



Travers

bushfire & ecology

bushfire protection assessment

Planning Proposal
Lots 3 & 4 DP 26902 & Lot 9 DP 806132
10 & 12 Boondah Road & 6 Jacksons Road
Warriewood

Under Section 117(2) Direction No 4.4
of the *EP&A Act*

December 2016
(REF: A16179)



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Warriewood

Report Authors:	John Travers BPAD-L3 15195 & Nicole van Dorst BPAD Level 2 23610
Plans prepared:	Kelly Tucker
Checked by:	John Travers
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The mapping is indicative of available space and location of features which may prove critical in assessing the viability of the proposed works. Mapping has been produced on a map base with an inherent level of inaccuracy, the location of all mapped features are to be confirmed by a registered surveyor.

EXECUTIVE SUMMARY

A bushfire protection assessment has been undertaken for the planning proposal involving a mixed use rezoning located at Lots 3 & 4 DP 26902 & Lot 9 DP 806132, 10 & 12 Boondah Road & 6 Jacksons Road, Warriewood.

The site is currently zoned RU2 – Rural Landscape in the Pittwater Local Environmental Plan (LEP) 2014. The proposal seeks a rezoning to permit an urban development containing a retail and residential layout within 10 & 12 Boondah Road (the subject of this bushfire assessment). The vegetation within 6 Jacksons Road (southern-most lot) will be retained as a flood storage area, endangered ecological community (EEC) conservation land and will incorporate walking tracks and boardwalks.

This report identifies matters for consideration for the planning proposal and highlights the required bushfire protection measures, including asset protection zones (APZs), for future development under the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, *Section 117 Direction 4.4* and in accordance *Planning for Bush Fire Protection 2006 (PBP)* and *Community Resilience Practice Note 2/12 Planning Instruments and Policies*.

The key principle for the proposal is to ensure that future development is capable of complying with *Section 117 Direction 4.4*. Planning principles for the proposal include the provision of adequate access, establishment of adequate APZs for future housing, specifying minimum lot depths to accommodate APZs, perimeter roads and the introduction of controls which avoid placing inappropriate developments in hazardous areas and placement of combustible material in APZs.

Our assessment found that bushfire can potentially affect the site from the forested wetland vegetation located both within and external to the sites western and southern boundary. Bushfire risk also exists from the riparian corridor in the north-east beyond Boondah Road.

The bushfire risk posed to the planning proposal however can be mitigated if appropriate bushfire protection measures (including APZs) are put in place and managed in perpetuity.

The assessment has concluded that future development on site is capable of providing compliance with the planning principles of *Section 117 Direction 4.4*, *PBP* and *Community Resilience Practice Note 2/12 – Planning Instruments and Policies*.

GLOSSARY OF TERMS

AHIMS	Aboriginal Heritage Information System
APZ	Asset protection zone
AS1596	<i>Australian Standard – The storage and handling of LP Gas</i>
AS2419	<i>Australian Standard – Fire hydrant installations</i>
AS3745	<i>Australian Standard – Planning for emergencies in facilities</i>
AS3959	<i>Australian Standard – Construction of buildings in bushfire-prone areas 2009</i>
BAL	<i>Bushfire attack level</i>
BCA	<i>Building Code of Australia</i>
BSA	Bushfire safety authority
EEC	Endangered ecological community
FDI	Fire danger index
IPA	Inner protection area
LEP	<i>Local environmental plan</i>
OPA	Outer protection area
PBP	<i>Planning for bush fire protection 2006</i>
RFS	NSW Rural Fire Service
SFPP	Special fire protection purpose

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Introduction

1

Travers bushfire & ecology has been requested by *Henroth Investments Pty Ltd* to undertake a bushfire protection assessment for the planning proposal to permit an urban development containing a retail and residential layout within Lots 3 & 4 DP 26902, 10 & 12 Boondah Road, Warriewood.

The proposal is located on land mapped by *Northern Beaches Council* as being bushfire prone. *Direction 4.4, Planning for Bush Fire Protection 2006 (PBP)* identifies matters for consideration for planning proposals that will affect, or are in proximity to land mapped as bushfire prone.

As such, the proposal is subject to the requirements of Section 117(2) of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* which requires Council to consult with the Commissioner of the NSW Rural Fire Service (RFS) and to take into account any comments by the Commissioner.

1.1 Aims of the assessment

The aims of the bushfire protection assessment are to:

- Review the bushfire threat to the landscape
- Undertake a bushfire attack assessment in accordance with *PBP*
- Provide advice on planning principles, including the provision of perimeter roads, asset protection zones (APZs) and other specific fire management issues
- Review the potential to carry out hazard management over the landscape, taking into consideration the proposed retention of trees within the final development plans.

1.2 Project synopsis

The proposal seeks to amend the Pittwater LEP 2014 for 10 & 12 Boondah Road, Warriewood to rezoning the subject site to E3 - Environmental Management, B2 – Local Centre and R3 – Medium Density Residential.

Although 6 Jacksons Road forms part of the development site it will be reserved for flood storage and EEC conservation land.

The site forms part of the Southern Buffer Area in the Warriewood Valley Strategic Review Report. The proposed concept plan (refer Figure 1.1) has been developed and as such the bushfire constraints have been highlighted and minimum APZs (for both residential and retail uses) have been recommended from the boundary of the retained vegetation (as identified in Schedule 1 attached).

Recommendations have also been made for future road design, building construction, water supply and utilities.



Figure 1.1. – Concept Design

1.3 Information collation

To achieve the aims of this report, a review of the information relevant to the property was undertaken prior to the initiation of field surveys. Information sources reviewed include the following:

- Concept plan provided by Dan Maurici, *Henroth Group*, on 13/12/2016 – undated
- Flora and Fauna Assessment prepared by *Travers bushfire & ecology* 7/12/2016.
- Prelodgement Report prepared by Northern Beaches Council
- Pittwater Local Environmental Plan 2014
- NearMap aerial photography
- Topographical maps *DLPI of NSW* 1:25,000
- *Australian Standard 3959 Construction of buildings in bushfire-prone areas*
- *Planning for Bush Fire Protection 2006 (PBP)*
- *Community Resilience Practice Notes 2/12 Planning Instruments and Policies.*

An inspection of the proposed development site and surrounds was undertaken by Nicole van Dorst on 9 November 2016 to assess the topography, slopes, aspect, drainage, vegetation and adjoining land use. The identification of existing bushfire measures and a visual appraisal of bushfire hazard and risk were also undertaken.

1.4 Site description

The proposed residential / retail development site is confined within 10 & 12 Boondah Road, Warriewood within the Local Government Area of Northern Beaches. The EEC conservation land is confined within 6 Jacksons Road in the southern portion of the site (refer Figure 1.2).

The property is adjoined to the north by recently approved and constructed high density residential development, to the south by a commercial shopping complex and to the north-east by Boondah Road and a strip of grazing land. Forested wetland vegetation extends beyond the grazing land to the north-east and adjoins the site boundary to the west.



Figure 1.2 – Aerial appraisal

1.5 Legislation and planning instruments

1.5.1 Environmental Planning and Assessment Act 1979 (EP&A Act) and bushfire prone land

The *EP&A Act* governs environmental and land use planning and assessment within New South Wales. It provides for the establishment of environmental planning instruments, development controls and the operation of construction controls through the *Building Code of Australia (BCA)*. The identification of bushfire prone land is required under Section 146 of the *EP&A Act*.

Bushfire prone land maps provide a trigger for the development assessment provisions. The property is located on land that is mapped by *Northern Beaches Council* as being bushfire prone – Category 1 vegetation (depicted orange) and its associated buffer (depicted red) (refer Figure 1.3).

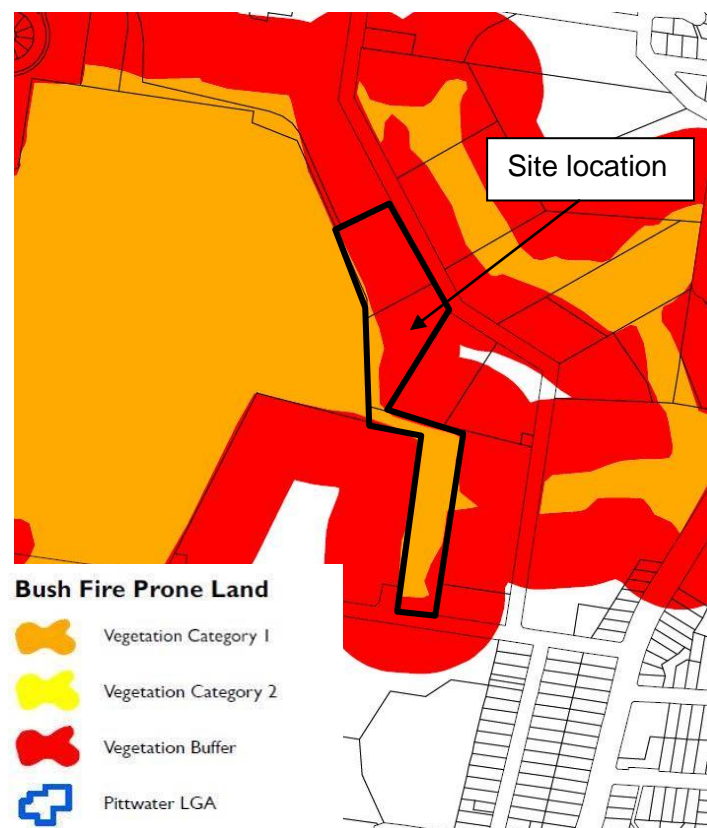


Figure 1.3 – Bushfire prone land map (13th June 2013)

PBP (pg 4) stipulates that if a proposed amendment to land use zoning or land use affects a designated bushfire prone area then the Section 117(2) Direction No 4.4 of the *EP&A Act* must be applied. This requires Council to consult with the Commissioner of the RFS and to take into account any comments by the Commissioner and to have regard to the planning principles of *PBP* (detailed within Section 1.5.3).

1.5.2 Local Environmental Plan (LEP)

A LEP provides for a range of zonings which list development that is permissible or not permissible, as well as the objectives for development within a zone.

The proposal is to proceed as an amendment to the current *Pittwater LEP 2014*.

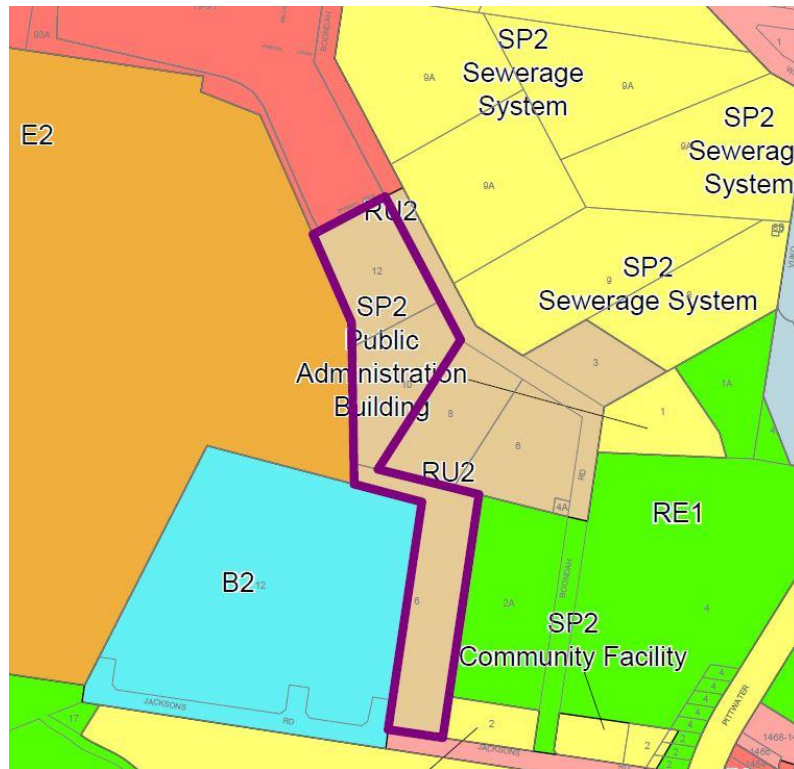


Figure 1.4 – Current zoning

The site is currently zoned RU2 – Rural Landscape. The proposal seeks a rezoning of the site to E3 - Environmental Management, B2 – Local Centre and R3 – Medium Density Residential. The vegetation within 6 Jacksons Road will be retained as a flood storage area and endangered ecological community (EEC) conservation land.

The proposal, including the provision of APZs, would seek to comply with the objectives of the proposed rezoning with APZ's excluded from the conservation land.

1.5.3 Planning for Bush Fire Protection 2006 (PBP)

Bushfire protection planning requires the consideration of the RFS planning document entitled *PBP*. *PBP* provides planning principles for rezoning to residential land as well as guidance on effective bushfire protection measures.

The policy aims to provide for the protection of human life (including fire fighters) and to minimise impacts on property and the environment from the threat of bushfire, while having due regard to development potential, on site amenity and protection of the environment.

PBP outlines the following planning principles that must be achieved for all rezoning proposals:

1. Provision of a perimeter road with two way access which delineates the extent of the intended development.
2. Provision, at the urban interface, for the establishment of adequate APZs for future housing.
3. Specifying minimum residential lot depths to accommodate APZs for lots on perimeter roads.
4. Minimising the perimeter of the area of land interfacing the hazard, which may be developed.
5. Introduction of controls which avoid placing inappropriate developments in hazardous areas, and
6. Introduction of controls on the placement of combustible materials in APZs.

In addition to the above, *PBP* outlines the bushfire protection measures required to be assessed for new development in bushfire prone areas.

The proposed rezoning has been assessed in compliance with the following measures to ensure that future development is capable of complying with *PBP*:

- asset protection zones
- building construction and design
- access arrangements
- water supply and utilities
- landscaping
- emergency arrangements

1.5.4 *Building Code of Australia (BCA) and the Australian Standard AS3959 Construction in bushfire-prone areas 2009 (AS3959)*

The *BCA* is given effect through the *EP&A Act* and forms part of the regulatory environment of construction standards and building controls. The *BCA* outlines objectives, functional statements, performance requirements and deemed to satisfy provisions. For residential dwellings these include Classes 1, 2 and 3 buildings. The construction manual for the deemed to satisfy requirements is *AS3959*.

1.6 Environmental constraints

A review of the Flora and Fauna Assessment prepared by this firm (dated 7th December 2016) has been undertaken. The assessment identified one Endangered Ecological Community (EEC) within the study area:

- Swamp Oak Floodplain Forest

No threatened flora species or endangered populations occur within the development site boundary.



Bushfire Threat Assessment

2

To assess the bushfire threat and to determine the required width of an APZ for a development, a review of the elements that comprise the overall threat needs to be completed.

PBP provides a methodology to determine the size of any APZ that may be required to offset possible bushfire attack. These elements include the potential hazardous landscape that may affect the site and the effective slope within that hazardous vegetation.

2.1 Hazardous fuels

PBP guidelines require the identification of the predominant vegetation formation in accordance with David Keith (2004) to determine APZ distances for residential and retail developments.

The hazardous vegetation is calculated for a distance of at least 140m from a proposed site / development boundary. The vegetation within 140m of the proposed residential / commercial development has been identified as:

Table 2.1 – Vegetation communities

Aspect	David Keith community (refer Figure 2.1)	PBP vegetation formation
West	Coastal Floodplain Wetland	Forested Wetland
	Coastal Swamp Forest	
South	Coastal Swamp Forest	Forested Wetland
North-east	Coastal Swamp Forest	Forested Wetland



Photo 1 & 2: Forested wetland to the west and north-west



Photo 3 & 4: Grazing land / forested wetland to the north-east

2.2 Effective slope

The effective slope is assessed for a distance of up to 100m. Effective slope refers to that slope which provides the most effect upon likely fire behaviour. A mean average slope may not in all cases provide sufficient information such that an appropriate assessment can be determined.

The effective slope within the hazardous vegetation is provided in detail within Table 2.2 & 2.3 but is generally summarised as:

- Level within the forested wetland to the west and south
- 0-5 degrees downslope within the forested wetland (riparian corridor) beyond Boondah Road in the north-east
- 5-10 degrees downslope within the forested wetland vegetation to the north-west. This slope is associated with a short 10m embankment (dominated by exotic vegetation such as lantana and coral trees) (refer photo 5 & 6). A dam / waterbody is located at the base on the embankment (refer photo 7) where the slope then continues as level for over 200m. The effective slope is therefore considered level.



Photo 5 & 6: Exotic vegetation and short steep slope