

Appendix 2: Bushfire Risk Assessment (BPAD, 2024)

BUSHFIRE PLANNING & DESIGN

BUSH FIRE ASSESSMENT

34L Pinedale Road Dubbo 2830

Prepared for: George Rice	Strategic Planning Proposal
Prepared by: Matthew Noone	BPAD Accreditation Number: BPAD-PD 25584
Address: 34L Pinedale Road Dubbo 2830	Lot / DP: (Lot 103/-/DP1143590)
LGA: Dubbo Regional Council	FDI 80

Project Description: Strategic Planning Proposal



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REPORT NUMBER
BR-538022-3

DATE	ISSUED TO	REV.	Comments
02/04/2024	George Rice	A	Issued to Client for Comment

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AS3959 (2018) states "It should be borne in mind that the 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."

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This report has been prepared by Matthew Noone trading as Bushfire Planning and Design. Matthew Noone holds a BPAD Level 2 accreditation with the Fire Protection Association of Australia. Under the BPAD accreditation scheme a BPAD Level 2 consultant can provide advice and undertake all types assessments with the exception of alternate solutions. In the event that alternate solution is proposed it will be undertaken outside of our accreditation. Alternate solutions are considered a deviation from the prescribed standards and as per s.4.14 of the Environmental Planning and Assessment Act (1979) are required to be required to be referred to the New South Wales Rural Fire Service (RFS) for review.

This report has been based on our interpretation of Planning for Bushfire Protection (2019), AS3959 (2018) and the methodology for site specific bushfire assessment. As a consultant, our view can be subjective. Our opinions may differ from the opinions provided by you the Client (or Client Representative), the Council, the RFS or another bushfire consultant. The Rural Fire Service (RFS) has a higher authority and can upon their review, increase a nominated BAL-rating or entirely reject a development proposal. Any such recommendations made by the RFS take precedence. Our role is intermediary between our Client (or Client Representative) and the consenting authority. We apply our knowledge of the relevant bushfire protection standards to provide the best possible outcome for our Client (or Client Representative), both from a bushfire safety and financial perspective. Should the RFS modify our recommendations or reject the proposal to which this report relates to we will not be held liable for any financial losses as a result. By using this document, you the Client (or Client Representative) agree to and acknowledge the above statements.

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00 - SCOPE / PLANNING PROPOSAL

This report has been written to support a Planning Proposal for the reduction of the minimum lot size from 8 hectares to 5 hectares. When preparing a Planning Proposal, The Council is required to apply the EP&A Act s.9.1(2). Direction 4.4 Planning for Bush Fire Protection applies to planning proposals that affect, or are in close proximity to, land mapped as BFPL (PBP 2019, s.4.4). Under Direction 4.4, the relevant authority must consult with the Commissioner of the NSW RFS and take into account any comments made.

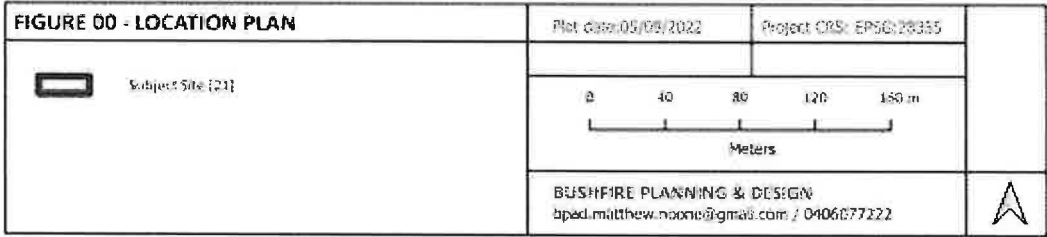
Under direction 4.4, draft LEPs should follow the below objectives (PBP 2019):

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

Subject to the approval of the rezoning application, a Development Application for the creation of a Rural Residential Subdivision may be prepared for the land, Lot 103/-/DP1143590.

SITE LOCATION AND DESCRIPTION

The subject site is located within the Dubbo Regional Local Government Area (LGA) approximately 5 km east of municipal of Dubbo. An existing homestead is located in the north west quadrant of the site. The primary access is via Pinedale Road to the south. The site is bounded by a crown road reserve to the north that connects to Beni Road to the east. The majority of the site is dominated by Grassland. The central northern part of the site contains a mix of Forest and Woodland. Refer to figure 00. Existing rural residences are located in the adjoining allotments to the east, west and south east.



01 - STRATEGIC PLANNING IN BUSHFIRE PRONE AREAS

The Strategic Bush Fire Study provides the opportunity to assess whether new development is appropriate in the bush fire hazard context. It also provides the ability to assess the strategic implications of future development for bush fire mitigation and management.

As per PBP (2019) section 4.2, A Strategic Bush Fire Study must include, as a minimum, the components in Table 4.2.1. Table 4.2.1 discusses the following topics.

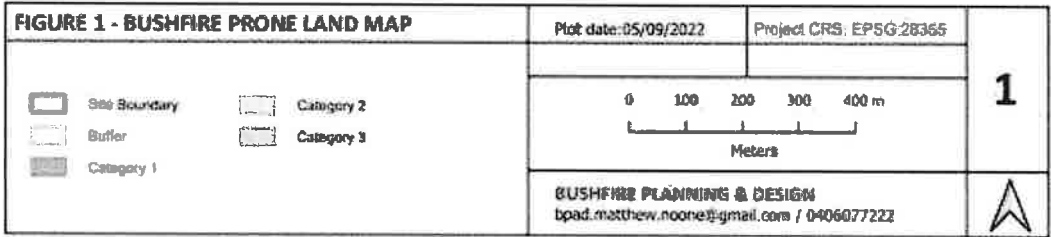
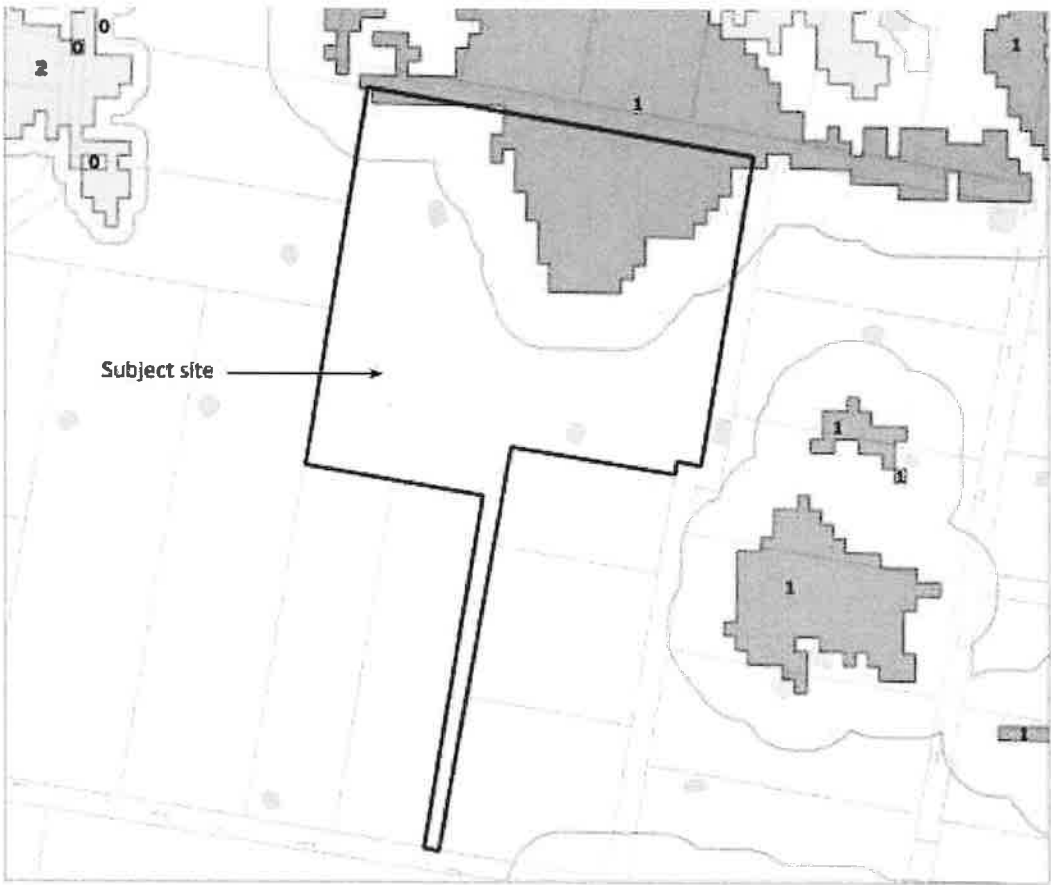
1. Bush fire prone land
2. Land use assessment
3. Access and Egress
4. Emergency services
5. Infrastructure
6. Adjoining Land

The above are addressed individually in the following pages.

02 - BUSHFIRE PRONE LAND

A bush fire landscape assessment considers the likelihood of a bush fire, its potential severity and intensity and the potential impact on life and property in the context of the broader surrounding landscape.

The subject site whether in whole or part is recorded as bushfire affected on a relevant map certified under Section 10.3 (2) of the Environmental Planning and Assessment Act 1979 (Refer figure 1). The development relates to the development of bushfire prone land and therefore must address the legislative requirements stipulated in Section 100B Rural Fire Act 1997 or 4.14 of EPA Act 1979 as appropriate.



SLOPE DETERMINATION

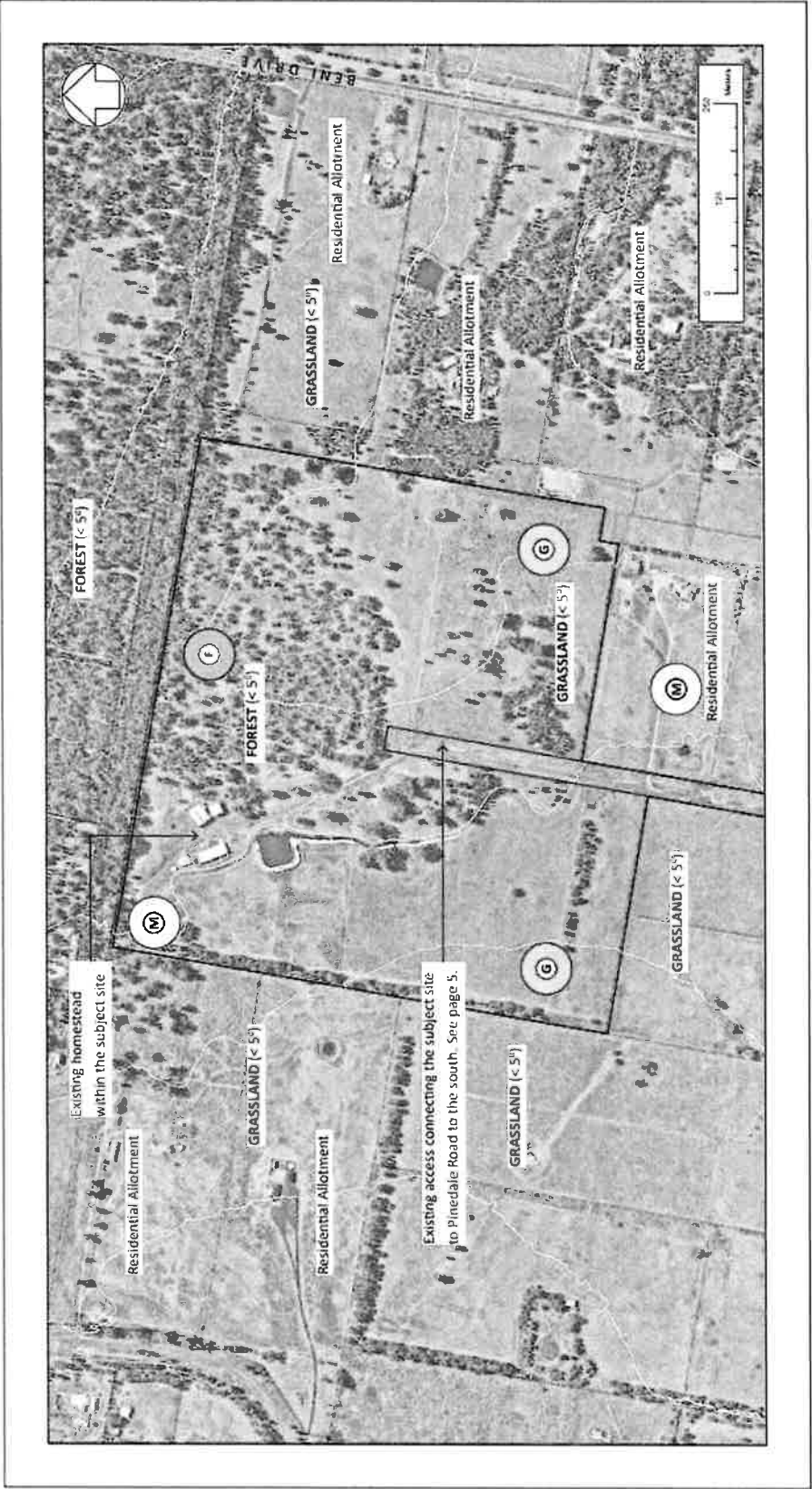
The effective slope has been assessed for a distance of at least 100m from the proposed development. The slope data has been calculated from a 1m LIDAR Digital Elevation Model (DEM). The source data sets have been captured to standards that are generally consistent with the Australian ICSM LIDAR Acquisition Specifications which require a fundamental vertical accuracy of at least 0.30m (95% confidence) and horizontal accuracy of at least 0.80m (95% confidence). A crest is located to the north east of the site. The dominant effective slopes that are applicable to the site is in the 0-5° down slope range.

FIRE DANGER INDEX

The 1:50 year fire weather scenario for most of the state was determined as FFDI 80. The Fire Danger Index for the Dubbo Local Government Area is FDI 80.

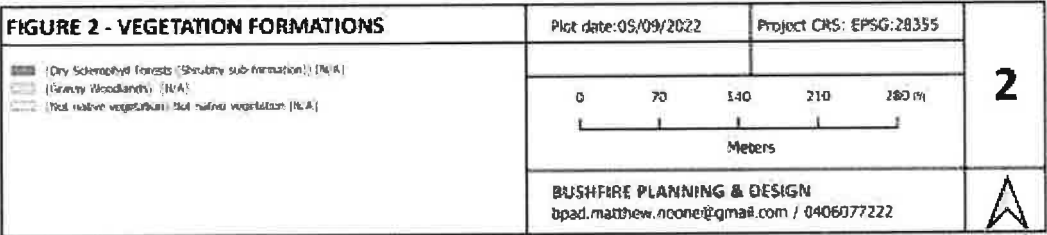
PREDOMINANT VEGETATION CLASS

The existing homestead is located in the north west quadrant. A combination of Forest and Woodland is located to the east of the homestead (refer figure 2). A crown road reserve runs parallel to the northern boundary. Forest vegetation is located to the north of the crown road reserve. The Forest to the north is the dominant bushfire threat. The land to the east, west and south are occupied by existing rural residences and are associated with existing land management practices. For the purpose of bushfire protection it is pragmatic to consider the potential for grassfire within the allotments to the east, west and south.



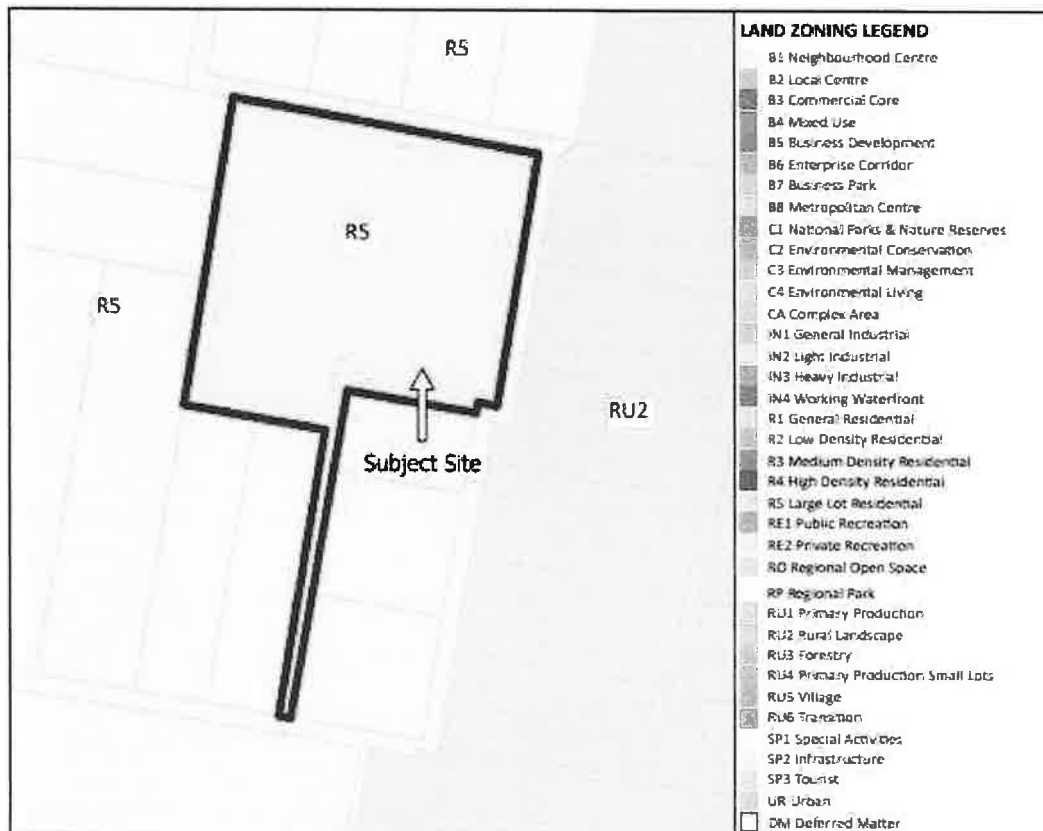
VEGETATION KEY (solid)		DRAWING LEGEND	
	Forest		Site Boundary
	Managed Land	BUSHFIRE PLANNING & DESIGN	
	Grassland	bpad.matthew.noone@gmail.com	
		0406077222	
34L Pinedale Road Dubbo 2H30		09 of 18	

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03 - LAND USE, ZONING, PERMISSIBILITY

The subject site and surrounding allotments to the north, west and south are zoned R5 Large Lot Residential. The land to the east is zoned RU2 Rural Landscape.



SIGNIFICANT ENVIRONMENTAL FEATURES.

It is our observation there are no significant environmental features within the subject site.

DETAILS OF ANY THREATENED SPECIES, POPULATIONS, ECOLOGICAL COMMUNITIES OR CRITICAL HABITATS

To our knowledge there are no threatened species, populations, ecological communities or critical habitat within the subject site. The site is not mapped as having Biodiversity Values (Department of Planning, Industry and Environment (DPIE) under Part 7 of the Biodiversity Conservation Act 2016 (BC Act).

DETAILS OF ABORIGINAL HERITAGE

To our knowledge the site is not associated with any items of Aboriginal heritage.

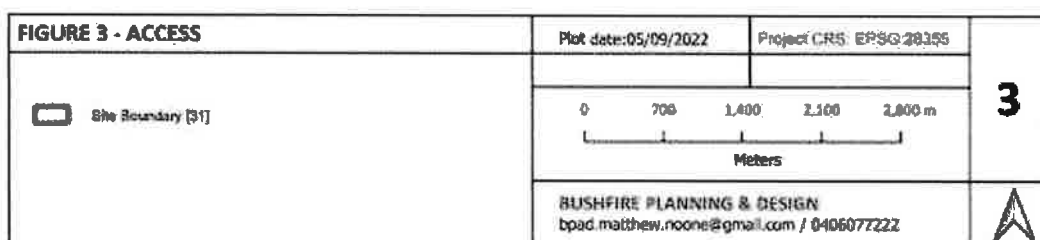
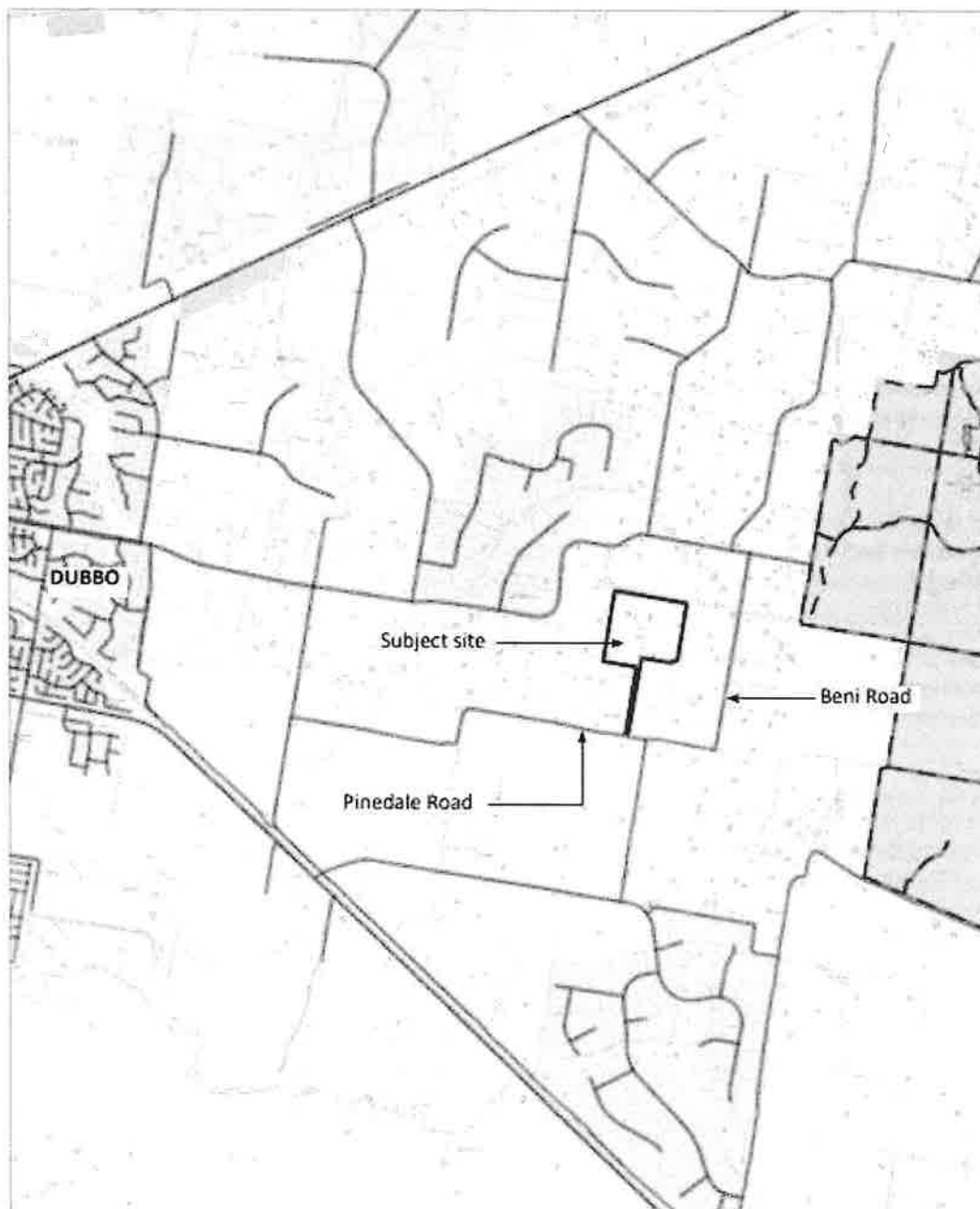
04 - ACCESS

The subject site is accessed through a long access handle that connects to Pinedale Road to the south. Pinedale Road provides safe access and egress for fire fighters. Any future development whether infill or subdivision would need to comply with Planning for Bushfire Protection. Access in the vicinity of the site is shown in Figure 3.

Subdivisions with three or more allotments are required to provide more than one road in and out of the subdivision. A perimeter road may not provide any significant bushfire protection benefit due to the shape of the block having a long access handle.

PBP (2019) s.5.1.1 provides guidelines for isolated / rural subdivision, indicating that conditions placed upon isolated subdivision reflect the need for occupants to be more self sufficient in regards defending their properties. With experience on other projects that have had constrained or deficient access, NSW Rural Fire Service have permitted an enhancement of other bushfire protection measures such as increased Asset Protection Zones, elevated construction requirements and additional water to reduce the reliance on access as a form of bushfire protection. The future allotments having an area of 5-8 hectares and mostly grassland are favourable to this approach.

Any future development would need to comply with the performance criteria or acceptable solutions in chapters 5-8 (PBP 2019). Any challenging aspects that deviate from PBP will need to be consulted with RFS using the Bush Fire Design Brief Process or pre-DA service.



05 - EMERGENCY SERVICES

The subject site is located within close proximity to the municipal of Dubbo. The nearest fire brigade is the Dubbo NSW Fire and Rescue station located on Wheelers Lane 9.2 km to the west of the site. The nearest Rural Fire Service station is the Eulomogo Rural Bushfire Brigade, located on Eulomogo Road, 2.7 Km to the south.

Any potential fires within the subject allotment can be accessed from Pinedale road and the access drive connecting the Pinedale Road to the subject site. It is noted that any future development within Pinedale Road would lead to the fragmentation of bushfire prone land thus reducing the bushfire threat to the south, east and west.

In the context of the above discussion, any future development within the subject site is not likely to increase the demand for emergency services responding to a bush fire. Conversely, future development which may generate an increase in occupancy would also ensure through compliance with PBP introduce new managed areas and would therefore decrease the bushfire risk and improve the ability of emergency services to carry out fire suppression in a bush fire emergency.

06 - INFRASTRUCTURE

The subject site currently relies on a static water supply for fire suppression. Any future development will be serviced by Dubbo Regional Council reticulated water designed and installed to comply with RFS requirements. Any new electrical or gas that may be required to service the subject site will be installed to comply with Planning for Bushfire Protection (2019).

07 - ADJOINING LAND

The application that is presented to the Department of Planning is limited to a re-zoning application. The land is currently used for a rural residential purpose with the residential area limited to the north west quadrant. The current land use would allow for grass outside of the curtilage of the existing dwelling to grow greater than 100mm high. Based on RFS terminology grass greater than 100mm high is not considered managed land and by default considered to be a bushfire threat. Future development which would require compliance with PBP and in particular Asset Protection Zone requirements would lead to increased managed areas and the fragmentation of bushfire prone land. In that context, a planning proposal that reduces the minimum lot size from 8 hectares to 5 hectares and the potential future development will not provide any increased pressure on the bushfire protection measures that may be required by adjoining landowners to protect their assets from the threat of bushfire.

08 - RECOMMENDATIONS

The information presented in this Bushfire Assessment Report demonstrates that the proposal to rezone the subject land and reduce the minimum lot size can satisfy the Ministerial Direction No. 4.4 – 'Planning for Bush Fire Protection' and the requirements of 'Planning for Bush Fire Protection 2019'.

This is achieved by providing compliant bushfire protection measures such as hazard separation and adequate access. The proposal is not considered incompatible with the surrounding environment and bushfire risk. Bushfire protection measures for future development recommended within this report to achieve the requirements are listed below:

Asset Protection Zones (APZs)

Any future development within the subject site is to provide an Asset Protection Zone that maintains reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and prevent direct flame contact. APZs are to comply with PBP (2019) 5.3a.

Access

Any future development within the site is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area. Access is to comply with PBP (2019) 5.3b Acceptable Solutions or Performance Criteria. Where a performance solution is proposed this is to be consulted with NSW Rural Fire Service via a Bush Fire Design Brief or their pre-DA service.

Water, Electricity and Gas

Any future development within the site is 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. Water, electrical and gas provision is to comply with PBP (2019) 5.3c.

EMERGENCY MANAGEMENT

Any future development within the site is to provide for a Bush Fire Emergency Management and Evacuation Plan is prepared by the operator consistent with the NSW RFS publication: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan.

09 - SUMMARY

This report has been written to support a planning proposal for the reduction of the minimum lot size from 8 hectares to 5 hectares. Subject to the approval of the rezoning application, the land (Lot 103/-/DP1143590) may be subject to a rural residential subdivision proposal.

The development proposal is captured under EP&A Act s.9.1(2), 4.46 of the EP&A Act 1979. Direction 4.4 Planning for Bush Fire Protection applies to planning proposals that affect, or are in close proximity to, land mapped as BFPL (PBP 2019, s.4.4). Under Direction 4.4, the relevant authority must consult with the Commissioner of the NSW RFS and take into account any comments made.

The subject site is located within the Dubbo Regional Local Government Area (LGA) approximately 5 km east of municipal of Dubbo. An existing homestead is located in the north west quadrant of the site. The primary access is via Pinedale Road to the south. The site is bounded by a crown road reserve to the north that connects to Beni Road to the east. The majority of the site is dominated by Grassland. The central northern part of the site contains a mix of Forest and Woodland. Refer to figure 00. Existing rural residences are located in the adjoining allotments to the east, west and south east.

With consideration of the potential for future rural residential subdivision, PBP indicates that conditions placed upon isolated subdivision reflect the need for occupants to be more self sufficient in regards defending their properties. With experience on other projects that have had constrained or deficient access, NSW Rural Fire Service have permitted an enhancement of other bushfire protection measures such as increased Asset Protection Zones, elevated construction requirements and additional water to reduce the reliance on access as a form of bushfire protection. The future allotments having an area of 5-8 hectares and mostly grassland are favourable to this approach.

It is our view that any future development within the subject site is not likely to increase the demand for emergency services responding to a bush fire. Future development would through the course of establishing new dwellings and associated asset protection zones, remove and further fragment potential bushfire prone land. From a bushfire protection perspective, this would benefit the existing residences to the west, east and south east.

Any future development will be serviced by Dubbo Regional Council reticulated water designed and installed to comply with RFS requirements. As the site(s) will be self sufficient there is no impact or burden for the land owner or local council to provide additional water infrastructure to the site. Future electrical gas and or electricity will be specified to comply with PBP (2019).

It is our view the planning proposal to reduce the minimum lot size from 8 hectares to 5 hectares can generally comply with Planning for Bushfire Protection. Certain types of development may not comply with PBP (2019) Acceptable Solutions for access however based on experience with other similar projects (and RFS consultation), other bushfire protection measures (eg., APZs, water and construction specifications) can be enhanced such that reliance on access as a form of bushfire protection is lessened. It is noted the dominant bushfire threat is the Forest to the north. The existing driveway connecting the site to Pinedale Road to the south provides safe access and egress for emergency services and residents.

Should the reader have any comments or question in relation to this report and would like to discuss, please get in contact.

Regards,



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T/A Bushfire Planning and Design



10 - REFERENCES

AS3959 (2018)	Australian Standard, Construction of buildings in bushfire-prone areas, AS 3959, Third edition 2018 Standards Australia International Ltd, Sydney.
BCA (2019)	Building Code of Australia 2019, Building Code of Australia, Australian Building Codes Board, Canberra 2019.
EPA Act (1979)	Environmental Planning and Assessment Act 1979, NSW Government, NSW, legislation found at www.legislation.nsw.gov.au
PBP (2019)	Planning for Bushfire Protection, a Guide for Councils, Planners, Fire Authorities, Developers and Home Owners. Rural Fire Service 2019, Australian Government Publishing Service, Canberra.
RFS (2015)	Rural Fire Service, Guide For Bush Fire Prone Land Mapping, Version 5b.

Appendix 3: Aboriginal Cultural Heritage Report (Dubbo Local Aboriginal Lands Council) 2022