



Building Code & Bushfire Hazard Solutions

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Wollongong City Council
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23rd July 2019
Our Ref. 150796
Council Ref: DA-2018/557

Attn: Vivian Lee – Senior Development Project Officer

**Re: PROPOSED DEVELOPMENT
ST LUKES VILLAGE /
LOT 1 DP 1082602 / 4 LINDSAY EVANS PLACE, DAPTO NSW 2530
DESIGN IMPACT COMMENT – APPLICATION OF RFS CONDITIONS OF CONSENT**

Dear Vivian,

It is understood that the Southern Regional Planning Panel (SRPP) is seeking to understand how the proposal will comply with the Bushfire Safety Authority (BSA) issued by the NSW Rural Fire Service (RFS) (ref D18/5612, dated 22 June 2018).

The following statement details the conditions of consent in the BSA and provides a comment on compliance or otherwise with the proposal.

It must be noted that the process of demonstrating compliance with the conditions of consent typically occurs at the Construction Certificate phase of a development when greater detail is available (e.g. window and door schedule, external finish schedule and hydrant and engineering detail).

It is also important to note that the RFS undertake an assessment of the building locations, proposed roads and broader design and will provide specific comment to required modifications or request additional information justifying the proposal if they are not satisfied.

It is unclear at this time as to whether the SRPP are seeking complete detail of compliance (again typically addressed at the CC phase) or an understanding as to whether the application of the conditions of consent would result in a change to the design of the proposal.

We have undertaken this review to determine whether the application of the condition of consent issued by the NSW Rural Fire Service would result in a design impact / modification.

Asset Protection Zones

The intent of measures is to provide sufficient space and maintain reduced fuel loads so as to ensure radiant heat levels of buildings are below critical limits and to prevent direct flame contact with a building. To achieve this, the following conditions shall apply:

1. At the commencement of building works and in perpetuity the existing 40m Asset Protection Zone, shall continue to be maintained as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Landscaping

8. Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'.

I have reviewed the Landscape Plans prepared by Nicholas Bray Landscapes (dwg L1-L11 revision R, dated 17.07.19) in the view of ascertaining compliance or otherwise with the requirements of an Asset Protection Zone as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

As a suitably qualified person I am of the opinion that the design shown on the Landscape Plans prepared by Nicholas Bray Landscapes (dwg L1-L11 revision R, dated 17.07.19) complies with the requirements of an Asset Protection Zone as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

It is understood that Council has also raised concern regarding the proposed understorey planting (shrubs and groundcovers that may also include mulch) surrounding the residential care facility building and compliance with Appendix 5 of PBP.

The proposed design has included comprehensive pedestrian access (concrete paths) and lawn areas around the residential care facility building.

While it is acknowledged that there are 'Gravel mulched garden beds – shrubs and ground covers' adjacent the building, I have been informed by Nicholas Bray Landscapes these comprise of known hard to burn species and are therefore not considered 'garden beds of flammable shrubs'.

The proposed landscape design in this instance must be considered in context of the overall site, the comprehensive management regime attributed to this type of development and bushfire risk posed to the subject building.

It is of my opinion that the proposed landscape design is acceptable and will provide sufficient space for firefighters and other emergency services personnel, ensuring radiant heat levels permit operations under critical conditions of radiant heat, smoke and embers, while supporting or evacuating occupants.

Water and Utilities

The intent of measures 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. To achieve this, the following conditions shall apply:

2. Water, electricity and gas are to comply with sections 4.1.3 and 4.2.7 of 'Planning for Bush Fire Protection 2006'.

Compliance with this condition will not impact the design of the proposal.

In relation to the water supply it is noted that the proposal must install a hydrant system in accordance with the provisions of AS2419.1-2005 and specific commentary of detail required for the Construction Certificate architectural plans is provided in the submitted BCA Assessment Report (prepared by Blackett, Maguire + Goldsmith, dated May 2018, ref 170549).

Electrical supply within the site is already underground and will therefore comply with the above.

Access

The intent of measures for fire trails is to provide suitable access for fire management purposes and maintenance of APZs. To achieve this, the following conditions shall apply:

3. Fire trails shall comply with section 4.1.3 (3) of 'Planning for Bush Fire Protection 2006'.

The location of the fire trail as shown on the Concept Siteworks Plan (prepared by Bonacci, project ref: 20 10405 01, dwg no C030, rev P2) achieves compliance with the minimum carriageway (including maintained strips) requirements.

Compliance with this condition will not impact the design of the proposal.

The intent of measures for internal roads is to provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area. To achieve this, the following conditions shall apply:

4. Internal roads shall comply with section 4.2.7 of 'Planning for Bush Fire Protection 2006'.

Compliance with section 4.2.7 of PBP can be achieved by demonstrating compliance with the Performance Criteria or Acceptable Solutions. The Bushfire Hazard Assessment Report which accompanied this application acknowledged the proposal included a marginal reduction in the Acceptable Solution for the minimum carriageway of 6.5 metres to 6.2 metres. This reduction was supported in acknowledged the Performance Criteria and the following:

- Loop access will be provided around the new RAC building, facilitating fire service access and occupant egress in separate directions (if deemed necessary),
- There is no parking included in the carriageway and therefore two-way traffic movement is available,
- The proposed carriageway exceeds the minimum 5.5 metre width detailed in the Draft Planning for Bush Fire Protection 2017.

Regardless the proposal can accommodate the 6.5 metre carriageway detailed in the Acceptable Solutions.

Evacuation and Emergency Management

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments. To achieve this, the following conditions shall apply:

5. Arrangements for emergency and evacuation are to comply with section 4.2.7 of 'Planning for Bush Fire Protection 2006'.

The existing village has an Emergency Management & Contingency Plan (version 1.1, dated 11th March 2019) currently in operation.

To satisfy the above condition this plan will need to be updated / replaced to address the new works and compliance with section 4.2.7 of Planning for Bush Fire Protection 2006.

Emergency Management Plans are typically prepared after development consent is issued to ensure they address the approved works. These plans must be complete prior to occupancy.

In considering the characteristics of the site it would be reasonable to expect that the primary response to a bushfire within the site in the revised plan will be 'shelter in place' as there will be insufficient time to execute an effective evacuation.

In this regard it also should be noted that the Asset Protection Zones and building construction requirements (Bushfire Attack Level) associated with the subject buildings provides confidence in their suitability as refuge buildings.

Compliance with this condition will not impact the design of the proposal.

Design and Construction

The intent of measures is that buildings are designed and constructed to withstand the potential impacts of bush fire attack. To achieve this, the following conditions shall apply:

6. New construction for the Residential Aged Care building shall comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas' or NASH Standard (1.7.14 updated) 'National Standard Steel Framed Construction in Bushfire Areas – 2014' as appropriate and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection 2006'.

The intent of section 5 (BAL 12.5) of AS3959 is to provide protection to a building against the indirect forms bushfire attack, primarily being embers.

To mitigate ember attack generally the application of BAL 12.5 requires the installation of aluminium, steel or bronze metal mesh screens over all operable windows (installed internally or externally), ensuring doors when in the closed position provide gaps no greater than 3mm (may require installation of draught excluders and seals) and ensuring gaps greater than 3mm are sealed or screened with metal mesh.

In relation to this matter I have reviewed the Elevations prepared by Merrin & Cranston to provide an assessment of the impact on building design and material selection when applying a BAL 12.5 rating to the RACF.

As a suitably qualified bushfire practitioner I am satisfied that the proposed design and nominated external materials (with the inclusion of sarking, sealed joints and other minor detail typically shown on the CC drawings) will comply with section 5 (BAL 12.5) of AS3959.

7. The existing hostel building to be refurbished to a Community Centre and 1 Bed Independent Living Units is required to 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 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders.

Compliance with this condition will not impact the design of the proposal.

Should you require any further information or clarification please do not hesitate to contact the undersigned.

Prepared by
Building Code & Bushfire Hazard Solutions



Stuart McMonnies

Manager Bushfire Section
G. D. Design in Bushfire Prone Areas.
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