BUSHFIRE CERTIFICATE

PROPOSED NEW DWELLING
CREATING A DUAL OCCUPANCY

LOT 26 DP 6253
693 Alison Road, Alison

Date: **26/04/2025**

Prepared for: **Alicia and Adam Harris**

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I hereby declare that I am a BPAD accredited bushfire practitioner.

Accreditation No. BPAD16132

Signature

Date 26/04/2025

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Document Status

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1.0 EXECUTIVE SUMMARY AND COMPLIANCE TABLES

This report has assessed the proposed new dwelling against the requirements of Section 4.14 of the Environmental Planning and Assessment Act 1979, AS3959 (2018) Construction of buildings in bushfire-prone areas and Planning for Bush Fire Protection (2019).

This report establishes that the new dwelling is capable of complying with the acceptable solutions of Planning for Bush Fire Protection (2019).

TABLE 1 – PROPERTY DETAILS AND TYPE OF PROPOSAL

Applicant Name	Alicia and Adam Harris		
Site Address	693 Alison Road, Alison	**Lot/Sec/DP**	Lot 26 DP 6253
Local Government Area	Dungog	**FDI**	100
Bushfire Prone Land	Yes, mapped bushfire prone land		
Type of development	New Dwelling	**Type of Area**	Rural
Special Fire Protection Purpose	No	**Flame Temperature**	1090K
Application Complies with Acceptable Solutions	Yes. Relevant specifications and requirements are satisfied	**Referral to NSW Rural Fire Service (NSW RFS)required**	No

TABLE 2 – BUSHFIRE THREAT ASSESSMENT

	Northwest	**Northeast**	**Southeast**	**South**
Vegetation Structure	Low-Threat – Windrow and < 1 hectare in size and > 100 metres from category 1 threat	Grassland	Grassland	Grassland
Distance to Vegetation	32 metres	32 metres	32 metres	32 metres
Accurate Slope Measure	N/A	6 degrees upslope	7 degrees downslope	7 degrees downslope
Slope Range	N/A	Level/Upslope	>5 to 10 degrees downslope	>5 to 10 degrees downslope
AS3959 (2018) Bushfire Attack Level (BAL)	BAL-LOW	BAL-12.5	BAL-12.5	BAL-12.5

The above asset protection zone is determined using Planning for Bush Fire Protection (2019) Sections A1.3, Section 7.9 and Table 7.9a – Grassland deeming provisions.

TABLE 3 – PLANNING FOR BUSH FIRE PROTECTION (2019) 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 defendable space is provided onsite.	Acceptable Solution
Siting and Design	Buildings have been designed to minimise the risk of bushfire attack.	Acceptable Solution
Construction Standards **AS3959 (2018)**	Bushfire Attack Levels have been determined in accordance with Planning for Bush Fire Protection (2019). The highest BAL to the proposed building was determined to be BAL-12.5. The proposed building increases dwelling density with the development complying with section 8.2.1 of Planning for Bush Fire Protection (2019). The proposed dwelling will be exposed to radiant heat thresholds of less than 29 kw/m2.	Acceptable Solution
Private and or Public Road Infrastructure	The public road system is not affected or changed as part of this application.	Acceptable Solution
Property Access	Property access to comply with Planning for Bushfire Protection (2019) Section 7.	Acceptable Solution
Water and Utility Services	Water, electricity and gas services offer compliance with Planning for Bush Fire Protection (2019) Section 7.	Acceptable Solution
Landscaping	Landscaping to comply with Planning for Bush Fire Protection (2019) Appendix 4.	Acceptable Solution

Bushfire Certification

This report has been prepared by Phillip Couch, a Fire Protection Association, Bushfire Planning and Design - Alternate Solutions Accredited Practitioner (FPAA BPAD-Level 3) and a Graduate Fire Engineer with the Institution of Fire Engineers. Phillip Couch certifies that the proposed development design conforms to the relevant specifications and requirements of AS3959 (2018) Construction of buildings in bushfire-prone areas and Planning for Bush Fire Protection (2019) detailed in Section 4.14 of the Environmental Planning and Assessment Act 1979.

26/04/2025

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2.0 INTRODUCTION

2.1 PURPOSE OF REPORT

The purpose of this report is to establish suitable bushfire mitigation measures for the proposed new dwelling to be constructed at Lot 26 DP 6253, 693 Alison Road, Alison, in order for the Council to make determination of the proposed development pursuant to the requirements of Section 4.14 of the Environmental Planning and Assessment Act 1979.

Features on or adjoining the site that may mitigate the impact of a bushfire on the proposed development
The site is surrounded by grazing pasture and a windbreak to the west, which will act as an effective ember filter. This will result in reduced fire intensity and size.

Likely environmental impact of any proposed bush fire protection measures
No native vegetation removal is required for the development.

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 new dwelling in a bushfire event.

2.2 PROPOSED DEVELOPMENT

The proposed development includes the construction of a new freestanding dwelling. An existing dwelling is located onsite with the development resulting in a dual occupancy.

3.0 BUSHFIRE ATTACK ASSESSMENT

3.1 VEGETATION CLASSIFICATION

Potential bushfire hazards were identified from Dungog Council's Bushfire Prone Mapping as occurring within the investigation area. Aerial mapping and inspection of the site reveals that the bushfire prone land map is 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.

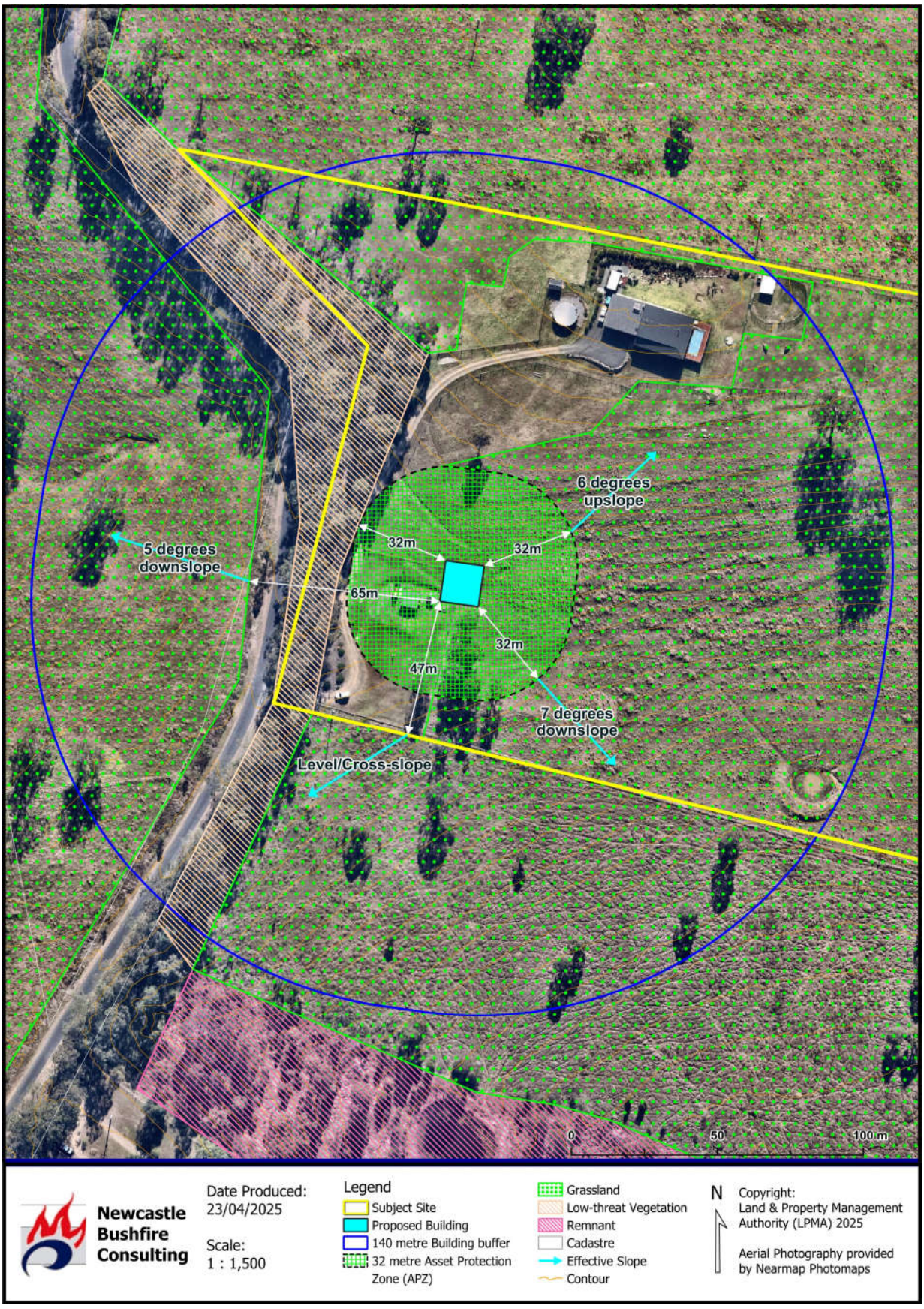


FIGURE 1 – SITE CONSTRAINTS MAP

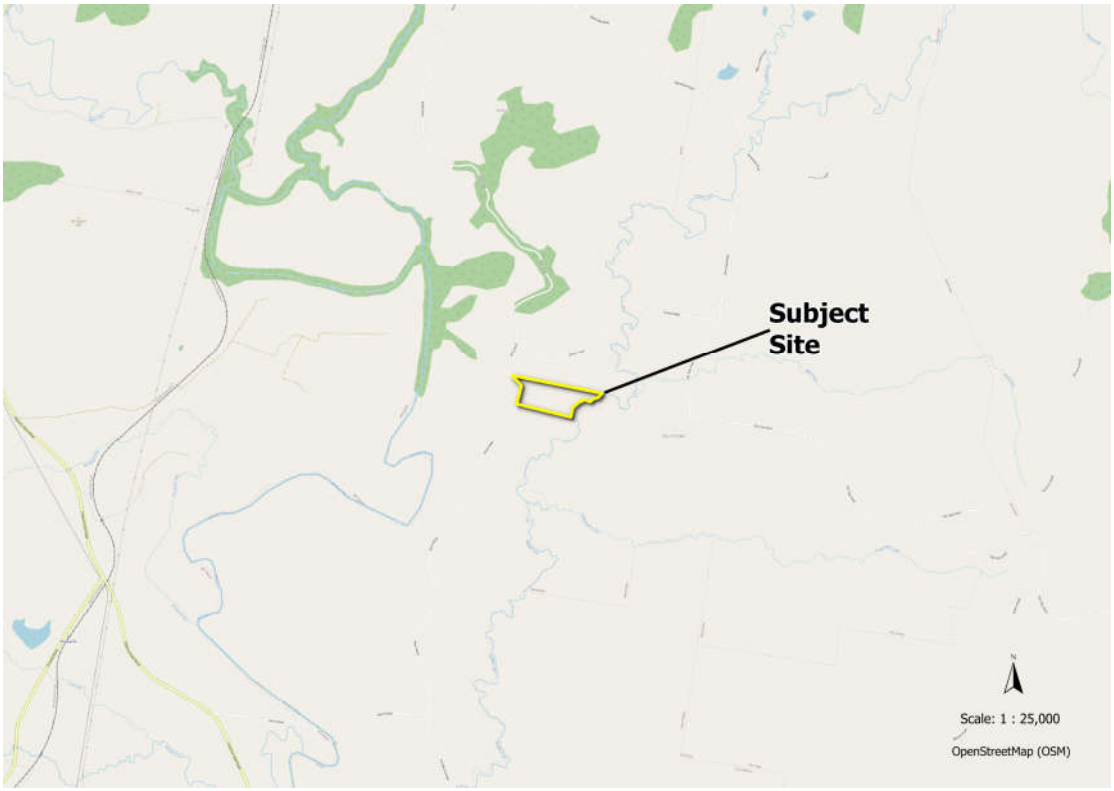


FIGURE 2 – LOCALITY MAP
Courtesy of OpenStreetMap

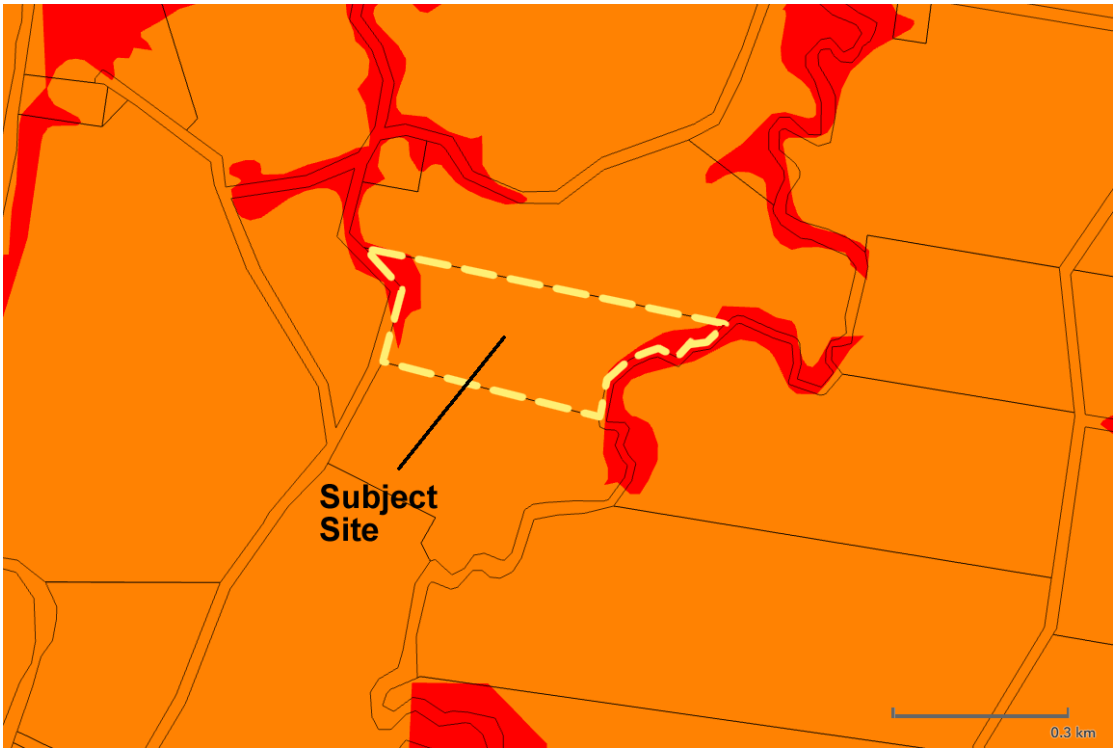


FIGURE 3 – COUNCIL'S BUSHFIRE PRONE LAND MAP

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 BUSHFIRE ATTACK LEVELS

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

4.0 UTILITY SERVICES AND INFRASTRUCTURE

4.1 WATER SERVICES

The site is greater than 1 hectare in size with no hydrant access. A static water supply, with provision for a minimum 10,000 litres per dwelling shall be provided. The 10,000 litre water supply may be either a tank 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

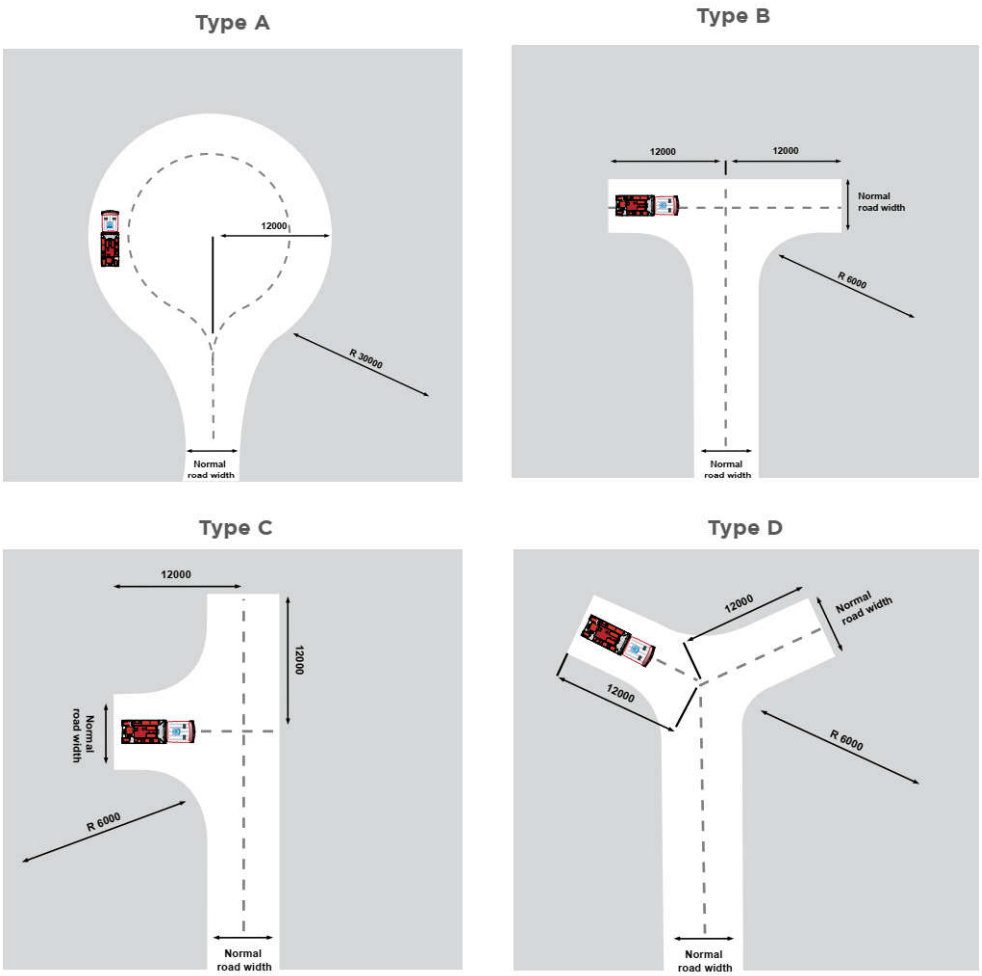
Property access is by way of Alison Road providing access from the public road system directly to the private land, giving firefighters access to the building.

Property access roads shall comply with Section 7 of Planning for Bush Fire Protection (2019).

The Property Access Road should comply with the following conditions:

- minimum 4m carriageway width;
- 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;

Multipoint turning options.



6.0 LANDSCAPING MAINTENANCE

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

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

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

Landscaping should be managed so that flammable vegetation is not located directly under windows. Ground fuels such as fallen leaves, twigs (less than 6 millimetres in diameter) and branches should be removed on a regular basis, and grass needs to be kept closely mown and, where possible, green.

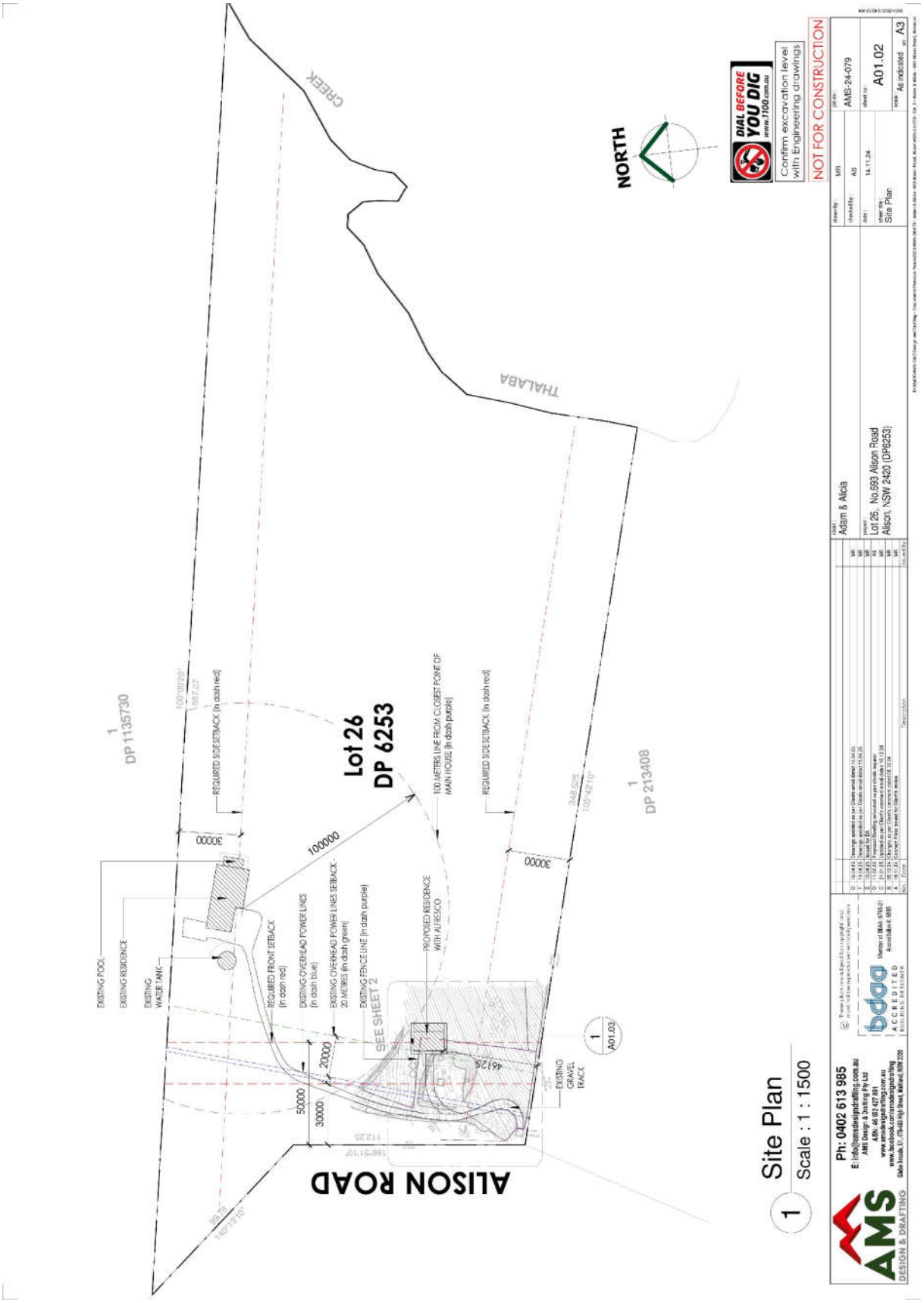


FIGURE 4 – SITE PLAN

7.0 RECOMMENDATIONS

Based upon an assessment of the plans and information received for the proposal, it is recommended that development consent be granted subject to the following conditions:

1. The proposed building works shall comply with BAL-12.5 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.
2. At the commencement of building works and in perpetuity, the property for a minimum 32 metres surrounding the dwelling shall 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. Water, electricity and gas are to comply with Section 7 of Planning for Bush Fire Protection (2019).
   Water Services
   a. A 10,000 static water supply with firefighting fittings is required.
4. Landscaping is to be undertaken in accordance with Planning for Bush Fire Protection (2019) Appendix 4 and managed and maintained in perpetuity.
5. It is recommended that the property owner and occupants familiarise themselves with the relevant bushfire preparation and survival information provided by the NSW RFS.
6. To assist in achieving a better bush fire protection outcome for the overall property, consideration should be given to the implementation of the NSW RFS document Best Practice Guidelines - Dwelling Upgrades for the upgrading of existing building(s) in order to comply with the intent of Planning for Bush Fire Protection (2019) and AS3959 (2018) Construction of buildings in bushfire-prone areas.

8.0 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.

9.0 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.

10.0 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 and provides recommendations to reduce that risk to a manageable level. It is of paramount importance that the recommendations are adhered to for the life of the structure and that all maintenance is performed to ensure a level of protection is provided to the building, occupants and firefighters.

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

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