



NSW RURAL FIRE SERVICE

Northern Beaches Council
PO Box 882
MONA VALE NSW 1660

Your reference: DA2019/0762
Our reference: DA-2019-02754

ATTENTION: Julie Edwards

Date: Wednesday 4 March 2020

Dear Sir/Madam,

Development Application

s4.14 - Infill - Single Dwelling - New Dwelling

166//12749 131 Thompson Street Scotland Island NSW 2105, 165//DP12749, 164//DP12749, 163//DP12749, 1//DP210688, 2//DP210688

I refer to your correspondence dated 01/08/2019 seeking advice regarding bush fire protection for the above Development Application in accordance with section 4.14 of the *Environmental Planning and Assessment Act 1979*.

The New South Wales Rural Fire Service (NSW RFS) has considered the information submitted and provides the following recommended conditions:

Asset Protection Zones

The intent of measures is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting fire fighting activities. To achieve this, the following conditions shall apply:

1.0 From the start of building works, the entire property must be managed as an inner protection area (IPA). The IPA must comprise:

- Minimal fine fuel at ground level;
- Grass mowed or grazed;
- Trees and shrubs retained as clumps or islands and do not take up more than 20% of the area;
- Trees and shrubs located far enough from buildings so that they will not ignite the building;
- Garden beds with flammable shrubs not located under trees or within 10 metres of any windows or doors;
- Minimal plant species that keep dead material or drop large quantities of ground fuel;
- Tree canopy cover not more than 15%;
- Tree canopies not located within 2 metres of the building;
- Trees separated by 2-5 metres and do not provide a continuous canopy from the hazard to the building; and,
- Lower limbs of trees removed up to a height of 2 metres above the ground.

Postal address

NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

Street address

NSW Rural Fire Service
4 Murray Rose Ave
SYDNEY OLYMPIC PARK NSW 2127

T (02) 8741 5555
F (02) 8741 5550
www.rfs.nsw.gov.au

Construction Standards

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:

2.0 Proposed Dwelling construction on the south eastern (Hilda Avenue) and north eastern (Thompson Street) elevations and roofing shall comply with Sections 3 and 9 (BAL FZ) of 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. Except for windows, flaming of the specimen is not permitted and there shall be no exposed timber.

3.0 Proposed Dwelling construction on the south western and north western elevations must comply with Sections 3 and 8 (BAL 40) 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.

Water and Utility Services

The intent of measures is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting fire fighting activities. To achieve this, the following conditions shall apply:

4.0 Water, electricity and gas must comply with the following:

- A 10,000 litre static water supply tank must be provided for fire fighting purposes.
- The tank must be located / designed so that a connection for fire fighting purposes is located within the inner protection area (IPA) or on the non-hazard side away from the building.
- Underground tanks must be clearly marked, have an access hole of 200mm to allow fire fighting appliances to refill direct from the tank, and have a hardened ground surface for truck access within 4 metres of the access hole.
- Aboveground tanks must be manufactured of concrete or metal. Raised tanks must have their stands protected.
- Tanks on the hazard side of a building must be provided with radiant heat shielding to protect the tank from bush fire impacts and maintain safe access to the water supply for firefighters.
- A standard 65mm metal Storz outlet with a gate or ball valve must be provided to the tank. The gate or ball valve, pipes and tank penetration of any tank must be adequate for full 50mm inner diameter water flow through the Storz fitting and made of metal.
- All associated fittings to the tank must be metal.
- Pumps where provided to supply water for fire suppression activities, must be a minimum 5hp or 3kW and petrol or diesel powered. The pump must be shielded from the direct impacts of bush fire. Any hose and reel must have an internal diameter of 19mm.
- An SWS marker must be obtained from the local NSW RFS and positioned for ease of identification by fire fighting personnel and other users of the SWS. Markers must be fixed in a suitable location so as to be highly visible and be positioned adjacent to the most appropriate access for the static water supply.
- All aboveground water pipes external to the building must be metal including and up to any taps/outlets/fittings.
- Electrical transmission lines should be located underground where possible. Overhead electricity lines must have short pole spacing (i.e. 30 metres) except where crossing gullies, gorges or riparian areas. No tree may be closer to an electricity line than the distance set out in in ISSC3 Guideline for Managing Vegetation Near Power Lines.
- Gas must be installed and maintained as set out in the relevant Australian Standard and all pipes external to the building must be metal including and up to any taps/outlets/fittings. Polymer-sheathed flexible gas supply lines must not be used.
- Fixed gas cylinders must be kept at least 10 metres clear of flammable materials and be shielded on the hazard side. Connections must be metal. Cylinders near to a building must be have safety valves directed away from the building and be at least 2 metres from combustible materials.

Landscaping Assessment

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

5.0 Landscaping of the site should comply with following principles of Appendix 5 of 'Planning for Bush Fire Protection 2006':

- Suitable impervious areas are provided immediately surrounding the building such as courtyards, paths and driveways.
- Grassed areas, mowed lawns or ground cover plantings are provided in close proximity to the building.
- Planting is limited in the immediate vicinity of the building.
- Planting does not provide a continuous canopy to the building (i.e. trees or shrubs should be isolated or located in small clusters).
- Landscape species are chosen in consideration needs of the estimated size of the plant at maturity.
- Species are avoided that have rough fibrous bark, or which keep/shed bark in long strips or retain dead material in their canopies.
- Smooth bark species of tree are chosen which generally do not carry a fire up the bark into the crown.
- Planting of deciduous species is avoided which may increase fuel at surface/ ground level (i.e. leaf litter).
- Climbing species are avoided to walls and pergolas.
- Combustible materials such as woodchips/mulch and flammable fuel are stored away from the building.
- Combustible structures such as garden sheds, pergolas and materials such timber garden furniture are located way from the building.
- Low flammability vegetation species are used.

General Advice – Consent Authority to Note

- The NSW Rural Fire Service recognises that the site is constrained and that the proposed development falls within the Flame Zone. Flame Zone development is high risk development; consequently, in situations such as this, the Service seeks to improve the overall fire safety of the existing development. This requires greater emphasis on construction standards, landscaping, siting, and vegetation management practices to ensure improved levels of protection are afforded to the development, its occupants and fire fighters. The Service has undertaken a merit based assessment of the proposal and provides the above advice in accordance with 'Planning for Bush Fire Protection 2006'.
- Council is advised that the Bushfire Consultant has utilised the vegetation management located off site, within the front and rear yards of a number of surrounding residential properties both in their determination of the available separation distances as well as the Method 2 Modelling. Earlier discussions with the NSW Rural Fire Service PES Team Leader Kalpana Varghese indicated that as the proposal relies on the management of the surrounding vegetation within the adjoining allotments to an APZ standard, that an onsite visit to more accurately determine the degree of vegetation management be undertaken. Joshua Calandra PES Development Assessment and Planning Officer with background experience in landscape architecture visited the site (6 February 2020) and adjoining properties undertook a vegetation management survey accompanied by a photographic report.
- Discussions with Mr Calandra, revealed that whilst some of the surrounding properties did exhibit some vegetation management, the overall predominant vegetation standard of the surrounding properties would not support the extent and scope of the separation distances used by the Bushfire Consultant and as such a new alternate solution Method 2 Modelling be employed as part of the Desktop assessment employing revised smaller separation distances.
- As a result of the recent site visit undertaken by Josh Calandra and the inability to include many of the adjoining areas as of having managed vegetated yard spaces to an APZ standard the separation distances were revised and a new alternate solution and modelling undertaken as per Method 2 Modelling AS 3959 2009. The revised separation distance to the south east was assessed as being 30m and when entered into Method 2 Modelling, resulted in a resultant radiant heat level of 24.35kW/sqm and a flame length of 35.81m (resulting in possible flame immersion due to exceeding the separation distance of 30m) accordingly a BAL FZ determination as applied.
- Accordingly the dwellings proposed construction would be BAL FZ to the south east (facing Hilda Avenue) as well as the north east elevations (Thompson Street) and roofing and due to shielding offered by the proposed dwelling, a 1 level BAL downgrade to BAL 40 for the south western and north western elevations.

For any queries regarding this correspondence, please contact Craig Casey on 1300 NSW RFS.

Yours sincerely,

Nika Fomin
Manager Planning & Environment Services
Planning and Environment Services