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BUSHFIRE HAZARD ASSESSMENT

Site Address:
Lot 2189 DP 1168992
20 Milpera Street
Jordan Springs NSW 2747

Report Prepared for:
Mrs Ma
C/- Clarendon Homes
PO Box 7105
Baulkham Hills NSW 2153

Construction of a new two storey dwelling

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PROJECT BRIEF

We have been engaged by Clarendon Homes to prepare a bushfire assessment report for the proposed development at Lot 2189, DP 1168992, 20 Milpera Street, Jordan Springs NSW 2747. This report will supplement the development application to Penrith Council for the proposed development of a new two storey dwelling.

The purpose of this report is to assess the proposed dwelling in accordance with the requirements of the document, Planning for Bushfire Protection (2006) as issued by the NSW Rural Fire Service and Planning NSW

The report relies upon the following information:

(a) Details of the proposed dwelling as provided by Clarendon Homes.
(b) Vegetation Classification by Keith[2004]
(c) Topographic Data provided by "SIX Maps"
(d) Confirmation of details by Inspection of the site on the 1st April 2015

The report has been prepared and checked by certifiers accredited by the Department of Planning (DOP).

INTRODUCTION

As required by Penrith Council, a bushfire assessment of the proposed dwelling has been carried out and outlined in this document to determine the compliance with the document "Planning for Bushfire Protection 2006".

The assessment of the site found that in accordance with the document "Planning for Bushfire Protection, 2006" the development site would experience BAL-LOW conditions in the event of a bush fire in the surrounding area. There is insufficient threat to warrant specific construction standards for the proposed development.

THE PROPOSED DEVELOPMENT

The proposed development is a new two storey dwelling with five bedrooms, family room, dining room, bathroom, kitchen, laundry, home theatre, alfresco area and an internal two car garage. The development will have a built upon area totalling 264m^2. Landscaped gardens and lawns are proposed to cover an area greater than 150m^2 of the site.

The residence itself will be a new two storey residential dwelling constructed upon a reinforced concrete slab and comprised of timber frames and trusses, brick veneer exterior walls, concrete tile roofing, sheet metal fascia's, gutters and downpipes.

An above ground rainwater tank is to be located on site to collect rainwater from roof area. This water will be used in the gardens, toilets and laundry.

ASSESSMENT OF SITE CHARACTERISTICS

The site of the proposed development is located in the suburb of Jordan Springs within the Penrith Local Government Area. Jordan Springs is a relatively new residential area with a mix of existing dwellings and vacant lots awaiting development. Infrastructure within the area is well established, and the 'managed lands' associated with the residential area cover an area greater than 1.6km^2.

This section of Jordan Springs is situated on a slight downhill slope from North to South. The development site itself slopes from north to south at approximately 0-5°, it is currently clear of vegetation and buildings, hence no clearing of vegetation or demolition will be required to undertake the proposed development. This site is irregular in shape, covers a total area of 555.90m^2 and will have a northerly aspect.

The plans of the proposed development show access to the site via the 13.46m street frontage on Milperra Street. This road is capable of carrying RFS vehicles; all access requirements prescribed by the document 'Planning for Bush Fire Protection' are met by the site and surrounding roads.

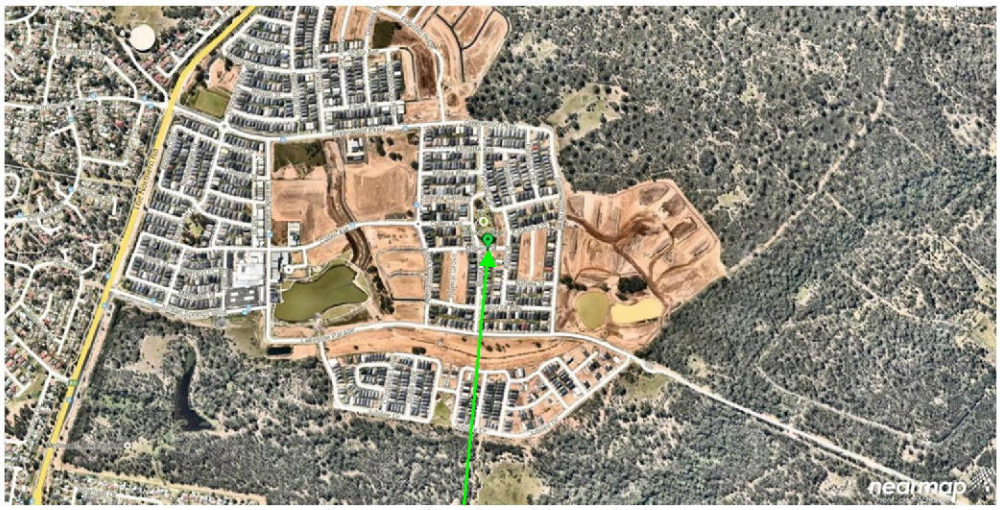

Image 1 – Location of site

Image 2 – 140m radius of subject site

Image 2 above is an accurate representation of the managed lands and vegetation within a distance of approximately 140m of the subject site.

Picture 1 – East of the site

Picture 2 – West of the site

Vacant residential allotments adjoin the eastern and western boundaries of the subject site. Managed lands in the form of residential development, all weather roads and other areas of reduced vegetation extend for a distance greater than 140m both east and west of the site

Existing residential development adjoins the southern boundary of the site; other managed lands extend for a distance greater than 140m from the southern façade of the proposed development.

Picture 3 – South of the site

The northern boundary of the site adjoins an all weather footpath with an all weather road and public parkland beyond. The Park itself is well maintained and has minimal vegetation. These elements constitute managed land and extend for a distance greater than 140m.

Picture 4 North of the site

3.1 SLOPE

The intensity and rate of spread of fires burning uphill increases markedly with increasing slope. This is reflected in an increase in the fire hazard index for a particular fuel type with an increasing slope. Similarly the rate of spread and intensity of fires decreases when they burn downhill.

The table below outlines slope under the predominant vegetation within 100m of the proposed dwelling:

Direction	Slope	Degrees (°)
North	n/a	
South	n/a	
East	n/a	
West	n/a	

There is no significant vegetation within 140m of the site and the surrounding terrain would not influence Bushfire behaviour with respect to the subject site: this is based on a Topographic Data from "SIX Maps", a Site Plan prepared by Clarendon Homes, drawing no. 29909642, revision C, dated 30th March 2015 and confirmed during a site inspection on the 1st April 2015.

3.2 FUEL TYPES

The fuel categories on the Planning for Bushfires Protection document are described using botanical terminology, such as "forest" and "dry sclerophyll forest". It should be noted that when used for bushfire hazard assessment these terms refer to the fuel production capacity and flammability of different vegetation types. Therefore their meaning and application for bushfire hazard assessment may differ from their use in a strictly botanical context.

The subject land is currently clear of vegetation and dwelling hence the proposed development will not require clearing or demolition works.

Vegetation within 110m of the site has been assessed to cover insufficient area to be present a potential bushfire threat. The site has been assessed to be surrounded by 'Managed Lands' as defined in Appendix 2 in Planning for Bushfire Protection.

Aerial view of 100m radius of property

Using the information provided on the site plan provided by Clarendon Homes, drawing no. 29909642, revision C, dated 30th March 2015 and by measuring distances as part of the site inspection on the 1st April 2015, the distance of each façade of the proposed development to the threatening vegetation was determined these are outlined as follows:

Facade	Distance to Predominant Vegetation
North	>110m
South	>110m
East	>110m
West	>110m

3.3 CATEGORY OF BUSHFIRE ATTACK

In accordance with the Table A3.3 of Appendix 3 of the Planning for Bushfire Protection the proposed dwelling will be located within an area assessed to have a bush fire attack level threat of BAL-LOW and therefore there is considered to be insufficient threat to warrant specific construction standards as outlined in AS3959-2009 (see appendix 2).

Facade	Assessed Bushfire Attack Level	Level of Construction as per AS 3959-2009
West	BAL-LOW	No construction requirements
North	BAL-LOW	No construction requirements
East	BAL-LOW	No construction requirements
South	BAL-LOW	No construction requirements

RECOMMENDATIONS

The Planning for Bushfire Protection Guidelines recommend various Asset Protection Zones (APZ) be establish for each façade of the proposed development based on the risk faced by each from the surrounding vegetation. These APZ are required to be made up of Inner Protection Zones (IPZ) and Outer Protection Zones (OPZ) as determined by Planning for Bushfire Protection, Appendix 3, Table A2. These APZ are outlined below:

Façade	APZ (meters)	IPZ (meters)	OPZ (meters)
North	25		
South	25		
West	25		
East	25		

There are no legal obligations regarding APZs for the proposed development, however due to the proximity of forest to the east and the possibility of ember attack in the event of a bushfire, the adoption of the prescribed APZ's are recommended.

Landscaping within the in the Inner Protection Zone and defendable space around the dwelling should aim to achieve a fuel component that is both discontinuous and of low flammability. General requirements for landscaping include:

- Use only mown lawn, bared ground or non flammable succulents ground cover plants immediately adjacent to dwellings,
- Maximum tree cover should be less than 30%
- Maximum shrub cover should be less than 20%
- Trees and shrubs should be isolated or in small clumps, continuous canopies are to be avoided.
- Select plants species of low flammability.
- Avoid planting trees and shrubs that retain dead material in there canopies,
- Locate any combustible materials (woodpiles or fuel stores) outside the area.
- Avoid brush fencing
- Avoid flammable garden wood chips/ mulches
- Avoid planting trees and shrubs with rough fibrous bark, or which retain shed bark in long strips (Ribbonbark)
- Avoid planting trees and shrubs that deposit large quantities of litter in short periods particularly spring and summer

CONCLUSION

In conclusion it is considered the dwelling is located in an area with a risk of bushfire, however the potential bush fire attack level has been assessed as BAL LOW and in accordance with AS3959-2009; there is insufficient threat to warrant specific construction standards

Fraser Linden
Bushfire Technician

April 2015

REFERENCES

1. Australian Standard 3959 –2009 *Construction of Buildings in Bushfire-prone Areas*. Standards Australia, Sydney

2. NSW Rural Fire Service (2001) *Planning for Bushfire Protection, A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*. NSW Rural Fire Service

3. Ramsay C & Dawkins D (1993) *Building in Bushfire Prone areas – Information and Advice*. CSIRO and Standards Australia.