DAVID PENSINI
Building Certification and
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BUSHFIRE HAZARD ASSESSMENT

PROPOSED RURAL SUBDIVISION

LOT 52 DP 831604
395 CEDAR PARTY ROAD &
LOT 2 DP 5952 CAREY ROAD,
WINGHAM

CLIENT: J CAREY

DECEMBER 2024

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This report has been prepared by David Pensini - Building Certification and Environmental Services with all reasonable skill, care and diligence for J Carey.

The information contained in this report has been gathered from discussions with representatives of J Carey, a review of the plans provided by J Carey.

No inspection or assessment has been undertaken on other aspects of the proposed development outside the scope of this report.

This report does not imply, nor should it be implied, that the proposed building design will comply fully with relevant legislation.

The report shall not be construed as relieving any other party of their responsibilities or obligations.

David Pensini - Building Certification and Environmental Services disclaims any responsibility to J Carey and others in respect of any matters outside the scope of this report.

The report is confidential, and the writer accepts no responsibility of whatsoever nature, to third parties who use this report, or part thereof is made known. Any such party relies on this report at their own risk.

For and on behalf of David Pensini - Building Certification and Environmental Services.

Prepared by: *David Pensini*

Signed:

Dated: *19th December 2024*

Version	**Date**	**Information relating to report**			
1.0	4th December 2024	**Reason for Issue**	Draft		
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			Prepared by	**Verified by**	**Approved by**
		Name	David Pensini		David Pensini
		Signature			

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1.0 INTRODUCTION

The subject site is currently known as Lot 52 DP 831604, 395 Cedar Party Road and Lot 2 DP 595259, 70 Carey Road, Wingham.

It is proposed to subdivide the subject site to provide for five (5) separate rural allotments. It is noted that each of the proposed lots will be capable of supporting separate residential occupation and rural use.

The report is based on a site assessment carried out on 22nd November 2024.

This report is to demonstrate that the bushfire risk is manageable for the proposed rural subdivision and to determine the bushfire protection management measures which would be applicable to the subject site and proposed lots.

The development is an integrated development and has a requirement for a Bush Fire Safety Authority (BFSA) under Section 100B of the *Rural Fires Act, 1997*.

NOTE

The report has been prepared with all reasonable skill, care and diligence.

The information contained in this report has been gathered from field survey, experience and has been completed in consideration of the following legislation.

- *Rural Fires Act, 1997.*
- *Environmental Planning and Assessment Act, 1979.*
- *National Construction Code.*
- *Council Local Environment Plans and Development Control Plans where applicable.*
- *NSW Rural Fire Services, Planning for Bushfire Protection, 2019.*
- *AS 3959 - 2018 Construction of Buildings in Bushfire Prone Areas.*

The report recognizes the fact that no property and lives can be guaranteed to survive a bushfire attack. The report examines ways the risk of bushfire attack can be reduced where the site falls within the scope of the legislation.

The report is confidential, and the writer accepts no responsibility of whatsoever nature, to third parties who use this report or part thereof is made known. Any such party relies on this report at their own risk.

This report has been based upon the vegetation characteristics observed at the time of site inspection. No responsibility is taken where the vegetation characteristics of the subject site or surrounding areas is changed or modified beyond that which is presented within this report.

1.1 Objectives

The objectives of this report are to:

- Ensure that the proposed rural subdivision of the land has measures sufficient to minimize the impact of bushfires; and

- Reduce the risk to property and the community from bushfire.

1.2 Legislative Framework

On 1st August 2002 the Environmental Planning and Assessment Act 1979 and the Rural Fires Act 1997 were both amended to enhance bush fire protection through the development assessment process.

In broad terms, the planning considerations provide two main steps. These involve:

(a) Strategic Planning through:

• the mapping of bush fire prone.
• determining suitable bush fire requirements during the preparation of a Local Environmental Plan and/or Development Control Plan; and
• the identification of the extent to which land is bushfire prone.

(b) Development assessment through:

• obtaining a bush fire safety authority for residential or rural-residential subdivision and special fire protection purpose developments in bushfire prone areas from the Rural Fire Service (RFS); and

• seeking advice from the RFS in relation to infill and other developments in bushfire prone areas that cannot comply with the requirements of NSW Rural Fire Service**, *Planning for Bushfire Protection***, 2019; and

• the application of additional requirements of the National Construction Code (NCC) in relation to construction standards for Class 1, 2, 3, 4 and some Class 9 buildings in bushfire prone areas.

It is noted that this report focuses upon the strategic planning processes associated with the proposed subdivision of the subject site.

1.2.1 Planning for Bushfire Protection Guideline 2019

It is noted that NSW Rural Fire Services, ***Planning for Bushfire Protection***, 2019 provides the current bushfire threat management standards which are applicable in NSW.

NSW Rural Fire Services, ***Planning for Bushfire Protection***, 2019 provides the development standards for designing and building on BFPL in New South Wales (NSW) as follows:

- *strategic land use planning to ensure that new development is not exposed to high bush fire risk.*
- *specific provisions for creating new residential and rural residential subdivision allotments.*
- *specific provisions for special fire protection purpose (SFPP) development taking account of occupant vulnerability.*
- *bush fire protection measures (BPMs) for new buildings.*
- *guidance in upgrading and maintaining existing development.*

The general principles underlying NSW Rural Fire Services, ***Planning for Bushfire Protection***, 2019 are that:

- *BPMs are required to reduce the impact of a bush fire.*
- *protection measures are governed by the degree of threat posed to a development and the vulnerability of occupants.*
- *reducing the interface of a development to the hazard reduces the bush fire risk to the development.*
- *good practice in planning, building and management reduces the risk to developments and their occupants and increases their resilience*.

(i) Objectives for Residential Subdivision Developments

The specific objectives for residential subdivision developments as provided for by NSW Rural Fire Service, ***Planning for Bushfire Protection***, 2019 are to**:**

- *minimise perimeters of the subdivision exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided).*
- *minimise vegetated corridors that permit the passage of bush fire towards buildings.*

- *provide for the siting of future dwellings away from ridge-tops and steep slopes, within saddles and narrow ridge crests.*
- *ensure that separation distances (APZs) between a bush fire hazard and future dwellings enable a radiant heat level not to exceed 29kW/m².*
- *ensure the ongoing maintenance of APZs.*
- *provide adequate access from all properties to the wider road network for residents and emergency services.*
- *provide access to hazard vegetation to facilitate bush fire mitigation works and property protection; and*
- *ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.*

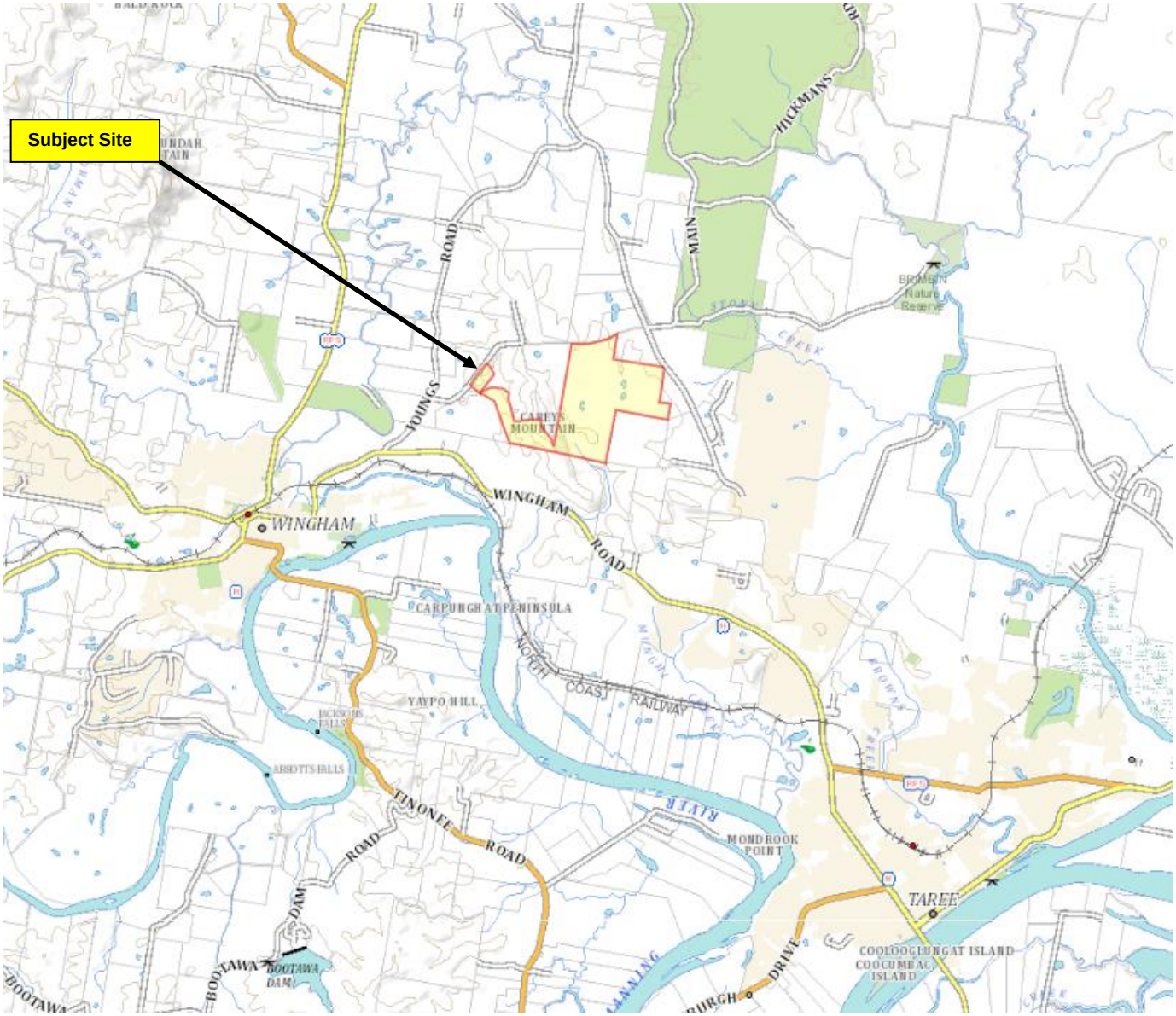
It is noted that the proposed subdivision is consistent with the relevant objectives together with the relevant acceptable solutions/standards which are applicable to the subdivision of the subject site.

1.3 Location and Site Description

The subject site currently comprises two (2) separate Torrens Title allotments of land which are currently known as Lot 52 DP 831604, 395 Cedar Party Road and Lot 2 DP 595259, 70 Carey Road, Wingham, refer to **Appendix 1**.

The subject site is situated within the Midcoast Council Local Government Area approximately 7.1km to the northwest of the Taree Central Business District (CBD) and approximately 2.6km to the northeast of the township of Wingham, refer to **Figure 1** below.

Figure 1 - Site Location

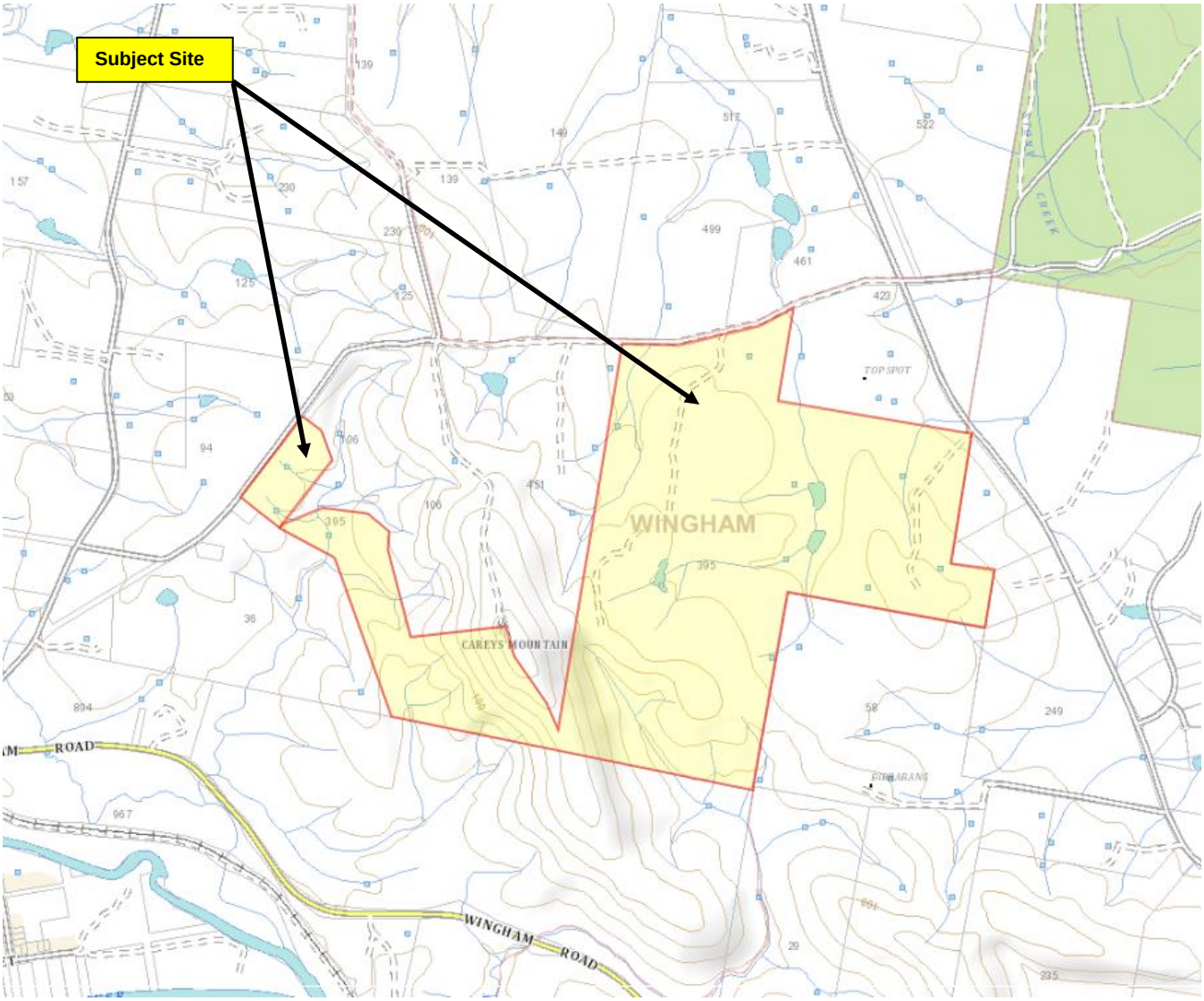


The subject site is set in a rural landscape with the character and amenity of the area being dominated by large rural allotments of land. Rural allotments adjoin or are adjacent to the subject site in all aspects.

Areas of the Yarratt State Forest are present at distance to the northeast of the subject site.

The subject site is irregular in shape with the total size of the subject site being some 172 hectares, refer to **Figure 2** below.

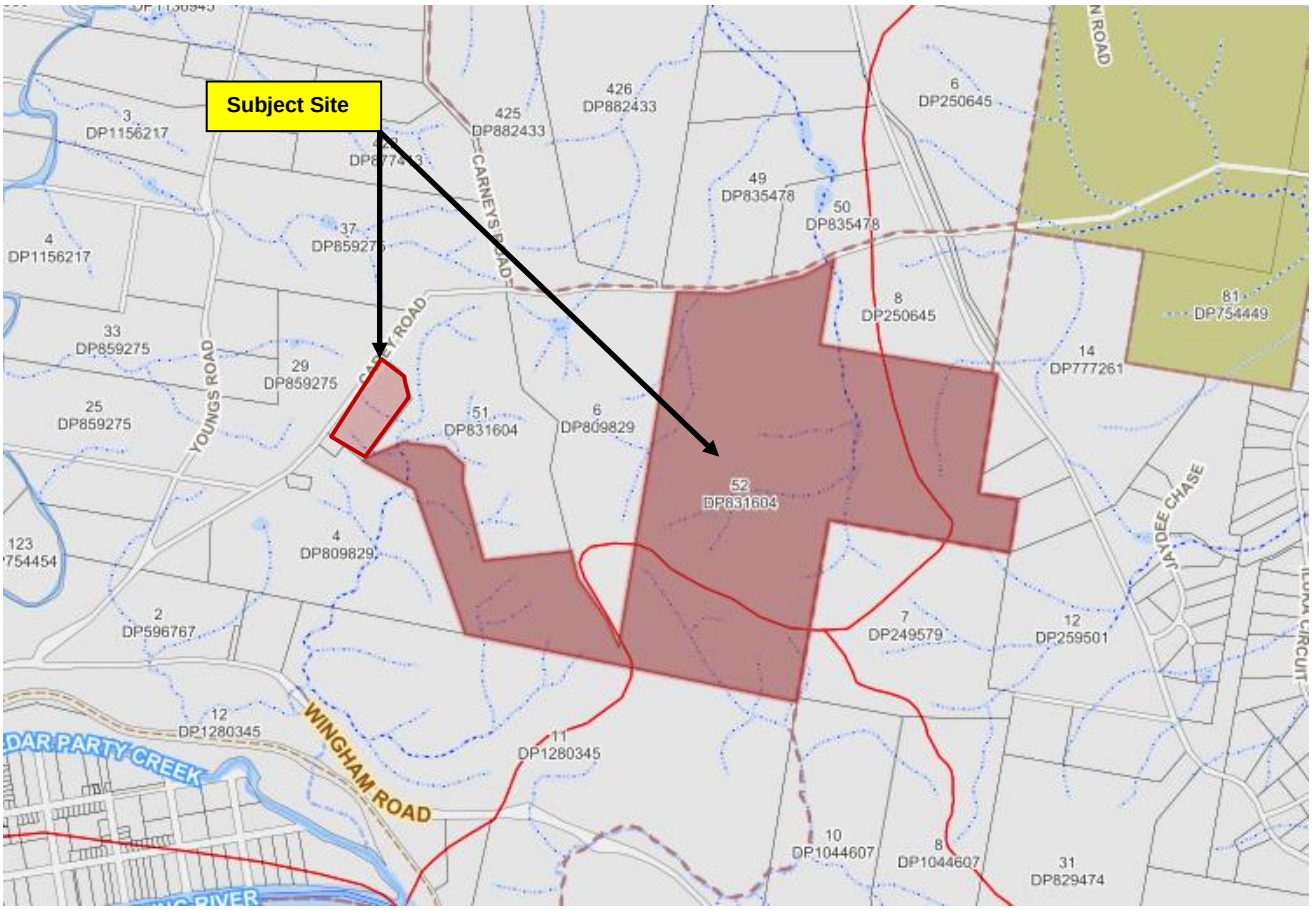
Figure 2 – Subject Site



The Manning River is the main hydraulic feature of the area with the meander of the river present at distance to the south/southwest of the subject site. The Dawson River is also present at a distance of approximately 3.4km to the east of the subject site.

Several small intermittently flowing creeks/gullies are also present on and adjacent to the subject site with the beds of the intermittently flowing creeks/gullies defining localized transitions in slope characteristics and conditions. Several farm dams are also present on the subject site with these dams being located along the flow paths of the intermittently flowing creeks/gullies which are present on the subject site. The main surface water features of on the subject site and adjoining and adjacent land is shown in **Figure 3**.

Figure 3 – Surface Water Features



Access to the subject site is gained via Cedar Party Road which is present adjacent to the far eastern boundary of the subject site. Access to the subject site is also available to and from Carey Road which adjoins the subject site along the eastern portion of the northern boundary of the subject and along portion of the western boundary of the site. Access to the improvements within the subject site involves the use of several existing gravel property access roads which connect with Cedar Party Road and Carey Road.

Given the extensive area of the subject site, the topography of the land is variable with undulating topography present on the subject site and adjoining and adjacent land. Slopes in the locality are however in the main influenced by the presence of a large hill, the crest of which is located adjacent to the central portion of the southern boundary of the subject site with northerly, northeasterly and easterly downslope conditions dominating in the eastern and central parts of the subject site with westerly downslope conditions prevailing over the majority of the western portion of the subject site. It is noted that slope conditions transition to upslopes conditions in the far western portion of the subject site with this transition reflecting the presence of an intermittently flowing creek/gully in this aspect. Slope conditions are steep on the side slopes of the predominant hill feature with slope conditions becoming gentler with distance from the hill crest. Gentler downslope conditions predominate on adjoining and adjacent land to the north, east and west whilst steeper slopes continue to the south of the subject site.

Areas of grasslands with scattered and clusters of trees are present in the central northern, southern central, eastern and far western portions of the subject site, whilst the remaining areas of the subject site contain area of Wet Sclerophyll Forest. A small area of Forested Wetland vegetation is indicated as being present in the far western portion of the subject site whilst an area of Rainforest vegetation is also shown to be present in the western central portion of the subject site. Vegetation on adjoining and adjacent land is mixed with areas of grassland with scattered and clusters of trees, areas of forest vegetation with a riparian context and function and areas of Wet Sclerophyll Forest present on adjoining and adjacent land with

small areas of Forested Wetland and Rainforest vegetation present on adjoining land to the north of the western portion of the subject site.

The closest Fire Service is located within Wingham approximately 3.1km to the southeast of the subject site, (Wingham NSW Fire and Rescue Brigade), whilst the closest fire control centre is located in Taree.

1.4 Site History

The subject site is irregular in shape; refer to **Figure 2** above, and has an area of some 172 hectares.

Areas of the subject site have been cleared of native vegetation in conjunction with the obvious history of active rural uses with grazing activities being noted. It is however noted that due to its small size, (5.664 hectares), the area of land known as Lot 2 DP 595259, 70 Carey Road, Wingham has a more recent history of supporting the rural residential occupation and use of the land.

The use and occupation of the land is supported by the presence of a residential dwelling and associated buildings and infrastructure on each of the two (2) lots which comprise the subject site. A number of ancillary buildings and infrastructure are also present on the subject site in conjunction with each of the existing dwellings.

Existing dwelling on Lot 52 DP 831604, 395 Cedar Party Road, Wingham

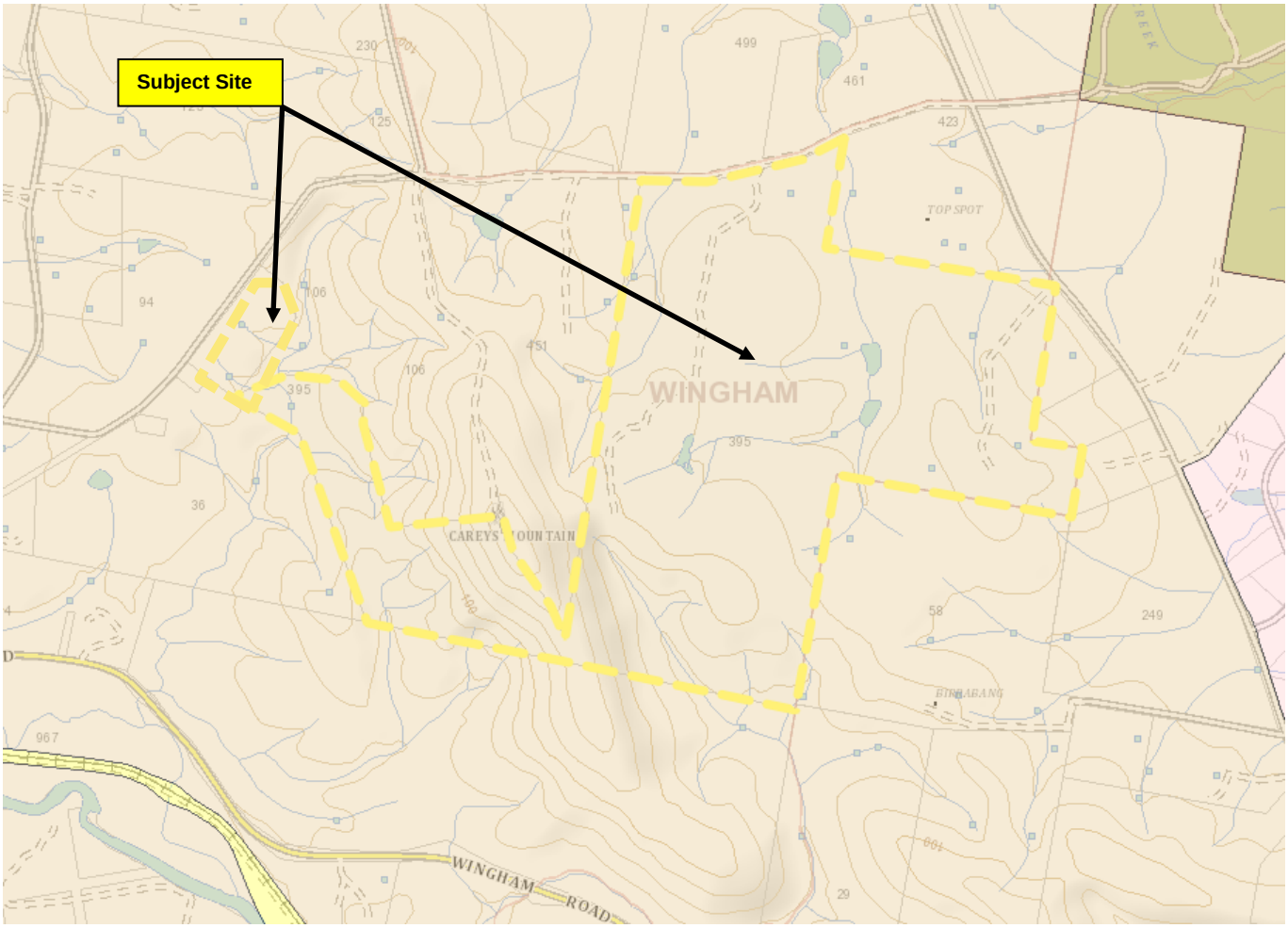
Existing dwelling on Lot 2 DP 595259, 70 Carey Road, Wingham

It is likely that Lot 52 DP 831604, 395 Cedar Party Road has been used for farming and agricultural activities for a considerable period of time, (>80 years), whilst as mentioned previously due to its small size, (5.664 hectares), the area of land known as Lot 2 DP 595259, 70 Carey Road, Wingham has a more recent history of supporting the rural residential occupation and use of the land.

The locality of the subject site has and will continue to be characterized by predominately rural land uses. Active agricultural land uses were noted on adjoining and adjacent land.

The subject site is zoned Rural - Primary Production (RU1) in accordance with Greater Taree Local Environmental Plan, 20110. Land with a Rural - Primary Production (RU1) zoning is present in all aspects, refer to **Figure 4**.

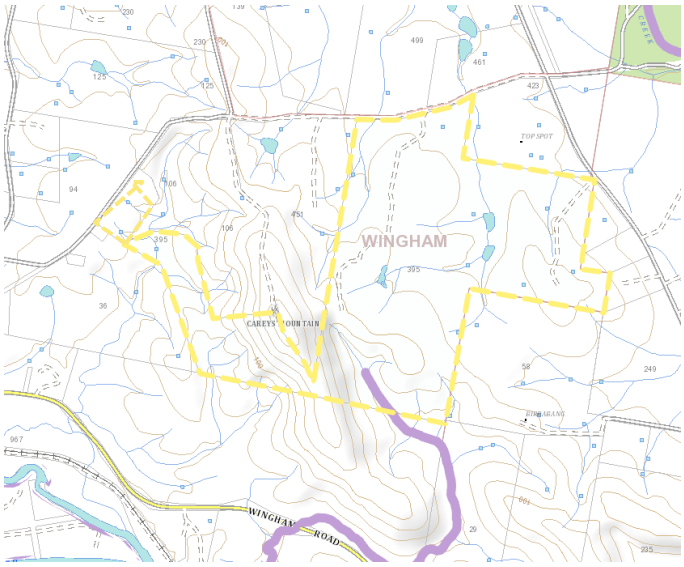
Figure 4 – Land Use Zoning



The major environmental and heritage features of the subject site are summarized as follows.

Table 1 – Environmental and Heritage Features

ENVIRONMENTAL/HERITAGE FEATURE	COMMENT
Riparian corridors	Whilst some riparian corridors are present on the subject site these corridors will not be affected by the proposed development.
SEPP (Resilience and Hazards), 2021	The subject site is not identified as being subject to the provisions of the SEPP.
SEPP (Biodiversity Conservation), 2021	Given the nature of the proposed development, (subdivision), and the presence of cleared areas on the subject site in which to accommodate the future residential occupation of the proposed lots, the provisions of the SEPP are not considered to be relevant in the circumstances. The assessment of this issue is however outside the scope of this report. It is noted that the subject site is mapped as having areas of biodiversity values however given the presence of cleared areas on the subject site in which to accommodate the future residential occupation of the

	proposed lots the areas nominated as having biodiversity values will not be affected by the proposed development.  ***Biodiversity Values Mapping***
Areas of geological interest	The subject site is not located on land of specific geological interest. Based upon the nature of use of the subject site it is considered that land contamination issues would not be an impediment to the proposed development.
Environmental protection zones	There are no environmental protection zones which are of relevance to the subject site or adjoining and adjacent land.
Land slip	Given the gentle to moderate slope conditions which are present in the areas of the subject site which are nominated for future residential occupation and use, land slip is not considered to be an issue for the subject site and proposed development.
Flood prone land	The subject site is not identified as being flood prone land and accordingly the flood planning provisions of Greater Taree LEP, 2010 are not applicable to the subject site.
Bushfire Prone Land	The subject site is identified as being Bush Fire Prone Land, refer to Section 2.2 of this report.
National Park Estate or other Reserves	The subject site does not form part of the National Park Estate or other Reserves.
Threatened species, populations, endangered ecological communities and critical habitat	Threatened species, populations, endangered ecological communities and critical habitat are unlikely to be present due to the existing level of site disturbance which has occurred to date in the areas nominated for future residential occupation and use. Ecological issues are not considered to be an issue for the subject site and proposed development.

	The assessment of this issue is however outside the scope of this report.
Aboriginal Heritage	Items of aboriginal heritage are unlikely to be present on the subject site, in the area of the proposed development, due to the existing level of site disturbance which has occurred to date. The assessment of this issue is however outside the scope of this report.

1.5 Development Proposal

It is proposed to subdivide the subject site so as to create five (5) separate Torrens Title rural allotments, refer to **Appendix 2**.

The proposed lot sizes are as follows.

Table 2 - Proposed Lot Sizes

PROPOSED LOT	SIZE
Lot 101	5.25 hectares
Lot 102	42.83 hectares
Lot 103	41.34 hectares
Lot 104	40.19 hectares
Lot 105	42.39 hectares

Proposed Lot 101 will occupy the far western portion of the subject site and encompass the majority of existing Lot 2 DP 595259, 70 Carey Road, Wingham with Carey Road continuing to be present along the western boundary of the proposed lot. The proposed lot will contain the existing dwelling and associated infrastructure which occupies Lot 2 DP 595259, 70 Carey Road, Wingham. Access to the improvements on the proposed lot will remain unchanged from that which currently exists with a short property access road connecting with Carey Road.

Proposed Lot 102 will encompass a narrow southern portion of existing Lot 2 DP 595259, 70 Carey Road, Wingham together with the far western portion of Lot 52 DP 831604, 395 Cedar Party Road, Wingham. The narrow southern portion of existing Lot 2 DP 595259, 70 Carey Road, Wingham provides for an access handle to the proposed lot from Carey Road. The proposed lot will be generally vacant of improvements. A building site/envelope is nominated as being present in the far western portion of the proposed lot. Access to the proposed lot being via Carey Road.

Proposed Lot 103 will occupy the central western portion of Lot 52 DP 831604, 395 Cedar Party Road, Wingham. The proposed lot will be generally vacant of improvements. A building site/envelope is nominated as being present in the far northern portion of the proposed lot. Access to the proposed lot will be via frontage to Carey Road which will adjoin the proposed lot along its northern boundary.

Proposed Lot 104 will occupy the central eastern portion of Lot 52 DP 831604, 395 Cedar Party Road, Wingham. The proposed lot will be generally vacant of improvements. A building site/envelope is nominated as being present in the far northern portion of the proposed lot. Access to the proposed lot will be via frontage to Carey Road which will adjoin the proposed lot along its northern boundary.

Proposed Lot 105 will occupy the far eastern portion of Lot 52 DP 831604, 395 Cedar Party Road, Wingham. The proposed lot will contain the existing dwelling and associated infrastructure which occupies Lot 52 DP 831604, 395 Cedar Party Road, Wingham. Access to the improvements on the proposed lot will remain unchanged from that which currently exists with a gravel property access road connecting with Cedar Party Road which will continue to adjoin the far northern portion of the eastern boundary of the existing allotment.

1.6 Fauna and Flora Issues

A fauna and flora evaluation has not been undertaken in conjunction with this bushfire hazard assessment and as such issues pertaining to fauna and flora are outside the scope of this report.

2.0 BUSHFIRE HAZARD ASSESSMENT

2.1 Assessment Methodology

Several factors need to be considered in determining the bushfire hazard for the subject site. These factors are slope, vegetation type, and distance from hazard, access/egress and fire weather. Each of these factors has been reviewed in determining the bushfire protection measures which are applicable to the subject site and proposed development.

An assessment of the slopes and vegetation structures on and surrounding the subject site was carried out by David Pensini - Building Certification and Environmental Services on 22nd November 2024.

The assessment of slope and vegetation being carried out in accordance with Appendix 1 of NSW Rural Fire Service, ***Planning for Bushfire Protection***, 2019
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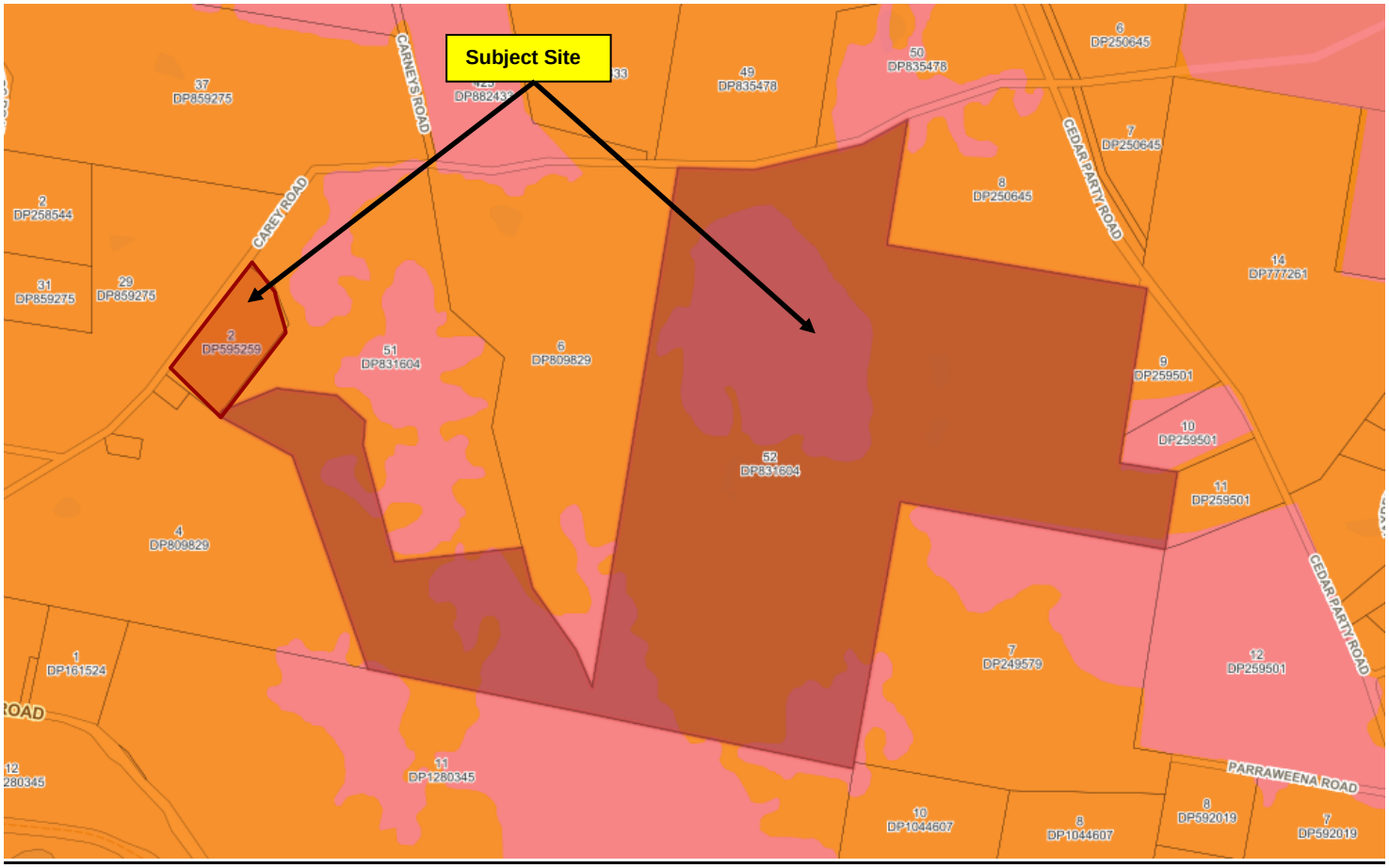
2.2 Hazard Vegetation

Bushfire Prone Land Risk Mapping for the locality provides that areas of Category 3 hazard vegetation are present within much of the subject site and on adjoining and adjacent land although areas of Category 1 bushfire hazard vegetation are also shown to located in the central northern and western portions of the subject site as well as on adjoining and adjacent land to the northeast, northwest, south and southeast of the subject site, refer to **Figure 5**.

Figure 5 - Bushfire Prone Land Mapping



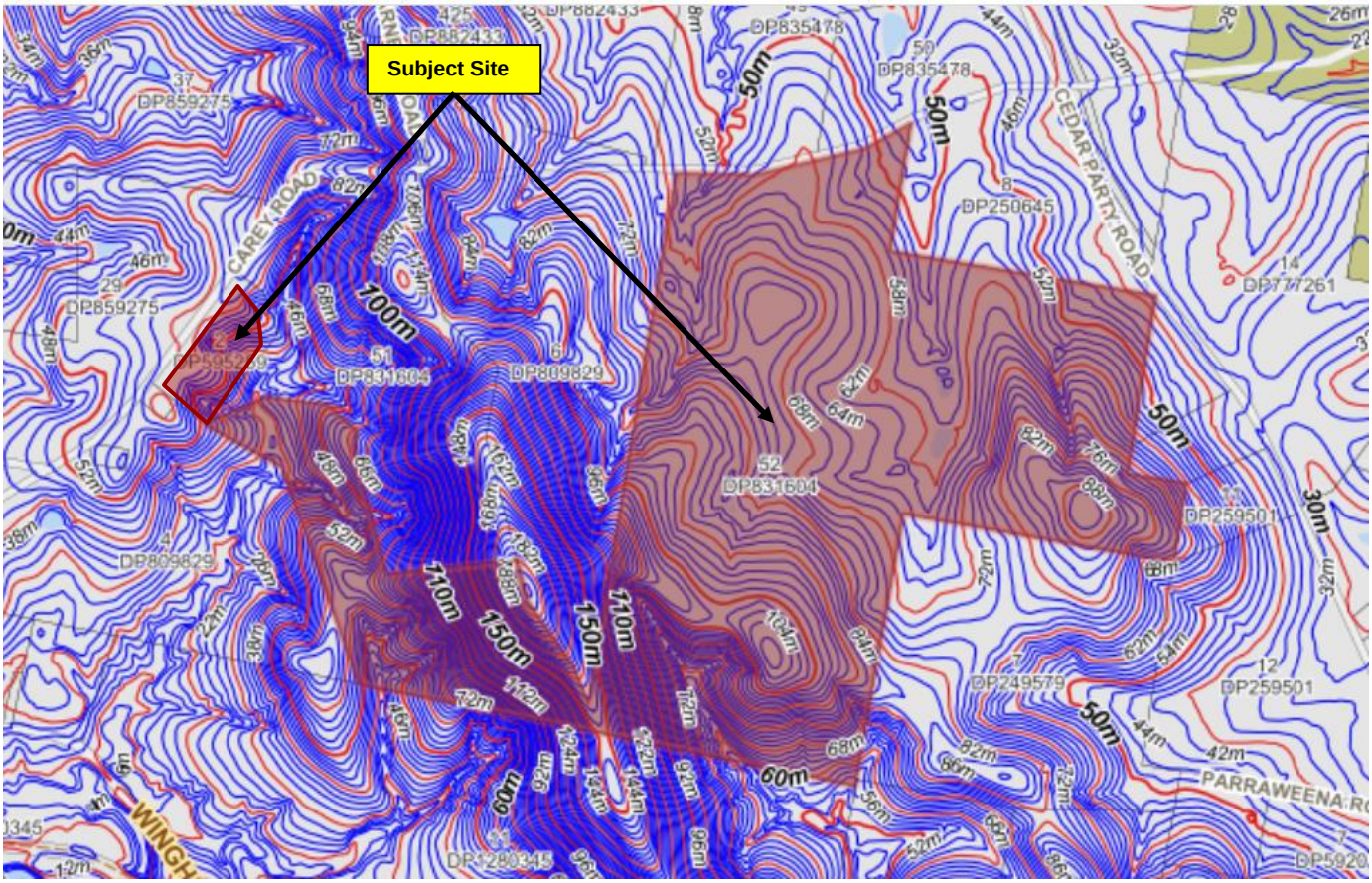
2.3 Slope Assessment

Slope is a major factor to consider when assessing the bushfire hazard of the proposed subdivision. Therefore the slope of the subject site and surrounding area, (to a distance of 100m), was measured using a Suunto PM-5/360 PC Clinometer.

Given the extensive area of the subject site, the topography of the land is variable with undulating topography present on the subject site and adjoining and adjacent land. Slopes in the locality are however in the main influenced by the presence of a large hill, the crest of which is located adjacent to the central portion of the southern boundary of the subject site with northerly, northeasterly and easterly downslope conditions dominating in the eastern and central parts of the subject site with westerly downslope conditions prevailing over the majority of the western portion of the subject site. It is noted that slope conditions transition to upslopes conditions in the far western portion of the subject site with this transition reflecting the presence of an intermittently flowing creek/gully in this aspect. Slope conditions are steep on the side slopes of the predominant hill feature with slope conditions becoming gentler with distance from the hill crest. Gentler downslope conditions predominate on adjoining and adjacent land to the north, east and west whilst steeper slopes continue to the south of the subject site.

The topographic features of the subject site and adjoining land which are relevant to the likely future location of residential dwellings is shown in **Figure 6** below.

Figure 6 – Topographic Features



Given the nature of the proposed development, (rural subdivision), the determination of slope conditions was focussed upon identifying the worst-case slope conditions which would be relevant to bushfire attack on the existing and future dwellings on each of the proposed lots.

Therefore the following table indicates the slopes which have been adopted for the purposes of this bushfire hazard assessment.

Table 3 – Hazard Vegetation Slopes

HAZARD	SLOPE RANGE	UPSLOPE/DOWN SLOPE
Proposed Lot 101 (Existing Dwelling)		
North	6˚ - 7˚	Down slope
South	9˚ - 10˚	Down slope
East	14˚ - 15˚	Down slope
West	2˚ - 3˚	Down slope
Proposed Lot 102 (Proposed Vacant Lot)		
North	14˚ - 15˚**	Down slope
South	9˚ - 10˚	Down slope
East	6˚ - 7˚	Down slope
West	9˚ - 10˚ (0˚)	Upslope

Proposed Lot 103 (Proposed Vacant Lot)		
North	4˚ - 5˚	Down slope
South	3˚ - 4˚ (0˚)	Upslope
East	2˚ - 3˚	Down slope
West	2˚ - 3˚	Down slope
Proposed Lot 104 (Proposed Vacant Lot)		
North	2˚ - 3˚	Down slope
South	2˚ - 3˚	Down slope
East	2˚ - 3˚	Down slope
West	2˚ - 3˚ (0˚)	Upslope
Proposed Lot 105 (Existing Dwelling)		
North	9˚ - 10˚	Down slope
South	5˚ - 6˚	Down slope
East	6˚ - 8˚	Down slope
West	5˚ - 6˚	Down slope

*****Note: worst case slope condition due to steeper slope conditions associated with gully. More detailed assessment could provide for reduced slope conditions in this aspect.***

All the above slopes were considered when assessing the required Asset Protection Zones and Bushfire Attack Levels for the existing and future residential buildings on each of the proposed lots.

2.4 Vegetation Assessment

The vegetation on and surrounding the subject site was assessed over a distance of 140m from the proposed development.

The vegetation formations were classified using the system adopted as per Keith (2004) and in accordance with Appendix 1 of NSW Rural Fire Service, ***Planning for Bushfire Protection***, 2019.

2.4.1 Vegetation within Subject Site

Areas of Grassland with scattered and clusters of trees are present in the central northern, southern central, eastern and far western portions of the subject site, whilst the remaining areas of the subject site contain area of Wet Sclerophyll Forest.

A small area of Forested Wetland vegetation is indicated as being present in the western portion of the subject site whilst an area of Rainforest vegetation is also shown to be present in the western central portion of the subject site although the presence of these vegetation types was not confirmed by visual inspection.

2.4.2 Vegetation on Adjoining and Adjacent Land to Subject Site

Vegetation on adjoining and adjacent land is mixed with areas of grassland with scattered and clusters of trees, riparian vegetation and areas of Wet Sclerophyll Forest present on adjoining and adjacent land with small areas of Forested Wetland and Rainforest present on adjoining land to the north of the western portion of the subject site although the presence of these vegetation types was not confirmed by visual inspection.

2.4.3 Vegetation Relevant to Assessment

Given the size of each of the proposed lots and the significant flexibility which exists in relation to the positioning of future residential dwellings, the determination of vegetation conditions focussed upon identifying the worst-case vegetation conditions which would be relevant to bushfire attack on the existing and future dwellings in locations as nominated within each of the proposed lots.

The following tables summarizes the various vegetation structures which are of bushfire significance to each of the proposed lots and have been adopted for the purposes of this report.

Table 4 – Summary of Vegetation Characteristics (Proposed Lot 101)

ASPECT	VEGETATION DESCRIPTION	VEGETATION CLASSIFICATION (Keith, 2004)
Proposed Lot 101 (Existing Dwelling)		
North	Grasslands and remnant areas of forest vegetation within the proposed lot	Specification similar to Rainforest
South	Grasslands on land to the south of the proposed lot	Grasslands
East	Areas of forest vegetation within adjoining and adjacent land to the east.	Wet Sclerophyll Forest
West	Grassland on adjoining land to the west.	Grasslands

Remnant forest vegetation and grasslands in the northern portion of the proposed lot

Grasslands on adjoining land to the south of the proposed lot

Forest regrowth on adjoining land to the east of the proposed lot

Grasslands on adjacent land to the west of the subject site

Table 5 – Summary of Vegetation Characteristics (Proposed Lot 102)

ASPECT	VEGETATION DESCRIPTION	VEGETATION CLASSIFICATION (Keith, 2004)
Proposed Lot 102 (Vacant Lot – Possible House Site)		
North	Areas of forest vegetation within adjoining land to the north	Wet Sclerophyll Forest

South	Grassland on adjoining land to the south.	Grasslands
East	Areas of forest vegetation within the subject site.	Wet Sclerophyll Forest
West	Areas of remnant forest vegetation within the subject site and on adjoining land.	Wet Sclerophyll Forest

Area of nominated dwelling site within the proposed lot

Forest regrowth on adjoining land to the north of the proposed lot

Grasslands on adjoining land to the south of the proposed lot

Forest vegetation on within the proposed lot to the east of the nominated dwelling site/location

Remnants of forest vegetation in the far western portion of the proposed lot and on adjoining land to the west

Table 7 – Summary of Vegetation Characteristics (Proposed Lot 103)

ASPECT	VEGETATION DESCRIPTION	VEGETATION CLASSIFICATION (Keith, 2004)
Proposed Lot 103 (Vacant Lot – Possible House Site)		
North	Narrow band of Wet Sclerophyll Forest vegetation within the far northern portion of the proposed lot, within the Carey Road reserve and on adjacent land to the northwest.	Wet Sclerophyll Forest
South	Areas of Wet Sclerophyll Forest vegetation within the proposed lot.	Wet Sclerophyll Forest
East	Areas of grassland within the proposed lot and within proposed Lot 104.	Wet Sclerophyll Forest
West	Areas of Wet Sclerophyll Forest vegetation within the proposed lot.	Wet Sclerophyll Forest

Area of dwelling site/location nominated within the proposed lot

Remnant forest vegetation along the far northern portion of the proposed lot and within the Carey Road reserve

Wet Sclerophyll Forest vegetation within the proposed lot – to the south of the nominated dwelling site/location

Grasslands within the eastern portion of the subject site and within proposed Lot 104

Wet Sclerophyll Forest vegetation within the proposed lot – to the west of the nominated dwelling site/location

Table 8 – Summary of Vegetation Characteristics (Proposed Lot 104)

ASPECT	VEGETATION DESCRIPTION	VEGETATION CLASSIFICATION (Keith, 2004)
Proposed Lot 104 (Vacant Lot – Possible House Site)		
North	Wet Sclerophyll Forest vegetation within the far northern portion of the proposed lot, within the Carey Road reserve and on adjacent land to the northeast.	Wet Sclerophyll Forest
South	Areas of grasslands with scattered and clusters of trees within the proposed lot.	Grasslands
East	Wet Sclerophyll Forest vegetation within adjoining land to the proposed lot.	Wet Sclerophyll Forest
West	Areas of grassland with scattered and clusters of trees within the proposed lot and within proposed Lot 103.	Grassland

Area of dwelling site/location nominated on the proposed lot

Remnant forest vegetation along the far northern portion of the proposed lot and within the Carey Road reserve

Grasslands within the proposed lot – to the south of the nominated dwelling site/location

Wet Sclerophyll Forest vegetation on adjoining land to the east of the proposed lot

Grasslands within the proposed lot – to the west of the nominated dwelling site/location and within proposed Lot 103

Table 9 – Summary of Vegetation Characteristics (Proposed Lot 105)

ASPECT	VEGETATION DESCRIPTION	VEGETATION CLASSIFICATION (Keith, 2004)
Proposed Lot 105 (Existing Dwelling)		
North	Grasslands with scattered and clusters of trees within the proposed lot.	Grasslands
South	Areas of forest vegetation within adjoining and adjacent land to the south of the proposed lot.	Wet Sclerophyll Forest
East	Areas of forest vegetation within adjoining and adjacent land to the east of the proposed lot.	Wet Sclerophyll Forest
West	Grasslands within the proposed lot.	Grasslands

Grasslands within the proposed lot – to the north of the existing dwelling

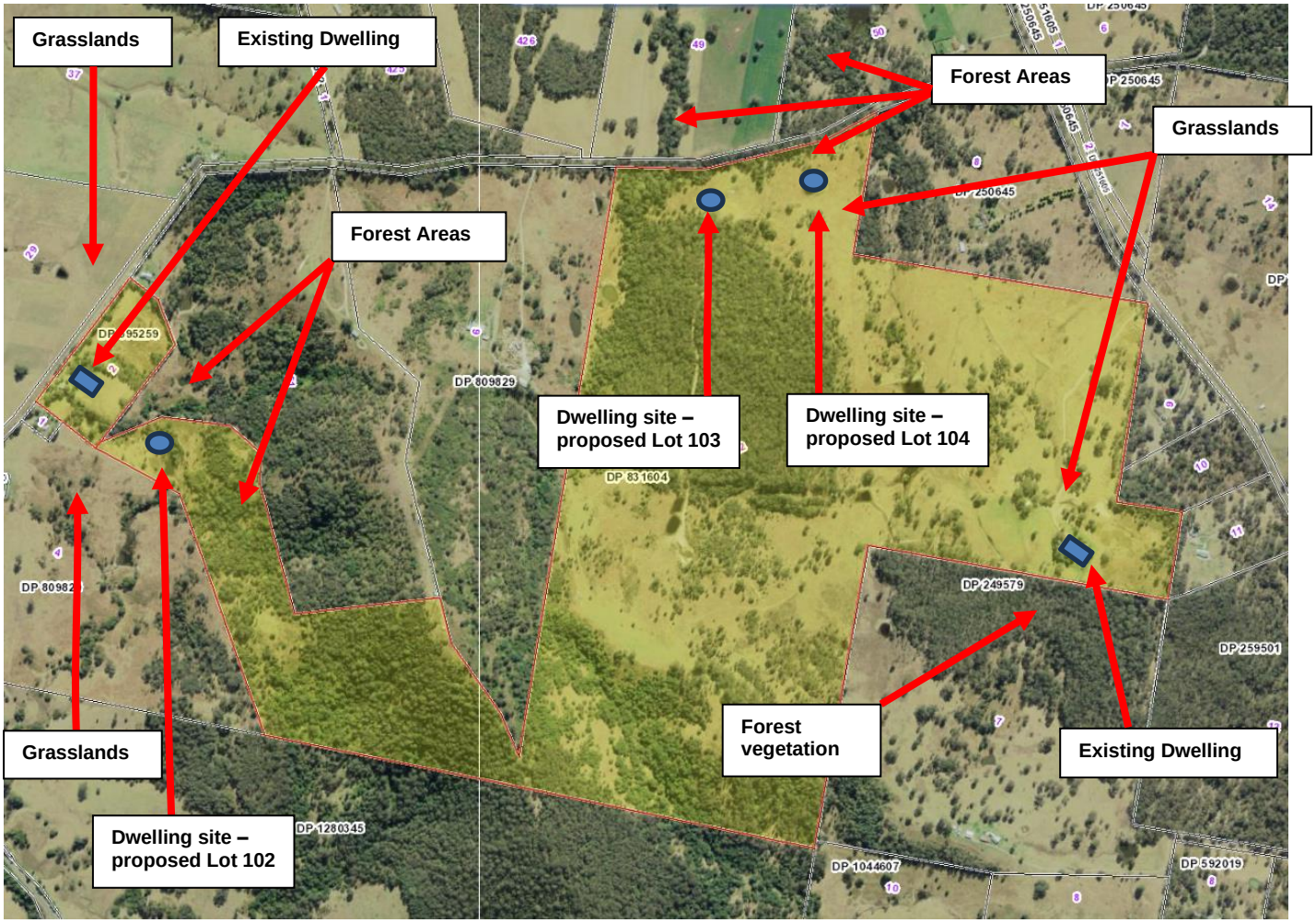
Wet Sclerophyll Forest vegetation on adjoining land to the south of the proposed lot

Wet Sclerophyll Forest vegetation on adjoining land to the east of the proposed lot

Grasslands within the proposed lot – to the west of the existing dwelling within proposed Lot 105

An indication of the relationship of the vegetation of bushfire significance to the existing and future residential development of each of the proposed rural lots is presented in **Figure 7** below.

Figure 7 - Vegetation Relationships to Subject Site



2.5 Fire Danger Index

The fire weather for the subject site is assumed on the worst-case scenario.

In accordance with NSW Rural Fire Services, ***Planning for Bushfire Protection***, 2019, NSW Rural Fire Service, ***NSW Local Government Areas FDI*****,** May 2017 and Table 2.1 of AS 3959 - 2018, the fire weather for the site is based upon the 1:50 year fire weather scenario and has a Fire Danger Index (FDI) of 80.

3.0 BUSHFIRE THREAT REDUCTION MEASURES

The following bushfire issues and constraints have been identified through considering the requirements of NSW Rural Fire Service, ***Planning for Bushfire Protection***, 2019 in relation to the proposed development.

In order to reduce the bushfire threat, it is suggested the following measures be included in any strategy developed for the proposed rural subdivision.

3.1 NSW Rural Fire Services, Planning for Bushfire Protection, 2019

3.1.1 Asset Protection Zones

To ensure that the aims and objectives of NSW Rural Fire Service**,** ***Planning for Bushfire Protection*** 2019 are achieved for the proposed subdivision of the subject land, an Asset Protection Zone (APZ) between the asset and the hazard should be provided.

An APZ provides for; minimal separation for safe firefighting, reduced radiant heat, reduced influence of convection driven winds, reduced ember viability and dispersal of smoke. The APZ consists of an Inner Protection Area (IPA) and Outer Protection Area (OPA). The IPA is an area closest to the buildings that incorporates defendable space and is used for managing heat intensities at the building surface. The OPA is positioned adjacent to the hazard and the purpose of the OPA is to reduce the potential length of flame by slowing the rate of spread, filtering embers and suppressing the crown fire.

NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019 provides that a defendable space is;

An area adjoining an asset that is managed to reduce combustible elements and is free from constructed impediments. It is a safe working environment in which active firefighting can be undertaken to defend the structure, before and after the passage of a bush fire.

The following assessment of APZ requirements which are relevant to the proposed rural subdivision and development of each of the proposed lots is provided as follows;

(i) Development within Grassland Areas

The risk posed by grass fires is different to that of fires in other vegetation types. Grass fires burn at a higher intensity and spread more rapidly with a shorter residence time. Embers produced by grass fires are smaller and fewer in number than those produced from forest fires.

At subdivision stage, an assessment must be carried out to determine whether an APZ can be provided around the proposed development to avoid flame contact. Subdivision will not be supported where the development would be BAL-40 or BAL-FZ. The APZ distances identified in Tables A1.12.2 and A1.12.3 provide the acceptable solutions for meeting this threshold.

It is noted that the proposed development is in an area which provides for grasslands to be a bushfire hazard vegetation classification relevant to the future residential development of the proposed lots. Accordingly, the provisions of Table A1.12.3 of NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019 are relevant to the determination of APZ' for the proposed development.

(ii) Subdivision Development

It is noted that the future residential development on each of the lots contemplated by the proposed rural subdivision development of the land will need to provide for APZ's in accordance with the residential subdivision requirements of NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019. APZ's in residential situations must be such that radiant heat levels of greater than 29kW/m² will not be experienced at a residential building on a proposed allotment.

It is therefore recommended that the defendable space for future dwellings on each of the subject lots be based upon the minimum requirements for Asset Protection Zones as set out in Table A1.12.3 of NSW Rural Fire Service, ***Planning for Bushfire Protection***, 2019.

The following table indicates the minimum required APZ's between bushfire hazards and the existing and future residential development within the nominated areas on each of the proposed lots based upon the vegetation and slope characteristics provided for in Section 2 of this report required to achieve compliance with the maximum radiant heat exposure level for future residential dwellings of 29 kW/m^2.

Table 10 - Asset Protection Zone Requirements (PfBP 2019)

DIRECTION OF HAZARD	VEGETATION TYPE	SLOPE	IPA	OPA	TOTAL APZ	MINIMUM APZ ACHIEVEABLE (within (Proposed Lot)	COMPLIANCE (with Minimum APZ Requirements)
Proposed Lot 101 (Existing Dwelling)							
North	Specification similar to Rainforest	6˚ - 7˚ Down slope	12m	-	12m	Minimum 20m	✔
South	Grasslands	9˚ - 10˚ Down slope	12m	-	12m	>50m	✔
East	Wet Sclerophyll Forest	14˚ - 15˚ Down slope	24m	15m	39m	>50m	✔
West	Grasslands	2˚ - 3˚ Down slope	11m	-	11m	>40m	✔
Proposed Lot 102 (Vacant Lot – Possible House Site)							
North	Wet Sclerophyll Forest	14˚ - 15˚** Down slope	24m	15m	39m	>45m	✔
South	Grasslands	9˚ - 10˚ Down slope	12m	-	12m	>20m	✔
East	Wet Sclerophyll Forest	6˚ - 7˚ Down slope	16m	15m	31m	>31m	✔
West	Wet Sclerophyll Forest	9˚ - 10˚ (0˚) Upslope	10m	10m	20m	>20m	✔
Proposed Lot 103 (Vacant Lot – Possible House Site)							
North	Wet Sclerophyll Forest	4˚ - 5˚ Down slope	15m	10m	25m	>25m	✔
South	Wet Sclerophyll Forest	3˚ - 4˚ (0˚) Upslope	10m	10m	20m	>20m	✔

East	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	15m	10m	25m	>25m	✔
West	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	15m	10m	25m	>25m	✔
Proposed Lot 104 (Vacant Lot – Possible House Site)							
North	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	15m	10m	25m	>25m	✔
South	Grasslands	2˚ - 3˚ Down slope	11m	-	11m	>11m	✔
East	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	15m	10m	25m	>25m	✔
West	Grassland	2˚ - 3˚ (0˚) Upslope	10m	-	10m	>10m	✔
Proposed Lot 105 (Existing Dwelling)							
North	Grasslands	9˚ - 10˚ Down slope	12m	-	12m	Minimum 50	✔
South	Wet Sclerophyll Forest	5˚ - 6˚ Down slope	16m	15m	31m	Minimum 50	✔
East	Wet Sclerophyll Forest	6˚ - 8˚ Down slope	16m	15m	31m	Minimum 50	✔
West	Grasslands	5˚ - 6˚ Down slope	12m	-	12m	Minimum 50	✔

*****Note: worst case slope condition due to steeper slope conditions associated with gully. More detailed assessment could provide for reduced APZ requirements in this aspect.***

It is considered that the minimum Asset Protection Zones **can** be provided in compliance with the acceptable solutions contained in Section 5.1.3 of NSW Rural Fire Service**, *Planning for Bushfire Protection***, 2019 and summarized as follows**.**

Table 11 - APZ Requirements (PfBP 2019)

Intent of measures: to provide sufficient space and maintain reduced fuel loads to ensure radiant heat levels at the buildings does not exceed 29kW/m².		
Performance Criteria	**Acceptable Solutions**	**Compliance Comment**
The intent may be achieved where:		
• potential building footprints will not be exposed to radiant heat levels exceeding 29 kW/m² on each proposed lot.	•APZs are provided in accordance with Tables A1.12.2 and A1.12.4 based on the FDI	✔ Complies – refer to **Table 10** above.
• APZs are managed and maintained to prevent the spread of a fire towards the building.	•APZs are managed in accordance with the requirements of 'Appendix 4	✔ To be complied with in relation to the ongoing occupation of the proposed rural residential lots.
• the APZ is provided in perpetuity	•the APZ is wholly within the boundaries of the development site.	✔ All APZ's can be provided in accordance with PfBP Guideline requirements including public assets such as roads.
• APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised	• APZ's is located on lands with a slope less than 18 degrees.	✔ All APZ's can be provided on lands with a slope less than 18 degrees.

Given the size and shape of each of the proposed new rural allotments it will be possible for any future residential buildings to be positioned on each of the proposed lots in a manner which allows for compliance with the minimum APZ requirements. In this regard the nomination of dwelling sites within proposed Lots 102, 103 and 104 is to provide for compliance with the minimum APZ requirements as provided for by **Table 10** of this report.

It is also noted that the proposed subdivision does not compromise the achievement of the minimum required APZ's for the existing dwellings which are to be located on proposed Lots 101 and 105. The existing level of bushfire threat to the existing dwellings will remain unchanged as a result of the proposed subdivision.

The presence of large areas of grasslands within some areas of the proposed lots reduces the bushfire significance in some aspects of the proposed lots and provides opportunities to provide Asset Protection Zones to future dwellings which will be in excess of the minimum APZ requirements of NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019.

A concept plan for the availability of APZ's to existing and future dwellings on the proposed lots is included as **Appendix 3**.

Given the size and configuration of the proposed rural lots it would be possible to locate future residential development so as to comply with the APZ requirements of NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019. It is therefore considered that suitable APZ's can be available for each of the proposed new lots having regard to the proposed new lot shapes and sizes and the existing and future development on the proposed new lots.

3.1.3 Asset Protection Zone Management

In accordance with NSW Rural Fire Service, ***Planning for Bushfire Protection*****,** 2019 the following fuel loadings are applicable to the APZ's which are required to be provided to existing and future dwellings on the proposed lots by **Table 10** of this report.

Inner Protection Area (IPA)

An IPA should provide a tree canopy cover of less than 15% and should be located greater than 2 metres from any part of the roofline of a dwelling.

Garden beds of flammable shrubs are not to be located under trees and should be no closer than 10m from an exposed window or door.

Trees should have lower limbs removed up to a height of 2 metres above the ground

(ii) Outer Protection Area (OPA)

An OPA should provide a tree canopy cover of less than 30% and should have the understorey managed (mowed) to treat all shrubs and grasses on an annual basis in advance of the fire season (usually September).

3.1.4 Operational Access and Egress

Access to the proposed lots will be via road frontages to either Cedar Party Road or Carey Road. In this regard each of the proposed lots will have a public road frontage albeit that access to proposed Lot 102 will be via a narrow access handle which will connect the nominated dwelling site/location with Carey Road.

Both Cedar Party Road and Carey Road are two wheel drive all weather public roads which together with other public road infrastructure provide for connection with Wingham Road. It is noted that Cedar Party Road is a major connecting road within the locality and is bitumen sealed.

Despite having a continuous road reserve between Cedar Party Road in the east and Youngs Road in the west the through movement of vehicles along the full length of Carey Road is not available. Therefore, Carey Road operates as two (2) separate roads, (eastern and western ends), each of which services several residentially occupied properties which adjoin the road reserve. The eastern end of Carey Road has a gravel formation and connects with Cedar Party Road whilst the western end has a combination of bitumen and gravel finishes and connects with Youngs Road.

Proposed Lots 101 and 102 will be serviced by the western portion of Carey Road whilst proposed Lots 103 and 104 will be access off the eastern portion of Carey Road. Proposed Lot 105 will continue to be accessed via Cedar Party Road which will continue to adjoin the northern portion of the eastern boundary of the proposed lot.

Cedar Party Road adjacent to the eastern boundary of proposed Lot 105

Eastern portion of Carey Road which adjoins the northern boundaries of proposed Lots 103 and 104

Western portion of Carey Road which adjoins the western boundaries of proposed Lots 101 and 102

It is noted that the construction of Cedar Party Road and Carey Road is suitable for use by emergency service vehicles.

The existing property access road arrangements which provide for access to and egress from the existing dwellings which will be located on proposed Lots 101 and 105 remains in place and unchanged as a result of the proposed development.

Existing property access road servicing the existing dwelling on proposed Lot 101

Existing property access road servicing the existing dwelling on proposed Lot 105

It is noted that the future residential development and occupation of proposed Lots 102, 103 and 104 will require the construction of new property access roads to future dwellings. In this regard all new property access road infrastructure will need to be designed and constructed so as to comply with the relevant provisions of the property access road requirements of Section 5.3.2 of NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019. The requirements of Section 5.3.2 are summarized as follows;

Table 12 - Acceptable Solutions (Access/Internal Roads) PfBP 2019

Performance Criteria	Acceptable Solutions	Compliance Comment
The intent may be achieved where:		
• firefighting vehicles can access the dwelling and exit safely	• minimum carriageway width of 4m; and • in forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay; and • a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches; and • provide a suitable turning area in accordance with Appendix 3; and • curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress; and • the minimum distance between inner and outer curves is 6m; and • the cross fall is not more than 10°; and • maximum grades for sealed roads do not exceed 15° and not more	✔ To be complied with in relation to the design of future development .

	than 10° for unsealed roads; and a development comprising more than three dwellings has formalised access by dedication of a road and not by right of way. Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m), extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. the gradients applicable to public roads also apply to community style development property access roads in addition to the above.	

Having regard to the information provided above it is considered that the existing and proposed property access road infrastructure will provide for a standard of access and egress which is consistent with the relevant performance requirements of Chapter 5 of NSW Rural Fire Services, *Planning for Bushfire Protection*, 2019 particularly given the nature and scale of the proposed development.

3.1.5 Services - Water, Gas and Electricity

As set out in Section 5.3.3 of NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019, developments in bushfire prone areas must maintain a water supply reserve dedicated to firefighting purposes.

As the proposed lots will not be serviced with reticulated mains water supply and given the rural locality, future dwellings on proposed Lots 102, 103 and 104 will need to provide a static water supply which is available for firefighting purposes which complies with the following requirements:

- a minimum 20,000 litre water supply via tanks is to be available
- above-ground tanks are manufactured from concrete or metal; raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
- a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz 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. Plastic tanks are not permitted to be used where they are above ground.
- raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959).
- unobstructed access can be provided at all times;
- underground tanks are clearly marked;
- tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- all exposed water pipes external to the building are metal, including any fittings;
- In consideration of the possible loss of electricity, a secondary power supply or a petrol/diesel pump will need to be provided. This secondary supply is to be adequately shielded from the fire. Pumps are to be a minimum 5hp or 3kW, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter;

- fire hose reels are constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005.

It is noted that the existing dwellings which are located on the subject site and will be located within proposed Lots 101 and 105 are provided with a water supply by virtue of a variety of existing above and in ground concrete water tanks currently servicing the existing dwellings and associated infrastructure.

Existing above ground concrete rainwater tanks servicing the existing dwelling which will be located on proposed Lot 101

Existing inground concrete rainwater tanks servicing the existing dwelling which will be located on proposed Lot 105

Electricity supply is available in the locality and is connected to the existing dwellings which will be located on proposed Lots 101 and 105 will be accessible to the future residential development of proposed Lots 102, 103 and 104.

Reticulated gas services are not available to the site, however any reticulated or bottled gas supply provided in conjunction with any future residential dwellings is to be installed and maintained in accordance with AS1596 and the requirements of the relevant authorities. Metal piping is to be used. All fixed gas cylinders are to be kept clear of all flammable materials to 10m and shielded on the hazard side of the installation.

If gas cylinders need to be kept close to a building, the release valves are to be directed away from the building and at least 2m away from any combustible material, so that they do not act as a catalyst to combustion. Connects to and from gas cylinders need to be metal. Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used

The incorporation into the proposed rural lots of the relevant provisions of the following acceptable solutions as provided for by Section 5.3.3 of NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019 will ensure compliance with the intent for the provision of services to the proposed lots which will result because of the proposed subdivision.

Table 13 – Service Provision Requirements (PfBP 2019)

Intent of measures:* *to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.		
Performance Criteria	**Acceptable Solutions**	**Compliance Comment**
The intent may be achieved where:		
Water Supply • a water supply is provided for firefighting purposes	• a static water supply is provided where no reticulated water is available .	✔ To comply in relation to the provision of a static water supply
• water supplies are located at regular intervals • the water supply is accessible and reliable for firefighting operations	• fire hydrant spacing, design and sizing comply with the Australian Standard AS 2419.1:2005. • hydrants are not located within any road carriageway; reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	Not Applicable
• flows and pressure are appropriate	• fire hydrant flows and pressures comply with AS 2419.1:2005.	Not Applicable
• the integrity of the water supply is maintained	• all above-ground water service pipes are metal, including and up to any taps.	✔ To comply

Electricity Services
 	
• location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings
	• where practicable, electrical transmission lines are underground.
	
	• where overhead, electrical transmission lines are proposed as follows:
	  • lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas;
	  • no part of a tree is closer to a power line than the distance set
		✔ To comply

	out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.	
Gas services • location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	• 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. • 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 and up to any outlets.	✔ To comply (where applicable)

The provision of services to support the existing or future residential occupation of the proposed lots would need to have regard to the specific details of the development of each of the proposed lots.

It is considered that the intent of the requirement for the provision of services as required by Chapter 5 of NSW Rural Fire Services, *Planning for Bushfire Protection*, 2019 can be satisfied for the future subdivision of the subject site.

3.1.6 Landscaping

Landscaping is a major cause of fire spreading to buildings, and therefore any landscaping proposed in conjunction with the future development of the subject areas will need consideration when planning, to produce gardens that do not contribute to the spread of a bushfire.

When planning any future landscaping surrounding any future development on the subject areas, consideration should be given to the following:

- The choice of vegetation – consideration should be given to the flammability of the plant and the relation of their location to their flammability and ongoing maintenance to remove flammable fuels.
- Trees as windbreaks/firebreaks – Trees in the landscaping can be used as windbreaks and also firebreaks by trapping embers and flying debris.
- Vegetation management – Maintain a garden that does not contribute to the spread of bushfire.
- Maintenance of property – Maintenance of the property is an important factor in the prevention of losses from bushfire.

Appendix 4 of NSW Rural Fire Services**, *Planning for Bushfire Protection***,2019 contain the standards that are applicable to the provision and maintenance of landscaping.

Any landscaping proposed to be undertaken in conjunction with any future development of the areas which are the subject of this report is to comply with the principles contained in Appendix 4 of NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019**.**

Compliance with Appendix 4 of NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019 will satisfy the intent of the bush fire protection measures that are applicable to the

provision of landscaping as part of the future subdivision of the areas of the subject site which are proposed to be subdivided.

3.2 Construction of Buildings in Bushfire Prone Areas

3.2.1 General

The 'Deemed-to-Satisfy' provisions for construction requirements are detailed in AS 3959-2018 however in NSW the relevant Bushfire Attack Level and construction requirements must be determined in accordance with Appendix 1 of NSW Rural Fire Services**, *Planning for Bushfire Protection*,** 2019 (in particular Table A1.12.6), rather than in accordance with Section 2 of AS 3959 - 2018.

However, given that the subdivision proposal which is the subject of this report does not involve the erection of any buildings, the determination of Bushfire Attack Levels that would be applicable to future buildings on the proposed lots is not relevant at this time.

It is however noted that compliance with the minimum Asset Protection Zone requirements for the future lots, as nominated in **Table 10** of this report, will provide for opportunities for future buildings to be constructed upon each of the proposed allotments in compliance with the relevant requirements provided for in AS 3959 – 2018, (as modified by NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019).

Notwithstanding this the following preliminary assessment of Bushfire Attack is provided having regards to the information provided for in Section 2 of this report and incorporating the minimum APZ's to existing and future dwellings as provided for in Section 3.1.2 of this report.

Table 14 - Categories of Attack/Construction Standards for Existing and Future Dwellings

ASPECT	VEGETATION	SLOPE	DISTANCE (to Hazard after APZ's have been provided)	BUSHFIRE ATTACK LEVEL (BAL)
Proposed Lot 101 (Existing Dwelling)				
North	Specification similar to Rainforest	6˚ - 7˚ Down slope	Minimum 20m	BAL 29
South	Grasslands	9˚ - 10˚ Down slope	>50m	BAL Low Threat
East	Wet Sclerophyll Forest	14˚ - 15˚ Down slope	>50m	BAL 29
West	Grasslands	2˚ - 3˚ Down slope	>40m	BAL 12.5
Proposed Lot 102 (Vacant Lot – Possible House Site)				
North	Wet Sclerophyll Forest	14˚ - 15˚** Down slope	>45m	BAL 29
South	Grasslands	9˚ - 10˚ Down slope	>20m	BAL 19
East	Wet Sclerophyll Forest	6˚ - 7˚ Down slope	>31m	BAL 29
West	Wet Sclerophyll Forest	9˚ - 10˚ (0˚) Upslope	>20m	BAL 29

Proposed Lot 103 (Vacant Lot – Possible House Site)				
North	Wet Sclerophyll Forest	4˚ - 5˚ Down slope	>25m	BAL 29
South	Wet Sclerophyll Forest	3˚ - 4˚ (0˚) Upslope	>20m	BAL 29
East	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	>25m	BAL 29
West	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	>25m	BAL 29
Proposed Lot 104 (Vacant Lot – Possible House Site)				
North	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	>25m	BAL 29
South	Grasslands	2˚ - 3˚ Down slope	>11m	BAL 29
East	Wet Sclerophyll Forest	2˚ - 3˚ Down slope	>25m	BAL 29
West	Grassland	2˚ - 3˚ (0˚) Upslope	>10m	BAL 29
Proposed Lot 105 (Existing Dwelling)				
North	Grasslands	9˚ - 10˚ Down slope	>12m	BAL 29
South	Wet Sclerophyll Forest	5˚ - 6˚ Down slope	>31m	BAL 29
East	Wet Sclerophyll Forest	6˚ - 8˚ Down slope	>31m	BAL 29
West	Grasslands	5˚ - 6˚ Down slope	>12m	BAL 29

*****Note: worst case slope condition due to steeper slope conditions associated with gully. More detailed assessment could provide for reduced BAL requirements in this aspect.***

Having regard to the above, future dwellings on proposed Lots 102, 103 and 104 would be subject to a worst-case BAL 29 Bushfire Attack Level and as such the BAL 29 construction requirements of AS 3959 – 2018 as amended by NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019 would be applicable. It is however noted that as indicated in Section 3.1.1 of this report it will be possible to provide APZ's which are larger than the minimums provided for in **Table 10** and accordingly improved levels of bushfire attack could be achieved for future dwellings. It is however noted that the BAL 29 worst case outcome is consistent with the relevant performance objectives of Chapter 5 of NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019.

It is also noted that the construction of the existing dwellings which are present on the subject site and will continue to occupy proposed Lots 101 and 105 predates any bushfire threat reduction requirements in NSW. To assist in achieving a better bushfire protection outcome for the overall property, consideration should be given to the upgrading of the ember protection of the existing dwellings in accordance with the relevant provisions of the Rural Fire Service document *"Best Practice Guidelines –Building Upgrades"*. Upgrading of the ember protection

of the existing dwellings would, in conjunction with the provision of the minimum APZ's as recommended in **Table 10** of this report, improve the bushfire threat management outcomes for the continued residential occupation of the subject site.

4.0 BUSHFIRE THREAT MANAGEMENT REQUIREMENTS

The following requirements are provided in response to the proposed subdivision of land known as Lot 52 DP 831604, 395 Cedar Party Road and Lot 2 DP 595259, 70 Carey Road, Wingham as provided for in **Appendix 2**.

(i) The minimum required APZ's as provided for in **Table 10** of this report are to be provided to the existing dwellings on proposed Lots 101 and 105.

The minimum required APZ's are to be maintained to the standards which are applicable to Inner and Outer Protection Areas.

(ii) The nomination of dwelling sites within proposed Lots 102, 103 and 104 is to provide for compliance with the minimum APZ requirements as provided for by **Table 10** of this report.

(iii) Any future development of each of the proposed lots is to be the subject of a development specific Bushfire Hazard Assessment Report.

(iv) The property access road infrastructure required to service the future development of proposed Lot 102 is to be designed and constructed so as to comply with the relevant provisions of the property access road requirements of Section 5.3.2 of NSW Rural Fire Services**, *Planning for Bushfire Protection***, 2019.

(v) Water and other services are to be provided to the proposed development in accordance with the requirements detailed in Section 3.1.3 of this report.

(vi) Adopt the landscaping principals in accordance with Section 3.1.5 of this report for any new landscaping which is undertaken on the subject site.

(vii) To assist in achieving a better bushfire protection outcome for the overall property, the ember protection of the existing dwellings on proposed Lots 101 and 105 is to be upgraded in accordance with the relevant requirements of the Rural Fire Service document *"Best Practice Guidelines – Building Upgrades"*, refer to **Appendix 4**.

5.0 CONCLUSION

It is considered that the proposed subdivision of Lot 52 DP 831604, 395 Cedar Party Road and Lot 2 DP 595259, 70 Carey Road, Wingham is at risk of bushfire attack; however, it is in our opinion that with the implementation of the bushfire threat reduction measures and consideration of the recommendations in this report, the bushfire risk is manageable for the proposed rural subdivision.

With the implementation of the recommendations it is considered that it will be possible for the proposed subdivision to meet the applicable acceptable solutions as provided for in NSW Rural Fire Service**,** ***Planning for Bushfire Protection*****,** 2019 having regard to the existing subdivision layout, the size of the existing and proposed lots and the extent of development on each lot.

This report is however contingent upon the following assumptions and limitations.

Assumptions

(i) For a satisfactory level of bushfire safety to be achieved regular inspection and testing of proposed measures, building elements and methods of construction, specifically nominated in this report, is essential and is assumed in the conclusion of this assessment.

(ii) There are no re-vegetation plans in respect to hazard vegetation and therefore the assumed fuel loading will not alter.

(iii) Any future residential subdivision developments are constructed and maintained in accordance with the risk reduction strategy in this report.

(iv) The vegetation characteristics of the subject site and surrounding land remains unchanged from that observed at the time of inspection.

(v) The information contained in this report is based upon the information provided for review, refer to **Appendix 2.**

No responsibility is accepted for the accuracy of the information contained within the above plans.

Limitations

(i) The data, methodologies, calculations and conclusions documented within this report specifically relate to the building and must not be used for any other purpose.

(ii) A reassessment will be required to verify consistency with this assessment if there is building alterations and/or additions, change in use, or changes to the risk reduction strategy contained in this report

6.0 REFERENCES

NSW Rural Fire Services, ***Planning for Bushfire Protection***, 2019

AS 3959-2009, ***Construction of Buildings in Bushfire Prone Areas***

AS 3959-2018, ***Construction of Buildings in Bushfire Prone Areas***

Keith David 2004, Ocean ***Shores to Desert Dunes, The Native Vegetation of New South Wales and the ACT***, Department of Environment and Conservation

NSW State Government***, Rural Fires Act***, 1997

Midcoast Councils, ***Bushfire Prone Land Mapping***

NSW Rural Fire Service, ***Guideline for Bushfire Prone Land Mapping***, 2002

Australian Building Codes Board, ***National Construction Code***, 2019

NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2002*

NSW Rural Fire Service, ***NSW Local Government Areas FDI*****,** May 2017

Disclaimer

The findings referred to in this report are those which, in the opinion of the author, are required to meet the requirements of NSW Rural Fire Service, ***Planning for Bushfire Protection***, 2019. It should be noted that the Local Authority having jurisdiction for the area in which the property is located may, within their statutory powers, require different, additional or alternative works/requirements to be carried out other than those referred to in this report.

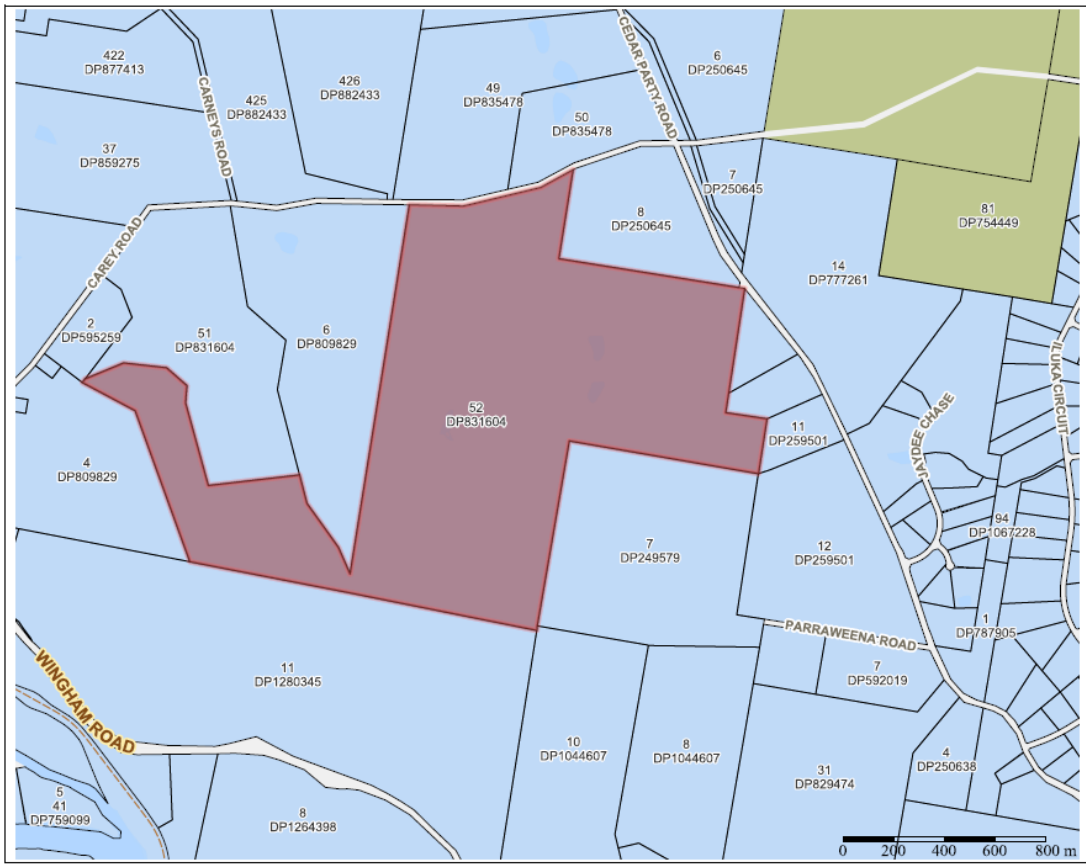
This report has been prepared partially on information provided by the client.

The author denies any legal liability for action taken as a consequence of the following:

- The Local Authority requiring alternative or additional requirements to those proposed or recommended in this report.
- Incorrect information, or mis-information, provided by the client with regard the proposed development which is in good faith included in the strategies proposed in this report and later found to be false.

APPENDIX 1
Existing Lot Configuration
(Lot 52 DP 831604, 395 Cedar Party Road, Wingham)

Created on 21/11/2024 9:28 AM



Land Information

Legal Description	52//DP831604
Land Area	164.600 Ha
Land Zoning	RU1 - Primary Production
Min Lot Size	40.0ha
FSR	Does Not Apply
Max Building Height	Does Not Apply
Bushfire prone land	Is bushfire prone

Property Details

Property Address	395 Cedar Party Road TAREE NSW 2430
StreetView	Click here

MidCoast Council
PO Box 482
Yalawanyi Ganya
2 Biripi Way
TAREE NSW 2430
Telephone: 02 7955 7777
Email:
council@midcoast.nsw.gov.au

MIDCOAST council

Important Notice!
This map is not a precise survey document. Accurate locations can only be determined by a survey on the ground.
This information has been prepared for Council's internal purposes and for no other purpose. No statement is made about the accuracy or suitability of the information for use for any purpose (whether the purpose has been notified to Council or not). While every care is taken to ensure the accuracy of this data, neither the MidCoast Council nor the LPI makes any representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.
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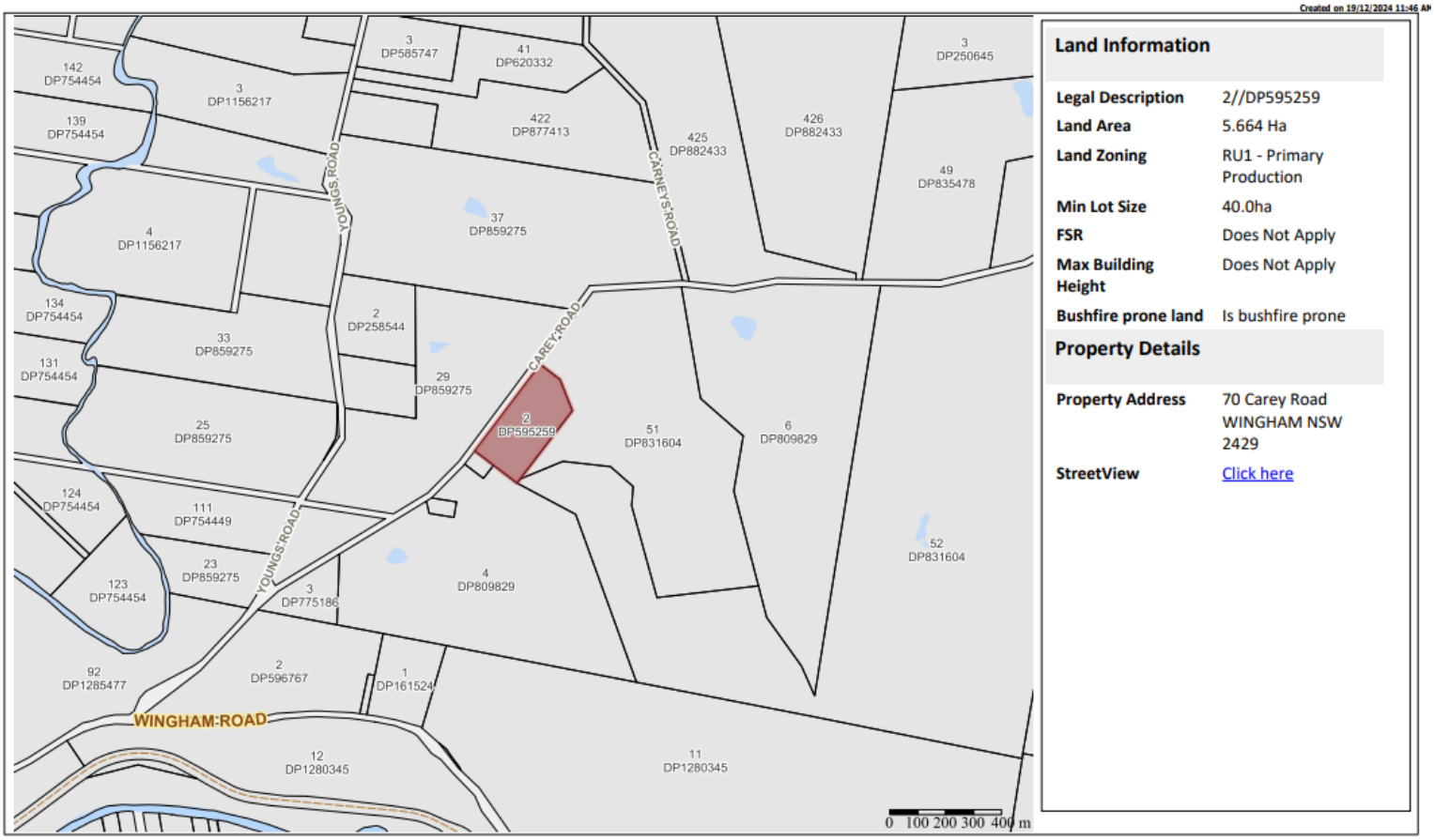
Projection: GDA94 / MGA zone 56
Date: 21/11/2024
Drawn By: anonymous
Map Scale: 1:18931 at A4

APPENDIX 2
Existing Lot Configuration
(Lot 2 DP 595259, 70 Carey Road, Wingham)



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council@midcoast.nsw.gov.au

MIDCOAST council

Projection: # GDA94 / MGA zone 56
Date: 19/12/2024
Drawn By: anonymous
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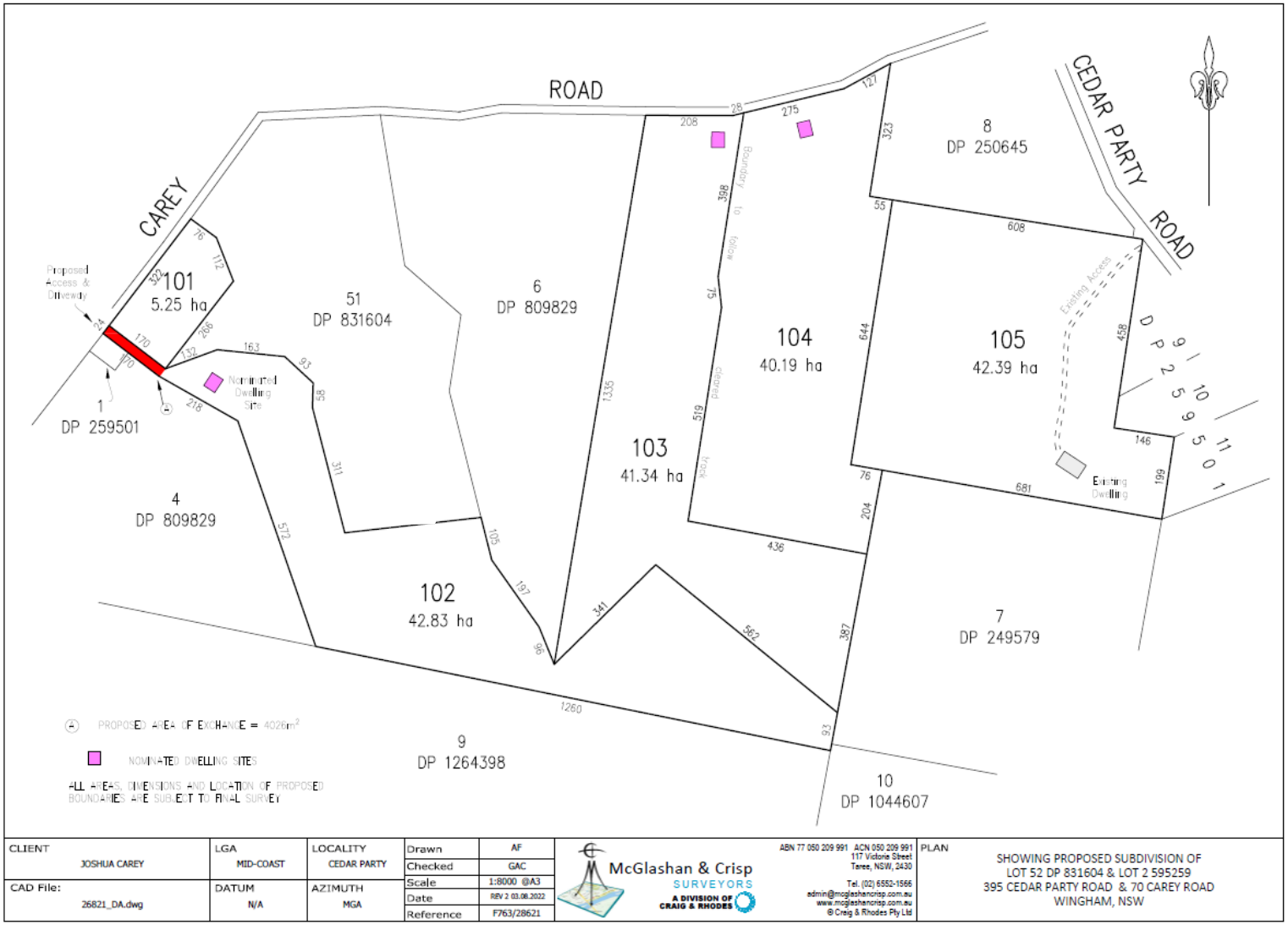
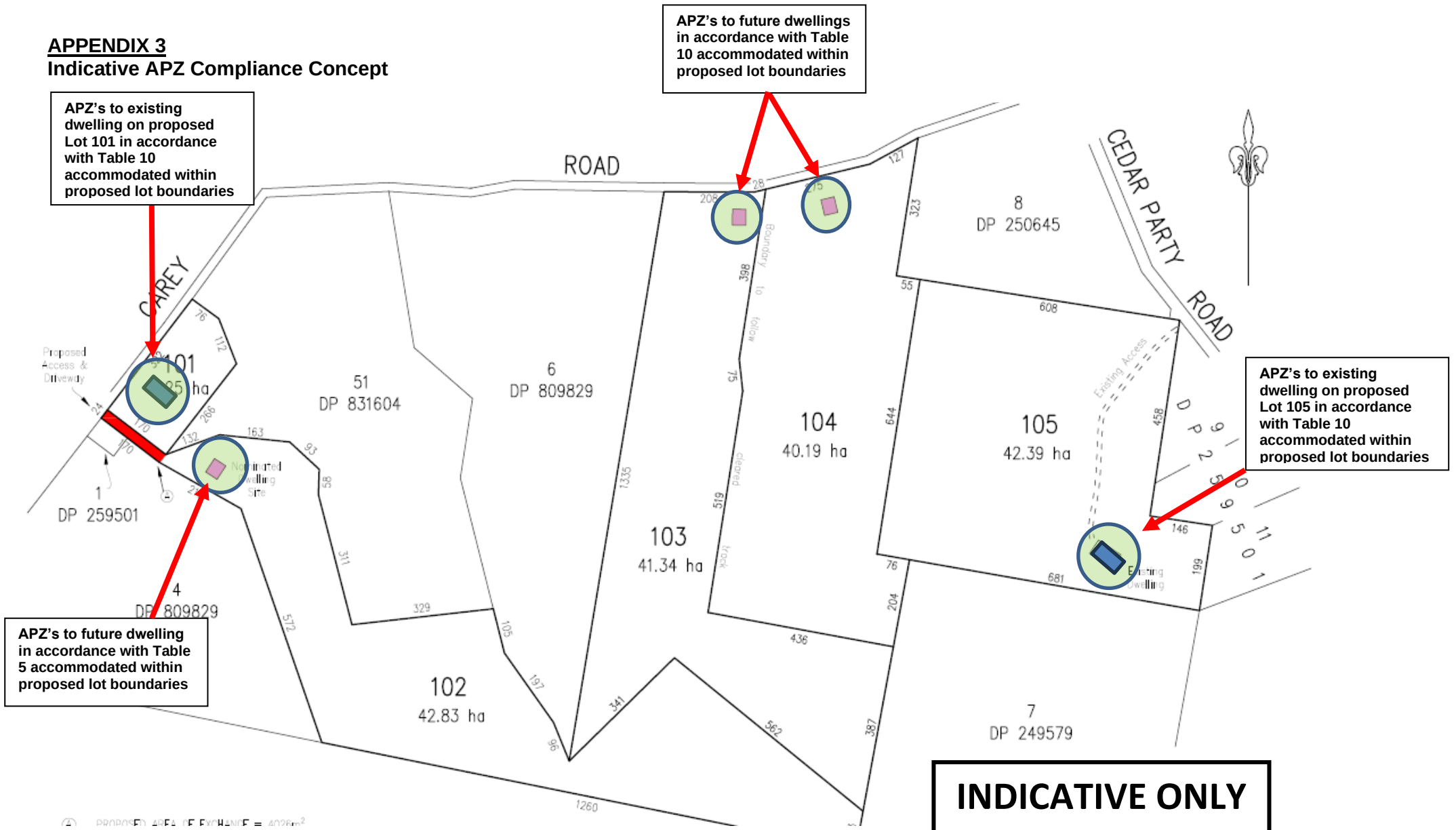
APENDIX 2
Proposed Subdivision



CLIENT JOSHUA CAREY	LGA MID-COAST	LOCALITY CEDAR PARTY	Drawn	AF	McGlashan & Crisp SURVEYORS A DIVISION OF CRAIG & RHODES	ABN 77 050 209 991 ACN 050 209 991 117 Victoria Street Taree, NSW, 2430 Tel. (02) 6552-1566 admin@mcglashancrisp.com.au www.mcglashancrisp.com.au © Craig & Rhodes Pty Ltd	PLAN SHOWING PROPOSED SUBDIVISION OF LOT 52 DP 831604 & LOT 2 595259 395 CEDAR PARTY ROAD & 70 CAREY ROAD WINGHAM, NSW
			Checked	GAC			
CAD File: 26821_DA.dwg	DATUM N/A	AZIMUTH MGA	Scale	1:8000 @A3			
			Date	REV 2 03.08.2022			
			Reference	F763/28621			

APPENDIX 3
Indicative APZ Compliance Concept



APPENDIX 4
RFS Best Practice Guidelines – Building Upgrades

NSW RURAL FIRE SERVICE

NSW GOVERNMENT

DEVELOPMENT ASSESSMENT & PLANNING

Upgrading of Existing Buildings

WORKING TOWARDS A SAFER COMMUNITY

INTRODUCTION

Bush fire is a major challenge for the community. It has been a natural part of our landscape for thousands of years and remains an ever-present threat.

Due to historic settlement patterns and the need to provide housing for people, development has occurred in areas that are bush fire prone placing lives and property at risk.

The NSW Rural Fire Service (NSW RFS) has a statutory obligation to protect life, property and the environment through fire suppression and fire prevention. Improved land use planning and construction of buildings in bush fire prone areas are intrinsic to the fire management strategies of the NSW RFS.

Through a working relationship with local Councils and the NSW Department of Planning, the NSW RFS has been able to refine and implement bush fire protection for new developments through the NSW planning system. Since the introduction of these planning and building regulations in August 2002, all new development on bush fire prone land in NSW must comply with the requirements of *Planning for Bush Fire Protection 2006* and Australian Standard 3959-2009 – *Construction of buildings in bushfire-prone areas* (AS3959).

This means that people who are building or renovating have a clear direction on how to design and build their homes to be better protected from the impacts of bush fires. The types of protection measures include asset protection zones (vegetation management), access, landscaping, water supply, building design and construction. These measures assist building survival during a bush fire. They also contribute to the safety of fire-fighters and members of the community occupying buildings during the passage of a bush fire front.

Unfortunately, the majority of buildings in bush fire prone areas pre-date these regulations, meaning that most existing houses are at an increased risk of damage or loss from a bush fire.

BUSH FIRE INFORMATION LINE
1800 NSW RFS
1800 679 737
www.rfs.nsw.gov.au

NSW RFS DEVELOPMENT ASSESSMENT 0914 1/4

With this in mind, the NSW RFS has developed a practical guide for those living in bush fire prone areas who may wish to take the opportunity to upgrade their existing building to increase its resilience from bush fire attack.

The guide provides a range of options that homeowners may wish to consider in determining the level of protection appropriate for their circumstances and risk. These include minimal protection measures such as basic ember proofing, establishment of Asset Protection Zones (APZs) to higher level protection measures such as re-building or upgrading construction elements of the building.

While this guide identifies protection methods, it is vital that such building enhancements are considered in conjunction with any upgrade works undertaken, consideration of other bush fire protection measures such as maintenance of Asset Protection Zones, services and landscaping.

The guide is not intended to be a comprehensive bush fire assessment of the risk to your property or an indication of compliance with *Planning for Bush Fire Protection 2006* and AS3959-2009. In this regard, home owners are advised to seek professional advice with regards to further upgrades or reconstruction to improve their resistance to bush fire attack.

For further assistance, details regarding suitably qualified consultants can be found on the NSW RFS website **www.rfs.nsw.gov.au**

IS UPGRADING MANDATORY?

Upgrading of existing elements of the building to Planning for Bush Fire Protection is not mandatory. However, in the interests of achieving a better bush fire outcome, the NSW RFS strongly recommends improvement of existing elements including upgrade of buildings.

Anyone whose land is bush fire prone should have regard to this document for practical guidance in protecting your property against bush fire attack. For all new developments on bush fire prone land, following the Development Application process or the Exempt and Complying Development process, the advice in this document should be applied as a minimum standard to the existing situation. This is in addition to any other bush fire protection measures that may be required by the development consent or complying development certificate.

These upgrading measures will contribute to making your home safer against the impact of the different elements of attack in the event of a bush fire; however, they form only part of the solution. Undertaking routine property maintenance and preparing a Bush Fire Survival Plan are other important parts to your bush fire protection and survival.

UPGRADE PROVISIONS

85% of houses are lost from ember attack.
The following provisions are designed to give existing buildings improved protection from ember attack during a bush fire event. Ember attack can occur over distances greater than 100 metres from the bush fire front. Any gaps, cracks or areas where embers and fuel can lodge (leaves, twigs, debris) significantly reduces a building's resistance to bush fire attack.

To mitigate against ember attack you should consider the minimal upgrades as detailed in the table below. Additional protection measures may also be considered and this will be dependent on the individual circumstances of the building commensurate with the level of threat from bush fire attack. The potential level of threat to the property from bush fire attack should also be taken in to account when deciding what level of protection should be used. Factors to be taken in to consideration include the isolation of the development and how easily you can react in the event of a bush fire.

Owners are cautioned that existing buildings may contain materials made from asbestos or have painted surfaces that contain lead. These materials should be handled in accordance with appropriate guidelines.

BUILDING ELEMENT	MINIMAL PROTECTION MEASURES	ADDITIONAL PROTECTION MEASURES
GENERAL	Seal all gaps (>3mm) around the house (excluding subfloor) with: • appropriate joining strips; • flexible silicon based sealant; or • mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium.	• Install a bush fire sprayer system. (Please contact a bush fire consultant or relevant industry expert to discuss options) Seal all gaps (>3mm) around the house (excluding subfloor) with: • appropriate joining strips • flexible silicon based sealant; or mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium.
WALLS	Install sarking with a flammability index of not more than 5 behind weatherboards or other external cladding when they are being replaced for maintenance or other reasons.	• Replace wall materials with non-combustible materials • Install sarking with a flammability index of not more than 5 behind weatherboards or other external cladding.
SUBFLOOR	Removal of combustible materials and keeping areas clear and accessible.	• Enclose subfloor with non-combustible material.
DOORS	Install weather strips, draught excluders or draught seals at the base of side-hung doors.	• Replace external doors with non-combustible or solid timber doors with minimum thickness of 35mm. • Replace or over-clad parts of door frames less than 400mm above the ground, decks and similar elements or fittings with non-combustible material. • Install weather strips, draught excluders or draught seals at the base of side-hung doors.
VENTS & WEEPHOLES	Seal vents and weepholes in external walls with mesh (with an aperture size of 2 mm) of corrosion resistant steel, bronze or aluminium.	• Seal vents and weepholes in external walls with mesh (with an aperture size of 2 mm) of corrosion resistant steel, bronze or aluminium.
ROOFS	Seal around roofing and roof penetrations with a non-combustible material. Install sarking with a flammability index of not more than 5 beneath existing roofing when it is being replaced for maintenance or other reasons. If installed, gutter and valley leaf guards shall be non-combustible.	• Replace fascia and roof materials with non-combustible materials. • Seal around roofing and roof penetrations with a non-combustible material. • Install sarking with a flammability index of not more than 5 beneath existing roofing. • If installed, gutter and valley leaf guards shall be non-combustible.
WINDOWS	Install mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium to all external doors and openable windows	• Installing appropriately tested shutters to doors and windows • Install mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium to all external doors and windows • Replacing glass with toughened or laminated safety glass • Replace overhead glazing with 'grade a' safety glass
EXTERNAL STRUCTURES		• External structures to be located >10 metres from the main dwelling.
DECKING		• Replace decking with non-combustible material

OTHER REQUIREMENTS

ASSET PROTECTION ZONES

Development on bush fire prone land requires suitable separation from the bush fire hazard. This separation is referred to as an asset protection zone (APZ) and should be located wholly within the development property.

The APZ separates the building from the hazard. It is designed to minimize the presence of fuels, which could burn in a fire. Therefore, the impact of direct flame contact, radiant heat and ember attack on the development is reduced.

In order to ensure appropriate levels of safety, the NSW RFS recommends that an APZ is always provided. Where a building has been newly developed or alterations and additions have been undertaken, recommended levels of construction are reliant upon the ongoing maintenance of the APZ. In this regard, the suitability of the design and construction of the building will be significantly compromised should the APZ not be maintained or implemented as intended.

APZ should be managed in accordance with section 4.1.3 and Appendix 5 of '*Planning for Bush Fire Protection 2006*' and the NSW Rural Fire Service's document *Standards for asset protection zones*.

SERVICES

During major bush fire events, the preparedness of the dwelling and its occupants may be seriously jeopardised with the loss of basic services, particularly water and electricity.

Adequate water supply is critical for any firefighting operation, particularly where property protection is envisaged. A reticulated water supply should be provided which is easily accessible and located at regular intervals. Where no reticulated water supply is available, a water supply of 5,000L reserve (i.e. water tank or dam) dedicated to firefighting purposes should be installed and maintained.

Electricity services should be located so that the possibility of ignition of the surrounding bushland or fabric of the buildings is limited. Regular inspection of the electricity lines should be undertaken to ensure they are not impacted by branches.

The location of gas services should vent facing away and not lead to the ignition of surrounding bushland or the fabric of the buildings.

LANDSCAPING

Vegetation can burn during a bush fire. With this in mind, careful attention must be paid to species selection, their location relative to their flammability, avoidance of continuity of vegetation (horizontally and vertically), and ongoing maintenance to readily remove flammable fuels (leaf litter, twigs and debris).

Homeowners are advised to contact their local Council before undertaking any work that involves modifying or removing existing trees.

The following additional information relating to landscaping is available at www.rfs.nsw.gov.au:

1. Standards for Asset Protection Zones
2. Appendix 5 of *Planning for Bush Fire Protection 2006.*

For more information please visit www.rfs.nsw.gov.au or contact Development Assessment & Planning on 8741 5175 or email development.assessment@rfs.nsw.gov.au.