



- > Design & Assessment of Development in Bushfire Prone Areas
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# Bushfire Assessment

Proposed alterations and additions to an existing dwelling

Lot 13 DP 207482  
5 Croll Street, Blueys Beach

June 2025  
Final

**Prepared for**  
**Bourne Blue Architecture**

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## 1. INTRODUCTION

This Bushfire Assessment has been prepared in relation to proposed alterations and additions to an existing dwelling on land at Lot 13 DP 207482, 5 Croll Street, Blueys Beach.

Part of the land within the site is mapped as bushfire prone land for the purposes of Section 10.3 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). That part of the site is mapped as being in the 100 metre bushfire buffer to an area of mapped Category 1 vegetation on land to the north/north-west.

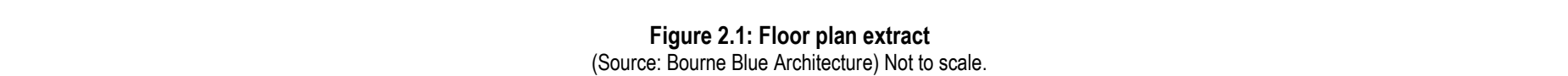
As land within the site is mapped as bushfire prone land, the purpose of this Bushfire Assessment is to assist in the planning process, to identify the proximity of the proposed new work to any potential bushfire threat and to determine what, if any, level of construction is required in accordance with the New South Wales Rural Fire Service (RFS) guideline entitled *Planning for Bush Fire Protection 2019* (PBP).

## 2. PROPOSED DEVELOPMENT

The proposed development involves alterations and additions to the existing dwelling on the land.

The proposed development is shown on plans by Bourne Blue Architecture (project No: 648), *Shepherd, 5 Croll St, Blueys Beach* (drawings DA-01 – DA-06).

An extract of the floor plan is at Figure 2.1.



### 3. SITE DESCRIPTION

The site is on the western side of Croll Street, about 75 metres south-west of the intersection with Boomerang Drive. The site has an area of approximately 557m<sup>2</sup>.

The site is in the Mid-Coast Council Local Government Area and is zoned *R2 – Low Density Residential* under the provisions of *Great Lakes Local Environmental Plan 2014*.

The site is presently occupied by an existing dwelling. Land within the site has a gentle slope from south (front) to north (rear) and is generally maintained land in conjunction with the existing dwelling.

Land to the north, south and east of the site comprises residential allotments containing existing buildings. Any vegetation within those allotments is managed in association with the current uses of the land.

Land to the north-west of the site, 186 Boomerang Drive, contains an existing motel and associated facilities. The land containing the motel adjoins the full length of the western/north-western (rear) site boundary.

Land containing the Blueys Beach Shopping Centre is further to the north/north-west, on land at 199-215 Boomerang Drive, on the northern side of Boomerang Drive.

A relatively large parcel of land adjoining the western (rear) corner of the site, Lot 23 DP 537919, is currently vacant although is intended for future residential subdivision. Lot 23 adjoins the south-western corner of the site. Any vegetation on land within Lot 23 is subject to ongoing maintenance and comprises slashed/mown grasses ( $\leq 100\text{mm}$  high) within 50 metres of the site.

The nearest area of potential bushfire hazard vegetation in relation to the proposed development is native forest vegetation on land to the north/north-west of the site, within Lot 45 DP 200167 to the north and north-west of the land containing the Blueys Beach Shopping Centre. That vegetation is mapped as Category 1 potential bushfire hazard vegetation (shown red in the bushfire prone land map extract at Figure 3.1).

Part of the site is mapped as being at the southern extent of the 100 metre bushfire buffer to the area of mapped Category 1 vegetation on land to the north/north-west (shown yellow in the bushfire prone land map extract at Figure 3.1). While the grassed areas on the land within Lot 23 are not mapped as potential bushfire hazard vegetation, the northern part of that land is also mapped as being in the



bushfire buffer to the area of mapped Category 1 vegetation on land to the north/north-west as shown in Figure 3.1.



**Figure 3.1: Site Locality and Bushfire Prone Land Map**

Access to the site is via an existing driveway from Croll Street.

The site is serviced by reticulated water. The nearest hydrant is on the opposite side of the road reserve to Croll Street, near the site frontage. The site is serviced by overhead electricity from Croll Street.

The following photos show the condition of land on and surrounding the site.



**Photo 3.1: View of the site looking west/north-west from Croll Street. The forest vegetation on the hill to the left of the photo is >140 metres from the site.**





**Photo 3.2:** Looking west from the western (rear) corner of the site over the adjoining part of the land within Lot 23 DP 537919. The blue fencing extending towards the right hand side of the photo is along the rear boundary of the land containing the motel at 186 Boomerang Drive (which adjoins the full length of the rear boundary of the subject site).



**Photo 3.3:** Looking north from Boomerang Drive showing forest vegetation on land to the north/north-west of the Blueys Beach Shops. The nearest forest vegetation is about 80 metres from the site.

### 3.1 Vegetation Classification

Any grasses on land adjoining the western/rear corner of the subject site (in part of Lot 23 DP 537919) have been excluded from classification (as per Section A1.10 of PBP) as they are maintained in a low threat condition (grasses  $\leq 100\text{mm}$  high) for  $>50$  metres from the site boundary (and proposed expanded dwelling footprint).

Land to the north, south and east of the site comprises residential allotments containing existing buildings. Any vegetation within those allotments is managed in association with the current uses of the land.

Given the above, the nearest area of vegetation which is likely to present a bushfire hazard is on land to the north/north-west of the site, on land within Lot 45 DP 200187 to the north/north-west of the Blueys Beach Shopping Centre (on the northern side of Boomerang Drive). The predominant vegetation formation is consistent with wet sclerophyll forest (Keith, 2004).

For the purposes of determining Asset Protection Zones (APZs) and Bushfire Attack Levels (BALs), the relevant vegetation formation to the north/north-west has been classified as *forest* vegetation for the purposes of Appendix 1 of PBP.

### 3.2 Slope Assessment

The assessment of slope has been undertaken in accordance with the methodology in Section A1.5 of PBP. The slope assessment was undertaken via analysis of 1 metre resolution Digital Elevation Model (DEM) and through field analysis using a hand-held inclinometer and range finder.

For the purposes of this assessment, the slope of land most likely to influence bushfire behaviour in relation to the proposal is *upslope* under the forest vegetation on land to the north/north-west of the site, within Lot 45 DP 200187 to the north/north-west of the Blueys Beach Shopping Centre (on the northern side of Boomerang Drive).

## **4. BUSHFIRE ASSESSMENT**

### **4.1 Bushfire Attack Levels**

The proposed alterations and additions are to the existing dwelling on the land, which is a Class 1 building for the purposes of Volume 2 of the *National Construction Code: Building Code of Australia* (NCC/BCA). The site is in the North Coast fire (weather) area and is subject to a Fire Danger Index (FDI) of FDI 80.

Appendix 1 of PBP provides the site assessment methodology for determining the applicable Bushfire Attack Level (BAL). Once the BAL is determined, construction requirements for the corresponding BAL apply subject to AS3959-2018: *Construction of buildings in bushfire-prone areas* subject to Section 7.5 of PBP.

The assessment of BALs has assumed that land within the site will (and will continue to) be maintained as an APZ, to the standard of an Inner Protection Area (IPA), as required. Also, the assessment is based on the ongoing condition of the land at Lot 23 DP 537919, west of the site, with grasses within that land maintained in a low threat condition (grasses  $\leq 100\text{mm}$  high) for  $>50$  metres from the site boundary (and proposed expanded dwelling footprint).

The nearest potential bushfire hazard vegetation is forest vegetation on land to the north/north-west of the site, within Lot 45 DP 200187 to the north/north-west of the Blueys Beach Shopping Centre to the north of Boomerang Drive.

The distance between the site and the nearest forest vegetation in Lot 45 to the north/north-west is at least 80 metres.

As per Table A1.12.6 of PBP, the highest BAL that the proposed alterations and additions are likely to be subject to is BAL-12.5, based on a separation distance of  $\geq 80$ - $<100$  metres ( $40$ - $<100$  metres) from the nearest forest vegetation to the north/north-west. The construction requirements for BAL-12.5 apply for the purposes of AS 3959-2018, and any additional construction requirements/variations as outlined in 7.5.2 (page 70) of PBP.

## 4.2 Better Bushfire Outcomes

Section 7.8 of PBP includes considerations for infill development where alterations and additions are proposed to a dwelling built prior to 2002 (and the existing building has little or no BPMs incorporated into its design). In this circumstance, PBP provides that:

- a. consideration be given to upgrading the existing structure; and
- b. the new works comply with the NCC.

Recommendations are made for upgrading of any parts to the existing building which are proposed to be retained to improve ember protection.

## 4.3 Performance Criteria & Bushfire Protection Measures

The development is for the purposes of alterations and additions to an existing dwelling on an existing residential lot and is residential infill development for the purposes of PBP. Infill development is assessed in accordance with the acceptable solutions and performance criteria in Chapter 7 (Residential Infill Development) of PBP.

Bushfire protection measures for infill development are set out in Section 7.4 of PBP, considered in Table 4.1.

**Table 4.1: Bushfire Protection Measures (Table 7.4a of PBP)**

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO ACCEPTABLE SOLUTIONS
<b>ASSET PROTECTION ZONES</b>	
<ul style="list-style-type: none"> <li>➤ <i>APZs are provided commensurate with the construction of the building; and</i></li> <li>➤ <i>A defensible space is provided.</i></li> </ul>	<p>All land within the site boundaries is to continue to be managed as an APZ, to the standard of an Inner Protection Area (IPA).</p> <p>As discussed in Section 4.1 of this report, and subject to the above, the highest assessed level of bushfire attack for the proposed new work is BAL-12.5.</p>
<i>APZs are managed and maintained to prevent the spread of a fire to the building.</i>	All land within the site boundaries is to continue to be managed as an APZ, to the standard of an Inner Protection Area (IPA) for the purposes of Appendix 4 of PBP.
<ul style="list-style-type: none"> <li>➤ <i>The APZ is provided in perpetuity.</i></li> <li>➤ <i>APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</i></li> </ul>	Land within the site is presently in a condition consistent with that of an APZ. There do not appear to be any issues in terms of ongoing management of land in the same condition as at present.

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO ACCEPTABLE SOLUTIONS
<b>ACCESS</b>	
<i>Firefighting vehicles are provided with safe, all-weather access to structures.</i>	Existing access to the site is via Croll Street, which is a sealed public road providing all-weather access to the site and dwelling. There are no changes to the existing access arrangements.
<i>The capacity of access roads is adequate for firefighting vehicles.</i>	Croll Street has apparent capacity to carry fully loaded firefighting vehicles.
<i>There is appropriate access to water supply.</i>	The site is serviced by reticulated water. The nearest hydrant is on the opposite side of the road reserve to Croll Street, to the east of the site frontage.
<i>Firefighting vehicles can access the dwelling and exit the property safely.</i>	There are no changes to the existing access arrangements. The site is accessible directly from Croll Street. Croll Street is a bitumen-sealed public road.
<b>WATER SUPPLIES</b>	
<i>Adequate water supplies are provided for firefighting purposes.</i>	The site is serviced by reticulated water.
<ul style="list-style-type: none"> <li>➤ <i>Water supplies are located at regular intervals; and</i></li> <li>➤ <i>The water supply is accessible and reliable for firefighting operations.</i></li> </ul>	<p>The site is serviced by reticulated water.</p> <p>The nearest hydrant is on the opposite side of the road reserve to Croll Street, to the east of the site frontage.</p>
<i>Flows and pressure are appropriate.</i>	No information is available regarding flows and pressure.
<i>The integrity of the water supply is maintained.</i>	Water supply will rely on the public reticulated water system.
<i>A static water supply is provided for firefighting purposes in areas where reticulated water is not available.</i>	N/A. The site is serviced by reticulated water.
<b>ELECTRICITY SERVICES</b>	
<i>Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.</i>	<p>The existing dwelling is serviced by overhead electricity.</p> <p>While no changes to electricity supply are indicated as part of the proposal, it is to be recommended that any new or replacement electricity supply lines be installed underground from existing public infrastructure to the building if possible.</p>
<b>GAS SERVICES</b>	
<i>Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.</i>	Any new or replacement bottled gas installations (if proposed) are to be consistent with the relevant acceptable solutions of PBP.



PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO ACCEPTABLE SOLUTIONS
<b>CONSTRUCTION STANDARDS</b>	
<i>The proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact.</i>	The highest assessed BAL for the proposed new work is BAL-12.5. Recommendations are made for upgrading of any parts to the existing building which are proposed to be retained to improve ember protection.
<i>Proposed fences and gates are designed to minimise the spread of bush fire.</i>	N/A – There are no proposed new fences and gates.
<i>Proposed Class 10a buildings are designed to minimise the spread of bush fire.</i>	N/A – There are no proposed Class 10a detached structures.
<b>LANDSCAPING</b>	
<i>Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.</i>	All land within the site boundaries is to continue to be managed as an APZ, to the standard of an Inner Protection Area (IPA).

## 5. CONCLUSION

The site comprises land described as Lot 13 DP 207482, 5 Croll Street, Blueys Beach. The proposed development involves alterations and additions to the existing dwelling on the land.

The proposed alterations and additions to the existing dwelling on the subject land constitute infill development for the purposes of the NSW Rural Fire Service guideline, *Planning for Bush Fire Protection 2019* (PBP).

Based on the distance between the subject site (and the proposed alterations and additions to the existing dwelling) and the nearest forest vegetation to the north/north-west (within part of Lot 23 DP 537919), the highest assessed Bushfire Attack Level (BAL) for the proposed new work is BAL-12.5 for the purposes of AS 3959-2018 and any additional construction requirements as outlined in Section 7.5.2 of PBP.

Also, the assessment is based on the ongoing condition of the land at Lot 23 DP 537919, west of the site, with grasses within that land maintained in a low threat condition (grasses  $\leq 100\text{mm}$  high) for  $>50$  metres from the site boundary (and proposed expanded dwelling footprint).

Recommendations are made for upgrading of any parts to the existing building which are proposed to be retained to improve ember protection.

## 6. RECOMMENDATIONS

The following recommendations are made in relation to the bushfire protection measures for the proposed alterations and additions to the existing dwelling on land at Lot 13 DP 207482, 5 Croll Street, Blueys Beach:

- A. All land within the site boundaries is to continue to be managed as an Asset Protection Zone (APZ).
- B. APZs are to continue to be maintained in accordance with the requirements of an Inner Protection Area (IPA) as described in Appendix 4, Section A4.1.1 of *Planning for Bush Fire Protection 2019* (PBP) and any grassy vegetation within the IPA is to be maintained to a height <100mm. A clear area of low-cut lawn or pavement is to be maintained adjacent to the dwelling and proposed additions.
- C. Subject to (A) and (B), construction of new building work is to comply with the construction requirements for BAL-12.5 as per Section 9 of *AS 3959-2018 (Construction of buildings in bushfire-prone areas)* and any additional construction requirements/variations as outlined in Section 7.5 of *Planning for Bush Fire Protection 2019*.
- D. Consideration should be given to upgrading any parts of the existing dwelling, which are not subject to new building work as part of this proposal, to improve ember protection as follows:
  - i. Enclosing or covering openings with a corrosion-resistant steel, bronze or aluminium mesh with a maximum aperture of 2mm. Where applicable, this includes sub-floor areas and the openable portion of the windows, vents, weepholes and eaves, but does not include roof tile spaces.
  - ii. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors as per AS 3959.
- E. Where bottled gas is existing or proposed:
  - i. It is to be installed and maintained in accordance with *AS 1596* and the requirements of relevant authorities.
  - ii. All fixed gas cylinders are to be kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation.
  - iii. Gas cylinders should be separated from the proposed building. If gas cylinders need to be kept close to the buildings, the release valves are to be directed away from the

buildings and at least 2 metres away from any combustible material, so that they do not act as a catalyst to combustion.

iv. Connections to and from gas cylinders are to be metal.

F. All above-ground water service pipes external to the dwelling are to be metal, including and up to any taps.

## NOTES & DISCLAIMER:

- (i) *This assessment relates only to the development described in Section 2 of this assessment.*
- (ii) *This assessment has been based on bushfire protection guidelines as outlined in the document entitled Planning for Bush Fire Protection 2019 (PBP).*
- (iii) *Notwithstanding the precautions recommended, it should always be remembered that bushfires burn under a range of conditions and an element of risk, no matter how small, always remains.*
- (iv) *This assessment does not imply or infer any approval for the removal and/or thinning of vegetation for Asset Protection or other purposes. It is the responsibility of the client/landowner to obtain all necessary approvals in this regard.*
- (v) *Occupants are advised to prepare a Bush Fire Survival Plan which is revised annually prior to the bushfire season. A Guide to Making a Bush Fire Survival Plan has been developed by the NSW RFS to assist residents in the preparation of their plan and can be found at the NSW RFS website - [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au). On days of catastrophic fire weather, the NSW RFS recommends leaving early as the only safe option.*

## 7. REFERENCES

NSW Rural Fire Service (2019)

*Planning for Bush Fire Protection 2019*

Standards Australia (2018)

*AS 3959-2018 Construction of buildings in bushfire-prone area*