

BUSHFIRE ASSESSMENT

PROPOSED RESIDENTIAL SUBDIVISION

**LOT 111 DP 1002308
206 Fotheringay Road, Clarence Town**

Date: **08/05/2026**

Prepared for: **Clarence Ridge Estate Pty Ltd**

NEWCASTLE BUSHFIRE CONSULTING

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1.0 EXECUTIVE SUMMARY AND COMPLIANCE TABLES

This report has assessed the proposed residential subdivision against the requirements of Section 100B of the Rural Fires Act 1997, AS3959 (2018) Construction of buildings in bushfire-prone areas and Planning for Bush Fire Protection (2019).

This report establishes that the development is capable of complying with the acceptable solutions of Planning for Bush Fire Protection (2019) excepting the provision of a secondary public road exit.

TABLE 1 – PROPERTY DETAILS AND TYPE OF PROPOSAL

Applicant Name	Clarence Ridge Estate Pty Ltd		
Site Address	206 Fotheringay Road, Clarence Town	Lot/Sec/DP	Lot 111 DP 1002308
Local Government Area	Dungog	FDI	100
Bushfire Prone Land	Yes, mapped bushfire prone land		
Type of development	Large Lot Residential subdivision	Type of Area	Rural Residential
Special Fire Protection Purpose	No	Flame Temperature	1090K
Application Complies with Acceptable Solutions	No. A performance solution has been provided based on a single exit point for a public road servicing more than 3 properties	Referral to NSW Rural Fire Service (NSW RFS) required	Yes. Bushfire Safety Authority Required

TABLE 2 – BUSHFIRE THREAT ASSESSMENT

	North	East	South	West
Vegetation Structure	Forest	Grassland	Grassland	Grassland
Distance to Vegetation	42 metres	75 metres	49 metres	19 metres
Accurate Slope Measure	6 degrees upslope	4 degrees downslope	2 degrees downslope	Level
Slope Range	Level/Upslope	>0 to 5 degrees downslope	>0 to 5 degrees downslope	Level/Upslope
Planning for Bush Fire Protection (2019) Table A1.12.2 Minimum Setbacks	24 metres	12 metres	12 metres	10 metres
AS3959 (2018) Bushfire Attack Level (BAL)	BAL-19	BAL-LOW	BAL-LOW	BAL-19

A potential BAL-29 building envelope is available on all properties with the minimum setback distances demonstrated above for a 15 x 15 metre potential building envelope.

Table 4 examines potential BAL levels across the varying properties.

TABLE 3 – PLANNING FOR BUSH FIRE PROTECTION (2019) SECTION 5 COMPLIANCE

Performance Criteria	Proposed Development Determinations	Method of Assessment
Asset Protection Zone	Asset Protection Zones have been determined in accordance with Planning for Bush Fire Protection (2019). The Asset Protection Zone will be maintained for the life of development and defensible space is provided onsite.	Acceptable Solution
Landscaping	Landscaping to comply with Planning for Bush Fire Protection (2019) Appendix 4.	Acceptable Solution
Public Road Access	Property access offers compliance with Planning for Bush Fire Protection (2019) Section 5.3b excepting the provision of a second road.	<u>Performance Solution</u>
Property Access	Property access offers compliance with Planning for Bush Fire Protection (2019) Section 5.3b excepting access by dedication of a road. The current 20 metre wide right of way is intended to be used for two additional allotments.	<u>Performance Solution</u>
Fire Trail Access	No new fire trails are proposed for this development.	Acceptable Solution
Water and Utility Services	Water, electricity and gas services offer compliance with Planning for Bush Fire Protection (2019) Section 5.	Acceptable Solution

2.0 INTRODUCTION

2.1 PURPOSE OF REPORT

The purpose of this report is to establish suitable bushfire mitigation measures for the proposed residential subdivision to be constructed at Lot 111 DP 1002308, 206 Fotheringay Road, Clarence Town. The assessment acknowledges the requirements of Section 100B of the Rural Fires Act 1997 and Planning for Bush Fire Protection (2019) to protect persons, property and the environment from dangers that may arise from a bushfire.

Under the provisions of Section 100B of the Rural Fires Act 1997 as amended, a Bushfire Safety Authority (BFSA) is required from the Commissioner of the NSW Rural Fire Service.

This report complies with Rural Fires Regulation 2008 Clause 44 Application for Bushfire Safety Authority. The assessment encompasses the subject site and neighbouring areas.

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

2.2 PROPOSED DEVELOPMENT

The proposed development includes a 1 into 5 lot subdivision. The subject site is zoned R5: Large Lot Residential and totals 40,285.9 square metres in size. An existing dwelling is located onsite and no new dwellings are proposed as part of this development.

2.3 SIGNIFICANT ENVIRONMENTAL FEATURES

A mapped waterway is located on the northern portion of the site.

2.4 ENVIRONMENTAL ASSETS

There are no known environmental assets on the subject site.

2.5 ABORIGINAL HERITAGE

Searches of NSW National Parks and Wildlife Service's database identify no known aboriginal relics or aboriginal places as defined by National Parks and Wildlife Act 1974 to exist on the site.



PHOTO 1 - SITE PHOTO LOOKING NORTHWEST

View of the northwestern portion of the subject site with grassy forest visible to the northwest of the site. Managed properties surround the site to the east, south and west.



PHOTO 2 - NORTHWESTERN GRASSY FOREST

View of grassy forest located northwest of the site. Eucalypts dominate the tree canopy with a low density grassy understorey.

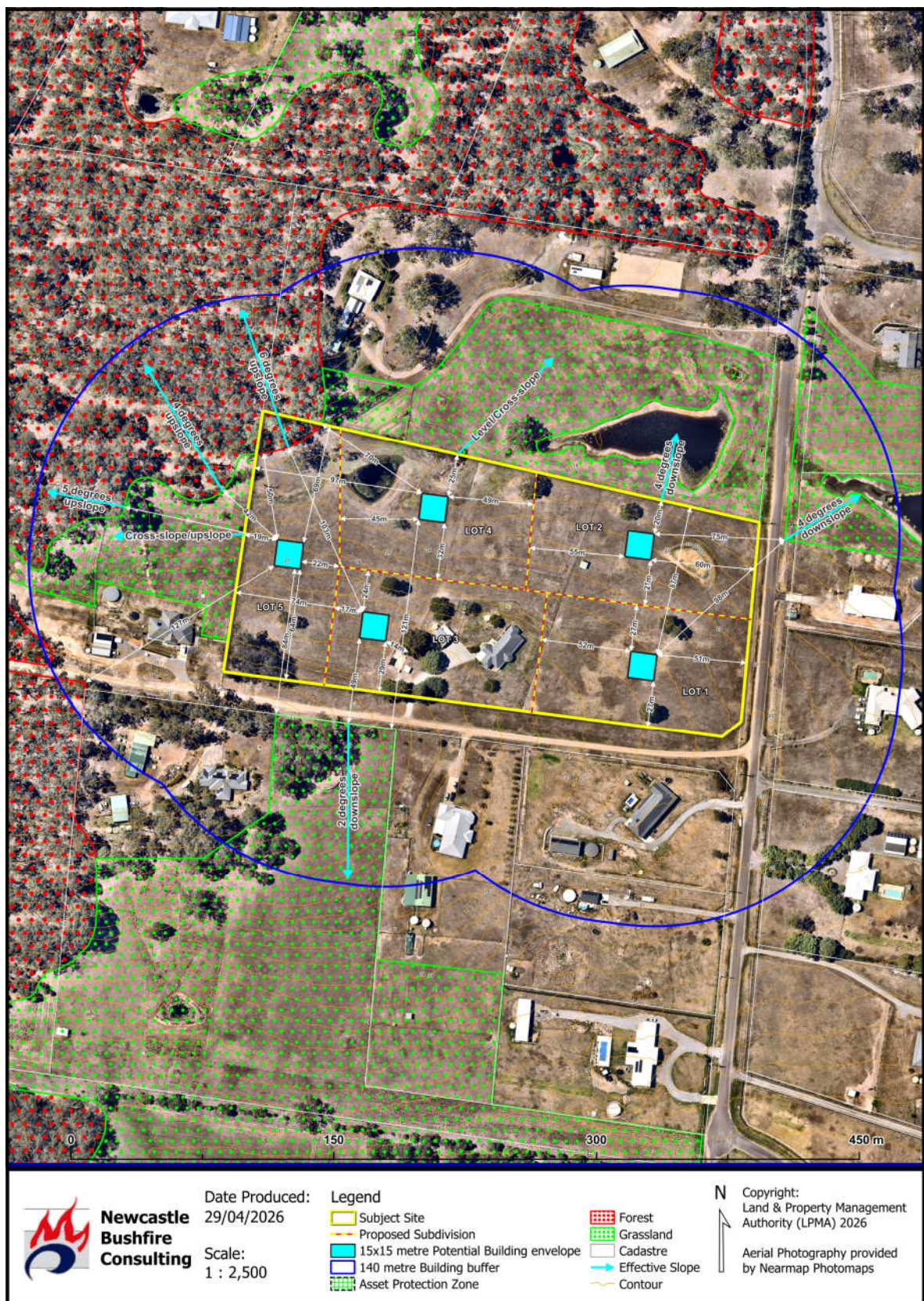


FIGURE 1 – SITE CONSTRAINTS MAP

3.0 BUSHFIRE ATTACK ASSESSMENT

3.1 VEGETATION CLASSIFICATION

Potential bushfire hazards were identified from Dungog Council bushfire prone mapping as occurring within the investigation area. Aerial mapping and inspection of the site reveals that the bushfire prone land map is somewhat inaccurate in respect to the current bushfire hazard.

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

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

3.2 EFFECTIVE SLOPE

Effective slope was measured using 2-metre contour data obtained from The Department of Lands and verified by a laser hypsometer on site. The laser hypsometer verified slope within the vegetation, calculating effective fire run slope from 5 separate measurements in each dominant direction.

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

3.3 MINIMUM SETBACKS AND ASSET PROTECTION ZONES

Minimum setbacks have been determined in accordance with Planning for Bush Fire Protection (2019) Table A1.12.2. The minimum Asset Protection Zone for subdivision has been demonstrated in Section 1.0 Executive Summary and Compliance Tables.

The required Asset Protection Zone is available within the subject site and neighbouring managed lands. All dwellings will be exposed to less than 29 kw/m² of radiant heat.

3.4 BUSHFIRE ATTACK LEVELS

BALs and relevant construction levels in accordance with Planning for Bush Fire Protection (2019) have been demonstrated in Section 1.0 Executive Summary and Compliance Tables, Table 2 Bushfire Threat Assessment.

BALs and relevant construction levels in accordance with AS3959 (2018) have been demonstrated in Table 4 BALs Individual Allotments. The below assessments are based on the present vegetation with a more updated assessment required if future clearing occurs.

TABLE 4 – BUSHFIRE ATTACK LEVELS INDIVIDUAL ALLOTMENTS

Vegetation and Direction from the lot	Separation Distance	Recommended Construction Standards
Vegetation surrounding lot 1	> 100 metres from bushland and > 50 metres from Grassland	BAL-LOW
Grassland located north and east of lot 2	> 50 metres from Grassland	BAL-LOW
	25 - 50 metres from Grassland	BAL-12.5 (Sections 3 and 5 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	17 - 25 metres from Grassland	BAL-19 (Sections 3 and 6 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	12 - 17 metres from Grassland	BAL-29 (Sections 3 and 7 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
Forest northwest of lots 3 to 5	> 100 metres from Forest	BAL-LOW
	45 - 100 metres from Forest	BAL-12.5 (Sections 3 and 5 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	33 - 45 metres from Forest	BAL-19 (Sections 3 and 6 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	24 - 33 metres from Forest	BAL-29 (Sections 3 and 7 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
Grassland located south of lots 2 to 5	> 50 metres from Grassland	BAL-LOW
	25 - 50 metres from Grassland	BAL-12.5 (Sections 3 and 5 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	17 - 25 metres from Grassland	BAL-19 (Sections 3 and 6 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)

Vegetation and Direction from the lot	Separation Distance	Recommended Construction Standards
	12 - 17 metres from Grassland	BAL-29 (Sections 3 and 7 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
Grassland located north and west of Lots 2 to 5	> 50 metres from Grassland	BAL-LOW
	25 - 50 metres from Grassland	BAL-12.5 (Sections 3 and 5 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	15 – 22 metres from Grassland	BAL-19 (Sections 3 and 6 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)
	10 - 15 metres from Grassland	BAL-29 (Sections 3 and 7 of AS3959 (2018) and Planning for Bush Fire Protection (2019) Section 7.5.2)



FIGURE 2 – LOCALITY MAP
Courtesy of OpenStreetMap

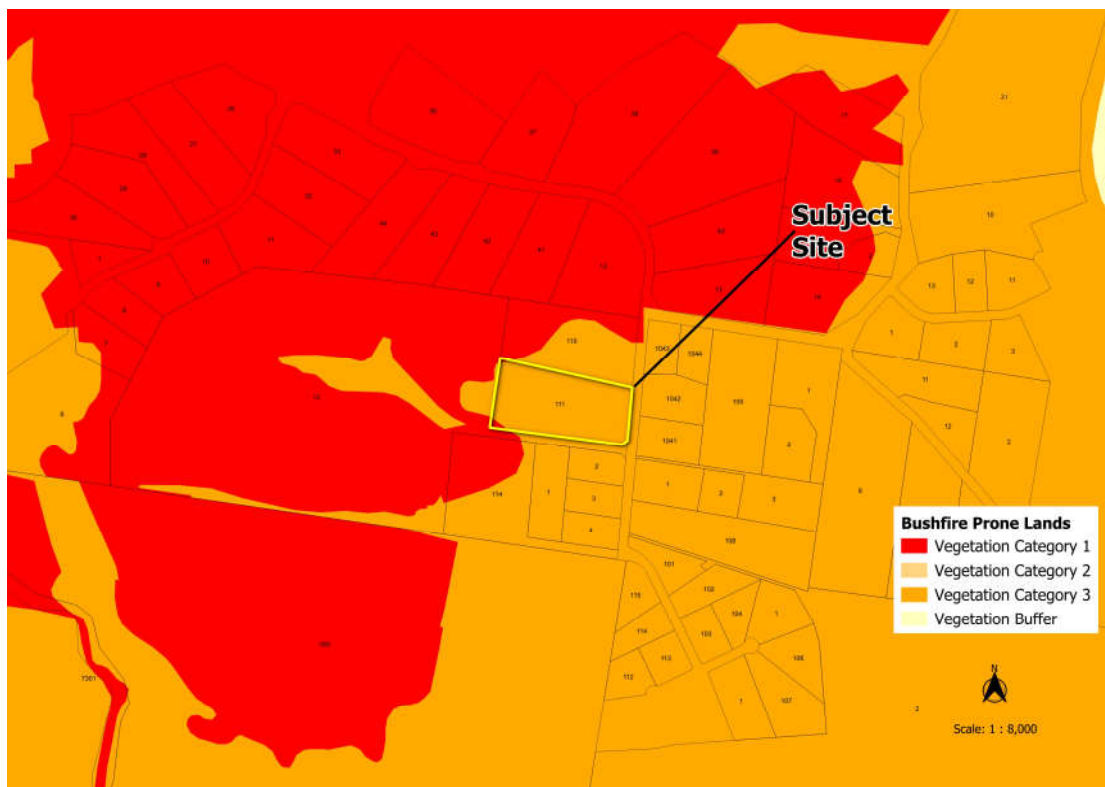


FIGURE 3 – COUNCIL'S BUSHFIRE PRONE LAND MAP



PHOTO 3 - SITE LOOKING WEST FROM FOTHERINGAY ROAD

View of the subject site looking west from Fotheringay Road. The site is predominantly grazed pasture, with the northern neighbouring property also having low-cropped grass or slashed grass.

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4.0 UTILITY SERVICES AND INFRASTRUCTURE

4.1 WATER SERVICES

The new allotments are approximately 8,000 square metres in size with no hydrant access. Either an additional hydrant shall be installed in accordance with AS2419.1 or a static water supply, with provision for a minimum 10,000 litres shall be provided. The 10,000 litre water supply may be either a tank, dam or pool, providing that the 10,000 litres is available for firefighting purposes. The following requirements should be adhered to for the water supply:

- a) a connection for firefighting purposes is located within the Inner Protection Area (IPA) or non-hazard side and away from the structure; 65 millimetres Storz outlet with a ball valve is fitted to the outlet;
- b) ball valve and pipes are adequate for water flow and are metal;
- c) supply pipes from tank to ball valve have the same bore size to ensure flow volume;
- d) underground tanks have an access hole of 200 millimetres to allow tankers to refill directly from the tank;
- e) a hardened ground surface for truck access is supplied within 4 metres;
- f) above-ground tanks are manufactured from concrete or metal;
- g) raised tanks have their stands constructed from non combustible material or bushfire resisting timber (AS3959 (2018) Appendix F);
- h) unobstructed access can be provided at all times;
- i) underground tanks are clearly marked;
- j) tanks on the hazard side of the building are provided with adequate shielding for the protection of firefighters;
- k) all exposed water pipes external to the building are metal, including any fittings.

4.2 ELECTRICITY SERVICES

The existing electrical supply to the local area is via overhead electrical transmission lines. No part of a tree shall be closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.

4.3 GAS SERVICES

- Reticulated or bottled gas to be installed and maintained in accordance with AS1596 (2002) and the requirements of the relevant authorities. Metal piping is to be used.
- Fixed gas cylinders to be kept clear of flammable material by a distance of 10 metres and shielded on the hazard side of the installation.

- Gas cylinders close to the dwelling are to have the release valves directed away from the building and be at least 2 metres from flammable material with connections to and from the gas cylinder being of metal.
- Polymer-sheathed, flexible gas supply lines to gas meters adjacent to the buildings are not to be used.

5.0 PROPERTY ACCESS

The existing and proposed public road network is deemed adequate to handle increased volumes of traffic in the event of a bushfire emergency.

ACCESS (GENERAL REQUIREMENTS)	
Firefighting vehicles are provided with safe, all-weather access to structures.	Property access roads are two-wheel drive, all-weather roads; Perimeter roads are provided for residential subdivisions of three or more allotments; <u>Subdivisions of three or more allotments have more than one access in and out of the development;</u> Traffic management devices are constructed so as not to prohibit access by emergency service vehicles; Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient; <u>All roads are through roads;</u> <u>Dead-end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12-metre outer radius turning circle, and are clearly sign posted as a dead end;</u> Where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road; Where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system; One-way-only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas, to ensure accessibility to reticulated water for fire suppression.
Compliance: The development can offer compliance for all measures excepting having more than 1 way in and out of a subdivision for more than 3 allotments and a dead end right of way will be provided to proposed lot 5 which is more than 200 metres in length from the public road. A performance solution has been proposed examining the low risk of the site. A compliant turning area, as detailed in Planning for Bush Fire Protection (2019) Appendix 3 shall be provided at the connection of the property access and/or adjacent the future dwelling.	

The capacity of access roads is adequate for firefighting vehicles.	The capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating.
Compliance: The development can offer full compliance.	
There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; Hydrants are provided in accordance with the relevant clauses of AS2419.1 (2005) - Fire hydrant Installations - System design, installation and commissioning; and There is suitable access for a Category 1 fire appliance to within 4 metres of the static water supply where no reticulated supply is available.
Compliance: The development can offer full compliance for a static water supply.	
PERIMETER ROADS	
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating, as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	Are two-way sealed roads; Minimum 8 metre carriageway width kerb to kerb; Parking is provided outside of the carriageway width; Hydrants are located clear of parking areas; Are through-roads, and these are linked to the internal road system at an interval of no greater than 500 metres; Curves of roads have a minimum inner radius of 6 metres; The maximum grade road is 15 degrees and average grade of not more than 10 degrees; The road crossfall does not exceed 3 degrees; and A minimum vertical clearance of 4 metres to any overhanging obstructions, including tree branches, is provided.
Compliance: An existing 20 metre wide right of way is located to the south of the site and a formed bitumen road to the east. No internal perimeter roads are proposed. A perimeter road is not deemed necessary for the site. The site is moderate risk and will afford access to surrounding properties to fight any limited landscaping fires that may occur.	
NON-PERIMETER ROADS	
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.	Minimum 5.5 metre carriageway width kerb to kerb; Parking is provided outside of the carriageway width; Hydrants are located clear of parking areas; Roads are through-roads and are linked to the internal road system at an interval of no greater than 500 metres; Curves of roads have a minimum inner radius of 6 metres;

	The road crossfall does not exceed 3 degrees; and A minimum vertical clearance of 4 metres to any overhanging obstructions, including tree branches, is provided.
Compliance: The development can offer full compliance.	

Fire Trails

Fire trails do not intersect the vegetation in the local area. No new fire trails are proposed.

Property Access

Property access is provided by way of Fotheringay Road providing access from the public road system directly to the private land, giving firefighters access to the building.

Property access roads shall comply with Planning for Bush Fire Protection (2019) Section 5.3b.

PROPERTY ACCESS	
Firefighting vehicles can access the dwelling and exit the property safely.	There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles. In circumstances where this cannot occur, the following requirements apply: • minimum 4m carriageway width; • 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; • a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches; • provide a suitable turning area in accordance with Appendix 3; • curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress; • the minimum distance between inner and outer curves is 6m; • the crossfall is not more than 10 degrees; • maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and

	• a development comprising more than three dwellings has access by dedication of a road and not by right of way.
Compliance: The proposed property accesses can offer full compliance with the above excepting the dedication of a road. A performance solution has examined the level of risk afforded by the surrounding large lot residential landscaping and grazing pastures and the suitability of the 20 metre wide right of way.	

6.0 LANDSCAPING MAINTENANCE

It is recommended that landscaping is undertaken in accordance with Planning for Bush Fire Protection (2019) Appendix 4 and maintained for the life of the development.

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

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

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

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

7.0 EMERGENCY AND MAINTENANCE PLANS

7.1 BUSHFIRE MAINTENANCE PLANS

There is no known Bushfire Maintenance Plan for the site. A condition of development is to maintain the entire site as an Inner Protection Area which should be monitored by the building owner.

7.2 FIRE EMERGENCY PROCEDURES

It is recommended the future property owners or building occupants prepare a bushfire survival plan for each residence when they occupy the building.

8.0 PERFORMANCE BASED SOLUTION

At the request of the client, I have been asked to provide an unbiased safety model for the proposed development. The proposed performance-based solution offers compliance with Planning for Bush Fire Protection (2019).

Proposed Performance Based Solution

The proposed development departs from the acceptable solutions of Planning for Bushfire Protection (2019) based on the below acceptable solutions being unable to be achieved:

- a single property exit for a subdivision involving more than 3 properties
- the requirement that all roads are through roads.
- a dead-end road exceeding 200 metres.
- a development comprising more than three dwellings has access by dedication of a road and not by right of way.

Methodology of Assessment

Pursuant to Section A2.4(c) of Appendix 2 in Planning for Bush Fire Protection (2019), the assessment method used by the performance solution to demonstrate compliance with the nominated performance criteria, is a comparative analysis with the acceptable solutions of Planning for Bush Fire Protection (2019) relating to property access, with both property owners and firefighting vehicles to be provided with safe all-weather access.

Planning Compliance

The basis for the assessment of compliance for this site is Planning for Bush Fire Protection (2019) Section 5.3.2 Access.

The specific performance criteria measure is compliance with Planning for Bush Fire Protection (2019) Table 5.3b "firefighting vehicles are provided with safe, all-weather access to structures."

Qualitative Assessment

The public road traverses grazed pasture and mown grass/managed land to the east of the site. The southern property access to lots 1, 3 and 5 are via an existing 20 metre width right of way that currently services more than 3 dwellings.

The current right of way has a swept width exceeding 8 metres in width with 2 fire appliances being able to pass side by side along the entire length of the right of way. At time of site visit the right of way consist of short mown grass and gravel road with a 2 wheel drive vehicle able to navigate the majority of the 20 metre width.

The lack of trees surrounding the proposed property access roads will reduce the risk of the road being cut by falling trees and other obstructions are significantly reduced.

Residential grass or a landscape fire will have a reduced firefront residence time, which will allow for adequate evasion if impacting the property access. The short firefront residence time, in conjunction with an asset protection zone and landscape requirements, will not have the same impact on the asset as that of a forest or heath fire and less likelihood of the occupants feeling like they need to evacuate the site when the firefront is in the vicinity of the asset protection zone interface.

The need for a second public road egress is negated by the reduced threat posed by managed residential properties and the ability to shelter in a suitably resilient building constructed to AS3959. A turning bay will be provided adjacent each dwelling where applicable affording the safe operational access and egress for firefighting appliances.

Evaluation of Performance Based Solution

The proposed development meets the performance criteria and intent of the public road and property access requirements. There is significant scope to provide building envelopes that are BAL-29 or less, with the public road access and right of way providing safe access and egress to the site. The surrounding grass may offer limited ember attack if significant revegetation occurs and achieves the performance criteria of, “firefighting vehicles are provided with safe, all-weather access to structures,”.

9.0 RECOMMENDATIONS

There is presently a single dwelling located onsite, and no dwelling is proposed as part of this development application. Any future dwelling will be assessed separately under legislation current at time of approval. The below recommendations provide an indication of recommended measures for a future dwelling; however specific consideration should be made with the development submission:

1. There is potential for a future dwelling that will be BAL-29 or lower in accordance with AS3959 (2018) Construction of buildings in bushfire-prone areas or NASH Standard (1.7.14 updated) National Standard Steel Framed Construction in Bushfire Areas – 2014 as appropriate and the additional construction requirements of Planning for Bush Fire Protection (2019) Section 7.5.2. Specific assessment should be made for the future building based on legislation current at time of approval.
2. At the commencement of building works, the property where not affected by a mapped waterway or current forest is recommended to be managed as an inner protection area (IPA) as outlined within Appendix 4 of Planning for Bush

Fire Protection 2019 and the NSW Rural Fire Service's document Standards for Asset Protection Zones.

3. It is recommended that an easement be burdened on the land, allowing neighbouring property owners to maintain grass until future dwelling construction occurs.
4. Water, electricity and gas are to comply with Section 5 of Planning for Bush Fire Protection (2019).

Water Services

- a. A 10,000 litre static water supply with firefighting fittings is required.
5. The property access shall comply with Section 5.3b of Planning for Bush Fire Protection (2019) excepting the below conditions:
 - a. a single property exit for a subdivision involving more than 3 properties
 - b. the requirement that all roads are through roads.
 - c. a dead-end road exceeding 200 metres.
 - d. a development comprising more than three dwellings has access by dedication of a road and not by right of way.
6. Landscaping is to be undertaken in accordance with Planning for Bush Fire Protection (2019) Appendix 4 and managed and maintained in perpetuity.
7. It is recommended that the property owner or building users familiarise themselves with the relevant bushfire preparation and survival information provided by the NSW RFS.
8. The existing dwelling shall be upgraded to improve ember protection. This is to be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2 millimetres. Where applicable, this includes any subfloor areas, openable windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders.

10.0 CONCLUSION

The final recommendation is that the proposed development offers compliance with Planning for Bush Fire Protection (2019). There is potential for bushfire attack at this site, and a list of recommendations has been included in the above assessment to reduce that risk.

11.0 APPENDIX 1.0 – ASSET PROTECTION ZONES SUMMARY

Below is a summary of Asset Protection Zones outlined in appendix 4 of Planning for Bush Fire Protection (2019) and the NSW Rural Fire Services “Standards for Asset Protection Zones”. The property owner(s) should obtain these two documents and familiarise themselves with their content.

Generally

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

Inner Protection Area (IPA)

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

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

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

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

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

Outer Protection Area (OPA)

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

A. Shrubs:

1. Shrubs should not form a continuous canopy;
2. Shrubs should form no more than 20% of ground cover.

B. Trees:

1. Existing trees can be retained.
2. Tree canopy cover should be less than 30%; and
3. Canopies should be separated by 2 to 5m.

Grass (throughout the entire asset protection zone)

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

12.0 REFERENCES AND DISCLAIMER

References

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

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

Environmental Planning and Assessment Act 1979.

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

Disclaimer

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

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

AS3959 (2018) Construction of buildings in bushfire-prone areas states that the standard is designed to lessen the risk of damage to buildings occurring in the event of the onslaught of bushfire. There can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion. External combustible cladding is not recommended.