type="checkbox"/> > 15-20

Table 3 - Degree of Slope under hazardous vegetation

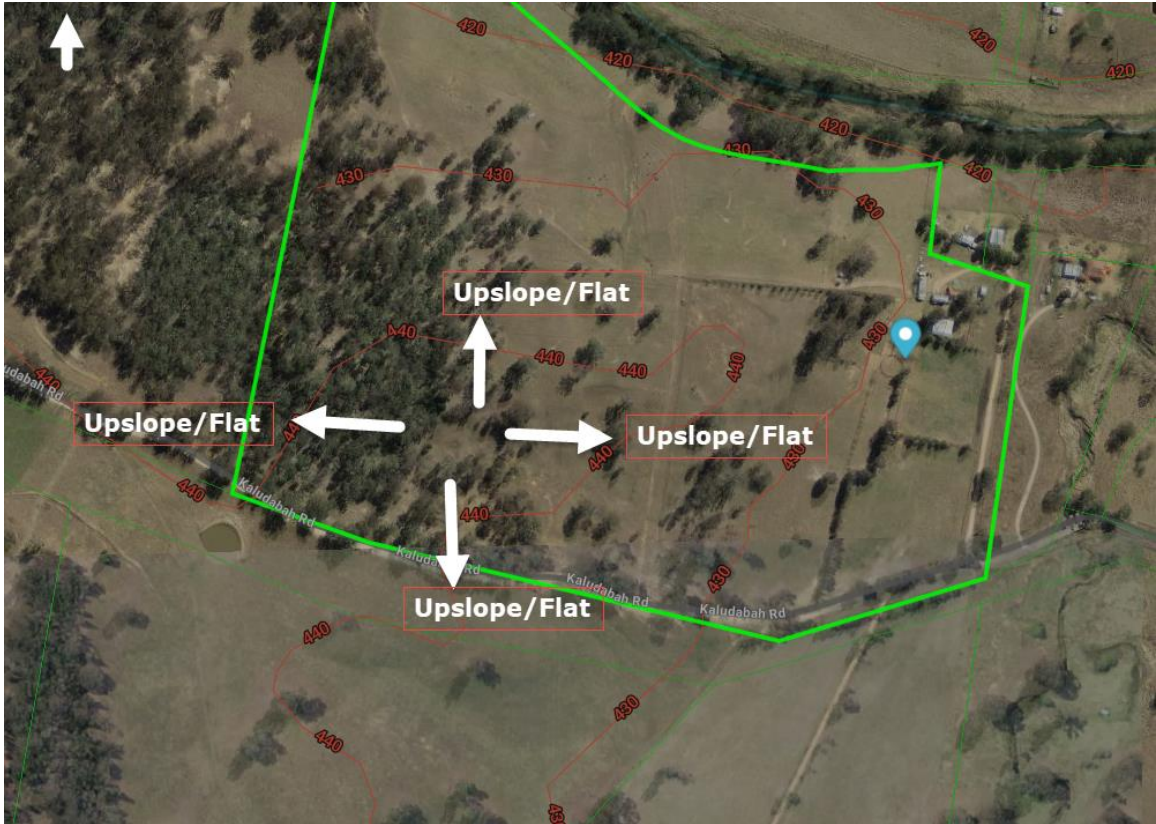


Image 4 – Degree of effective slope under hazardous vegetation (Mecone Mosaic 2023)

2.5 Asset Protection Zones

Asset Protection Zones are a fuel-reduced area surrounding a building or structure. It is located between the building or structure and the bushfire hazard and provides: a Buffer Zone between a bushfire hazard and an asset; an area of reduced bushfire fuel that allows for suppression of fire; an area from which backburning or hazard reduction can be conducted; and an area which allows emergency services access and provides a relatively safe area for firefighters and homeowners to defend their property.

The proposed dual occupancy dwelling will have an APZ of 20m in the Northern aspect to Woodland Classified Vegetation, 20m in the Southern aspect to Woodland Classified Vegetation, 20m in the Eastern aspect to Woodland Classified Vegetation and 20m in the Western aspect to Woodland Classified Vegetation.

These APZ's are made up of maintained land within the subject Lot which will be maintained as an Inner Protection Area (IPA) in perpetuity in accordance with guidelines outlined in Appendix 4 – APZ Requirements of PBP 2019. The APZs, in all aspects meets the intent of Section 3.2 – Asset Protection Zones and Section A1.10 – Low Threat Vegetation Exclusions and Appendix 4 – APZ Requirements of PBP 2019.

An IPA must meet the following requirements of Appendix 4 of PBP 2019.

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 2 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 should be provided; 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 should be kept mown and maintained in perpetuity (as a guide grass should be kept to no more than 100mm in height); and leaves and vegetation debris should be removed.

Direction/Aspect	Effective Slope	Distance to Hazard	Required by PBP Table A1.12.3	Vegetation Classification	Complies
Northern	Upslope/Flat	20m	11m	Woodland	Yes
Southern	Upslope/Flat	20m	11m	Woodland	Yes
Eastern	Upslope/Flat	20m	11m	Woodland	Yes
Western	Upslope/Flat	20m	11m	Woodland	Yes

Table 4 -APZ distances as required by Table A1.12.3 of PBP 2019 for LGAs with an FDI of 80.



Image 5 – Indicates the APZ distances from the proposed dual occupancy dwelling to Bushfire Hazardous bushfire vegetation (Google Earth 2023)

2.6 Compliance with AS 3959-2018

Based on the known Vegetation Classification, Distance from Vegetation (APZ), effective slope and FDI for the subject Lot, the BAL for the construction of a dual occupancy dwelling on the subject Lot can be determined in accordance with Table A1.12.6 of PBP 2019. The FDI for Mid-Western Regional Council LGA is 80.

The following BAL Rating has been determined for the proposed development on the subject Lot located at 66a Kaludabah Rd, Piambong, NSW 2850.

Aspect	Distance to Vegetation	Vegetation Classification	Slope in degrees	Construction Requirements AS3959-2018
North	20m	Woodland	Upslope/Flat	BAL-19
South	20m	Woodland	Upslope/Flat	BAL-19
East	20m	Woodland	Upslope/Flat	BAL-19
West	20m	Woodland	Upslope/Flat	BAL-19

Table 6 - Construction requirements of AS3959-2018.

The proposed construction of a dual occupancy dwelling has been found to be in the BAL-19 range and must comply with the construction standards outlined in Sections 3 & 6 of AS3959-2018 Construction of buildings in bushfire prone areas.

The final BAL Ratings for the proposed development has been found to be BAL-19 for all elevations.

The proposal will also require compliance with Section 7.5 – Additional Construction Requirements of PBP 2019. Therefore, any proposed deck, stairs, ramp, veranda, or landing are rated as BAL-29 in accordance with Section 7.5 of PBP 2019 and is to be constructed to meet the requirements outlined in Section 7 of AS3959-2018.

Section 7.5 – Additional Construction Requirements of PBP 2019 states, “*The following variations to AS 3959 apply in NSW for the purposes of NSW G5.2(a)(i) of Volume One and NSW 3.10.5.0(c)(i) of Volume Two of the NCC.*”

- *Clause 3.10 of AS 3959 is deleted and any sarking used for BAL-12.5, BAL-19, BAL-29 or BAL-40 shall: be non-combustible; or comply with AS/NZS 4200.1, be installed on the outside of the frame and have a flammability index of not more than 5 as determined by AS 1530.2.*
- *Clause 5.2 and 6.2 of AS 3959 is replaced by clause 7.2 of AS 3959, except that any wall enclosing the subfloor space need only comply with the wall requirements for the respective BAL.*
- *Clause 5.7 and 6.7 of AS 3959 is replaced by clause 7.7 of AS 3959, except that any wall enclosing the subfloor space need only comply with the wall requirements for the respective BAL”.*

PBP allows where more than one facade is exposed to a hazard, then the facade with the highest requirement is used to determine the appropriate level of construction. Other facades may be reduced by one level of construction unless that facade is also subject to the same level of bushfire attack. Should the highest level be BAL-12.5 then the entire site shall be deemed as BAL - 12.5.

3 Site Constraints

The subject Lot has been identified by the NSW Government and Mid-Western Regional Council to contain areas of vegetation identified as Terrestrial Biodiversity Vegetation. However, in my opinion this will not have a negative effect on the proposal being granted consent approval from council.

The subject Lot has not been identified by the NSW Government or Mid-Western Regional Council to contain any other cultural, historical, or other environmentally significant features on the subject Lot.

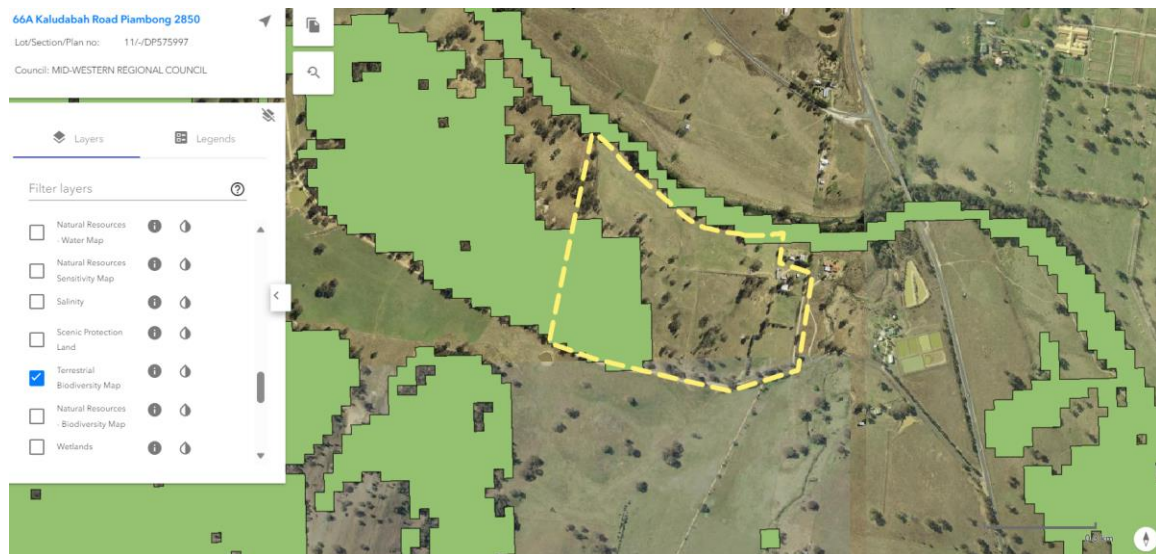


Image 6 – Indicates the areas of vegetation identified on the subject Lot identified as Terrestrial Biodiversity Vegetation (NSW Government 2023)

4 Compliance with the Performance Criteria of Table 7.4a PBP 2019

The following indicates that the proposed development complies/not complies with the Performance Criteria outlined in Table 7.4a of PBP 2019 for Residential Infill Development.

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
<p>Asset Protection Zones APZs are provided commensurate with the construction of the building; and A defensible space is provided.</p> <p>APZs are managed and maintained to prevent the spread of a fire to the building.</p> <p>The APZ is provided in perpetuity.</p>	<p>An APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of PBP 2019.</p> <p>APZs are managed in accordance with the requirements of Appendix 4 of PBP.</p> <p>APZs are wholly within the boundaries of the development site.</p>	<p>Complies – The APZs in the Northern, Southern, Eastern and Western aspects meet the required distances found in Table A1.12.3. for FDI-80 areas.</p> <p>Complies – The APZ is to be managed/maintained as an IPA within the subject Lot which meets the intent of Section 3.2 – Asset Protection Zones, A1.10 – Low Threat Vegetation Exclusions and Appendix 4 of PBP 2019. The IPA/APZ on the subject Lot will be managed in perpetuity and in accordance with Appendix 4 of PBP.</p> <p>Complies – the APZs are maintained within the subject Lot boundaries in perpetuity which meets the intent of Section 3.2 – Asset Protection Zones, A1.10 – Low Threat Vegetation Exclusions and Appendix 4 – APZ Requirements of PBP 2019.</p>

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
<p>The APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimized.</p>	<p>The APZs are located on lands with a slope less than 18 degrees.</p>	<p>Complies – The APZ of the proposed development is made up of maintained land within the subject Lot in all aspects which are all <18 degrees slope.</p>
<p>In relation to access/egress:</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>Property access roads are two-wheel drive, all-weather roads.</p> <p>The capacity of road surfaces and any bridges/ causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating.</p>	<p>Complies - The subject Lot has direct access to Kaludabah Rd to the South which is a two-wheel drive unsurfaced all weather surfaced road. The proposed dual occupancy dwelling will have access to Kaludabah Rd to the South, via a 4m wide unsurfaced two-wheel drive all-weather driveway approx. 110m in length, with a vertical clearance of at least 4m. The proposed driveway is partially through Woodland Classified Vegetation and a passing bay is not required as the driveway is not more than 200m in length and the proposed dual occupancy dwelling building footprint is <200m from Kaludabah Rd.</p> <p>Complies - The capacity of Kaludabah Rd, the unsurfaced two-wheel drive all-weather driveway and surrounding roads is enough to carry fully loaded firefighting vehicles (up to 23 tonnes).</p>

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
<p>There is appropriate access to water supply.</p> <p>Firefighting vehicles can access the dwelling and exit the property safely.</p>	<p>Reticulated water is to be provided to the development, where available; and a static water supply is provided where no reticulated water is available.</p> <p>There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles.</p>	<p>Complies – The subject Lot is not connected to reticulated mains pressure water supply and there are no fire hydrants located in the vicinity. Therefore, a non-combustible water tank with a minimum capacity of 20,000L is to be used as a primary water supply for firefighting. The tank will be sited away from the proposed dwelling, have a hard stand to allow access to within 4m of the tank and will have a 65mm Storz coupling fitted.</p> <p>Complies – The proposed dual occupancy dwelling building footprint can be accessed without placing emergency personnel in danger. The proposed dual occupancy dwelling will have access to Kaludabah Rd to the South, via a 4m wide unsurfaced two-wheel drive all-weather driveway approx. 110m in length, with a vertical clearance of at least 4m. The proposed driveway is partially through Woodland Classified Vegetation and a passing bay is not required as the driveway is not more than 200m in length and the proposed dual occupancy dwelling building footprint is <200m from Kaludabah Rd.</p>

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
<p>In relation to Water Supplies</p> <p>An adequate water supply is provided for firefighting purposes.</p>	<p>Reticulated water is to be provided to the development, where available; and a static water supply is provided where no reticulated water is available.</p>	<p>Complies - The subject Lot is not connected to reticulated mains pressure water supply and there are no fire hydrants located in the vicinity. Therefore, a non-combustible water tank with a minimum capacity of 20,000L is to be used as a primary water supply for firefighting. The tank will be sited away from the proposed dwelling, have a hard stand to allow access to within 4m of the tank and will have a 65mm Storz coupling fitted.</p>
<p>Water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations.</p>	<p>Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2021; hydrants are not located within any road carriageway; and reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.</p>	<p>N/A</p>
<p>Flows and pressure are appropriate.</p>	<p>Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021.</p>	<p>N/A</p>

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
<p>The integrity of the water supply is maintained.</p>	<p>All above-ground water service pipes external to the building are metal, including and up to any taps.</p>	<p>Complies - Any above-ground service pipes to the proposed dual occupancy dwelling, including taps, will be metal.</p>
<p>In relation to Electricity Supply: The Location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings.</p>	<p>Where practicable, electrical transmission lines are underground; and where overhead, electrical transmission lines are proposed as follows: lines are installed with short pole spacing (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</p>	<p>Complies - The proposed dual occupancy dwelling is to be provided with electricity via a supply which is clear of trees and branches.</p>
<p>In relation to Gas Supply: The location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings</p>	<p>Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used; all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.</p>	<p>Complies – The site is not connected to reticulated gas supply. Any gas connection to the proposed dual occupancy dwelling shall comply with AS/NZS 1596:2014.</p>

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
	<p>Connections to and from gas cylinders are metal.</p> <p>Polymer-sheathed flexible gas supply lines are not used; and above-ground gas service pipes are metal, including and up to any outlets</p>	
<p>In relation to Construction Standards:</p> <p>The proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact.</p>	<p>BAL is determined in accordance with Tables A1.12.5 to A1.12.7; and construction provided in accordance with the NCC and as modified by section 7.5 (please see advice on construction in the flame zone).</p>	<p>Complies - The proposed dual occupancy dwelling has been found to be in the BAL-19 range of AS3959-2018 and therefore must be constructed to meet the requirements outlined in Sections 3 & 6 of AS3959-2018 and Section 7.5 of PBP 2019.</p> <p>Therefore, any sarking used shall: be non-combustible; or comply with AS/NZS 4200.1, be installed on the outside of the frame, and have a flammability index of not more than 5 as determined by AS 1530.2. as required by Section 7.5 of PBP 2019. Furthermore, any proposed deck, veranda stairs, ramps or landing are rated BAL-29 and are to be constructed to meet the requirements outlined in Section 7 of AS3959-2019.</p>
<p>Proposed fences and gates are designed to minimise the spread of bushfire.</p>	<p>Fences and gates are constructed in accordance with section 7.6.</p>	N/A

Performance Criteria Section 7 PBP 2019	Acceptable Solution	Compliance
<p>Proposed Class 10a buildings are designed to minimise the spread of bushfire.</p>	<p>Class 10a buildings are constructed in accordance with section 8.3.2.</p>	<p>N/A</p>
<p>In relation to Landscaping: 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>Compliance with the NSW RFS ‘Asset protection zone standards’ (see Appendix 4); a clear area of low-cut lawn or pavement is maintained adjacent to the house; fencing is constructed in accordance with section 7.6; and trees and shrubs are located so that: the branches will not overhang the roof; the tree canopy is not continuous; and any proposed windbreak is located on the elevation from which fires are likely to approach</p>	<p>Complies – The APZ will be managed as an Inner Protection Area within the subject Lot in perpetuity in all aspects which meets the intent of Section 3.2 Asset Protection Zone, Section A1.10 – Low Threat Vegetation Exclusions and Appendix 4 of PBP 2019. The APZs meet the standards outlined in Appendix 4 of PBP 2019 in relation to APZ Standards.</p> <p>The proposed dual occupancy dwelling building footprint is in a clear area with no trees or shrubs in the vicinity.</p>

Table 6 – Performance Criteria of Table 7.4a of PBP 2019

5 Recommendations

- 1- The construction of a dual occupancy dwelling has been found to be in the BAL-19 range and is recommended to be constructed to comply with the standards outlined in Sections 3 & 6 of AS3959-2018.
- 2- Any sarking used shall: be non-combustible; or comply with AS/NZS 4200.1, be installed on the outside of the frame, and have a flammability index of not more than 5 as determined by AS 1530.2. as required by Section 7.5 of PBP 2019.
- 3- Any proposed deck, stairs, ramps, veranda, or landings are to be constructed to the standards outlined in Section 7 of AS3959-2018 for BAL-29 as required by Section 7.5 of PBP 2019.
- 4- It is recommended that a minimum 20,000L capacity non-combustible water tank be used as a primary firefighting water supply. The tank must have a connection for firefighting purposes and is to be located within the IPA or non-hazard side and away from the structure; a 65mm Storz outlet with a ball valve is to be fitted to the outlet; ball valve and pipes are adequate for water flow and are to be metal; supply pipes from tank to ball valve have the same bore size to ensure flow volume and; a hardened ground surface for truck access is supplied within 4m of the tank.
- 5- All above ground water pipes external to the proposed dual occupancy dwelling are to be metal including and up to any taps.
- 6- Any gas connection to the proposed dual occupancy dwelling is to be installed and maintained in accordance with AS1596, metal piping should be used.
- 7- The Asset Protection Zone is to be maintained as an Inner Protection Area on the subject Lot. The vegetation selections for landscaping, vegetation management and property management should be in accordance with Appendix 4 PBP 2019 and the RFS document "Standards for Asset Protection". The APZs are to be maintained to 20m in the Northern aspect, 20m in the Southern aspect and 20m in the Eastern aspect and 20m in the Western aspect of the proposed dual occupancy dwelling.
- 8- A Static Water Supply (SWS) sign be sourced from the local RFS Station at Bulahdelah and be placed at the front entrance to the subject Lot.
- 9- It is recommended that a Bushfire Emergency Plan be developed for the proposed dual occupancy dwelling and existing dwelling.

It is recommended that Mid-Western Regional Council and the NSW Rural Fire Service approve the construction of a dual occupancy dwelling on the subject Lot located at 66a Kaludabah Rd, Piambong. NSW 2850 in respect to Bushfire Requirements.

6 Conclusion

The proposed construction of a dual occupancy dwelling on the subject Lot located at 66a Kaludabah Rd, Piambong, NSW 2850 can meet the planning requirements of *Planning for Bushfire Protection* 2019 and, are capable of meeting Australian Standard AS3959-2018 and the *Building Code of Australia* in relation to construction standards.

The subject Lot is not classified as being within any Category 1, 2 or 3 Bushfire Hazard Vegetation Buffer Zone as per the Mid-Western Regional Council LGA Bushfire Prone Land Map. However, it is apparent that the subject Lot contains hazardous bushfire vegetation and therefore, is to be assessed under Section 4.14 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The distances to hazardous bushfire vegetation, from the proposed dual occupancy dwelling, are 20m in the Northern aspect to Woodland Classified Vegetation, 20m in the Southern aspect to Woodland Classified Vegetation and 20m in the Eastern aspect to Woodland Classified Vegetation and 20m in the Western aspect to Woodland Classified Vegetation.

The BAL for the construction of the dual occupancy dwelling was determined from Table A.1.12.3 of PBP 2019, for LGAs with an FDI of 80, to be in the BAL-19 range of AS3959-2018. Therefore, the proposed dual occupancy dwelling is to be constructed to meet the requirements outlined in Sections 3 & 6 of AS3959-2018.

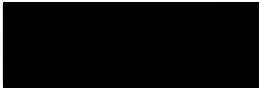
The proposed dual occupancy dwelling must also meet the construction standards outlined in Section 7.5 – Additional Construction requirements of PBP 2019. Therefore, any proposed deck, stairs, veranda, ramp, or landing are required to be constructed to meet the requirements outlined in Section 7 of AS3959-2018 for BAL-29.

Furthermore, any sarking used shall: be non-combustible; or comply with AS/NZS 4200.1, be installed on the outside of the frame, and have a flammability index of not more than 5 as determined by AS 1530.2. as required by Section 7.5 of PBP 2019.

The required Asset Protection Zones determined from Table A.1.12.3 of PBP 2019 exceed the requirements. The proposal has Asset Protection Zones in all aspects made up from an Inner Protection Area on the subject Lot which meets the intent of Section 3.2 Asset Protection Zones and Appendix 4 – APZ Requirements of PBP 2019. The APZ will be maintained in perpetuity and in accordance with Appendix 4 – APZ Requirements of PBP 2019.

In accordance with the bushfire measures contained with this report and the site-specific assessment as per Appendix 1 of PBP 2019, it is my opinion that combined will provide a satisfactory level of bushfire safety to the property and satisfies the requirements of the RFS and Councils obligations for this area.

Prepared by Steve Brooks



BPAD - Certification No. 40765

Graduate Diploma Bushfire Planning and Design (UWS)

Graduate Certificate in Fire Investigation (CSU)



References

- Australian Building Codes Board (ABCB), 2022, *Building Code of Australia*, Volume 2, Canberra.
- Keith David, 2004, *Ocean Shores to Desert Dunes: the native vegetation of NSW and the ACT*, Dept of Environment and Conservation, NSW Government.
- Environmental Planning and Assessment Act 1979. NSW Government
- NSW Rural Fire Service, 2019, *Planning for Bushfire Protection*. Sydney
- NSW Rural Fire Service, 2023, website – www.rfs.nsw.gov.au :
- Standards Australia, AS 3959-2018 *Construction in Bushfire Prone Areas* SAI Global, Melbourne.
- NSW Government E-Planning Spatial Viewer 2023
- NSW Government Six Maps 2023
- Mecone Mosaic Mapping 2023
- Google Earth 2023

Appendix 1
Site Photos



Photo 8 – Indicates Kaludabah Rd looking West (Sonya Robinson 2023)



Photo 9 - Indicates the proposed access from Kaludabah Rd (Sonya Robinson 2023)



Photo 10 - Indicates the proposed access driveway from Kaludabah Rd (Sonya Robinson 2023)