

Bushfire Constraints & Opportunities Assessment

Proposed:
**Multi Storey Seniors
Living Development**

At:
**94 Bettington Road,
Oatlands**

Reference Number: 220328

Prepared For:
Oatlands Golf Club Limited

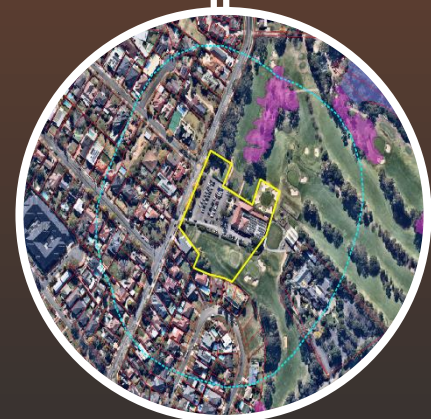
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List of Abbreviations

| | |
|----------|---|
| APZ | Asset Protection Zone |
| BPMs | Bushfire Protection Measures |
| BPLM | Bushfire Prone Land Map |
| Council | City of Parramatta Council |
| EP&A Act | Environmental Planning and Assessment Act 1979 |
| FRNSW | Fire & Rescue NSW |
| IPA | Inner Protection Area |
| NCC | National Construction Code |
| OPA | Outer Protection Area |
| PBP | Planning for Bush Fire Protection 2019 |
| RFS | NSW Rural Fire Service |
| SCC | Site Compatibility Certificate |
| SFPP | Special Fire Protection Purpose |
| SEPP | State Environmental Planning Policy (<i>Housing for Seniors or People with a Disability</i>) 2004 |
| SWS | Static Water Supply |

1.0 Executive Summary

Building Code and Bushfire Hazard Solutions Pty Ltd has been engaged by Oatlands Golf Club to provide an independent Bushfire Assessment for a future development at 94 Bettington Road, Oatlands.

As instructed we have investigated a future multi-storey seniors living development within the north-western portion of the site.

This report accompanies an application for a Site Compatibilities Certificate (SCC) to the Secretary General in accordance with *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* (SEPP).

The subject site comprises of an existing allotment (zoned RE2: Private Recreation) located within Parramatta City Councils local government area.

The subject site contains the existing Oatlands Golf Course and clubhouse.

Properties considered to be 'bushfire prone' are determined from the local Bushfire Prone Land Map as prepared by Council and / or the Rural Fire Service. All development within affected areas is subject to the application of the relevant specifications and requirements detailed in Planning for Bush Fire Protection 2019 (PBP).

Bushfire prone areas are defined as those areas;

- containing or being within 100 metres of designated Category 1 Vegetation; or
- containing or being within 30 metres of designated Category 2 or 3 Vegetation.

In this instance the overall site is depicted on Council's Bushfire Prone Land Map as containing Category 2 Vegetation and its associated 30 metre buffer. While the investigation area is not captured by Category 2 Vegetation or buffer the subject site is considered 'bushfire prone'.

As the site is identified as being bushfire prone a consent authority cannot issue consent to a development application for seniors housing under the SEPP unless the consent authority is satisfied that the development complies with the requirements of the document titled *Planning for Bush Fire Protection 2019*.

Seniors housing is a listed Special Fire Protection Purpose (SFPP) under section 100b of the *Rural Fires Act 1997*. Due to the vulnerable nature of the occupants of SFPP developments, there is more reliance on the provision of suitable Asset Protection Zones and emergency management.

As the subject site is considered 'bushfire prone' the future development application will be considered integrated development under section 4.46 of the *Environmental Planning and Assessment Act 1979* and will require a Bushfire Safety Authority from the NSW Rural Fire Service.

We have included a comprehensive package of bushfire protection measures herein for the various development options. It is of our opinion that should the future development comply with the detail contained herein then it will satisfy the relevant specifications and requirements of Planning for Bush Fire Protection 2019.

2.0 Introduction

The subject site comprises of an existing allotment known as 94 Bettington Road, Oatlands (Lot 100 DP 1243044).

The overall site is depicted on Council's Bushfire Prone Land Map as containing Category 2 Vegetation and its associated 30 metre buffer. While the investigation area is not captured by Category 2 Vegetation or buffer the subject site is considered 'bushfire prone'.

Any future development application must include an assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objectives and performance criteria set out in Planning for Bush Fire Protection 2019 (PBP).

The application of PBP will require satisfactory demonstration of the following bushfire protection measures (BPMs):

- Asset Protection Zones
- Building Construction & Design
- Landscaping
- Emergency Management Arrangements
- Water Supply & Utilities
- Access Arrangements



Figure 01: Excerpt from Council's Bushfire Prone Land Map

3.0 Purpose

The purpose of this Bushfire Assessment Report is to provide an independent bushfire assessment to determine if the Site Compatibility Certificate and subsequently the future development applications for the establishment of a seniors housing development will comply with the requirements of Planning for Bush Fire Protection 2019.

4.0 Location

The subject site comprises of an existing allotment known as 94 Bettington Road, Oatlands (Lot 2595 DP 752038). The investigation area is within the north-western portion of the site in an area currently occupied by the clubhouse and parking.

The subject site is located within Parramatta City Council's local government area and zoned 'RE2: Private Recreation'. The subject site contains the existing Oatlands Golf Course and clubhouse.

The investigation area has street frontage to Bettington Road to the west and abuts private residential allotments to the south and the balance of the Oatlands Golf Course lands to the north and east.

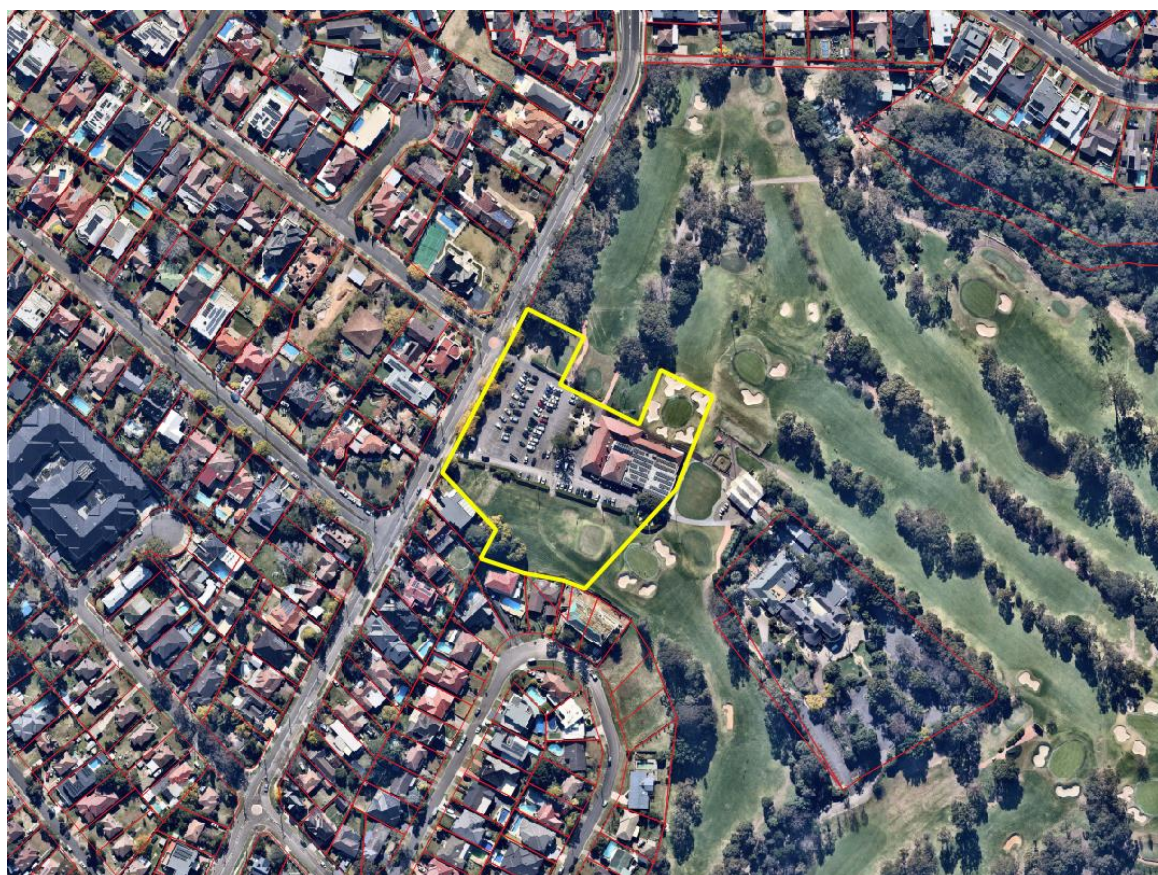


Figure 02: Aerial view of the subject site
Investigation area (yellow outline)

5.0 Asset Protection Zones

An Asset Protection Zone (APZ) is an area between the development (in this instance building) and the identified bushfire hazards where the fuels are maintained to a minimum to reduce the spread of fire between a hazard and a building.

The width of the APZs is determined by the vegetation structure (within the hazard for a distance of 140m), Forest Fire Danger Index, effective slope (within the hazard for a distance of 100 metres) and the type of development (residential, other development or Special Fire Protection Purpose).

In accordance with Appendix 1 'Site Assessment Methodology' of PBP we have undertaken an assessment of all vegetation formations within 140 metres of the subject site for each aspect as per Keith (2004).

In this instance there was no bushfire or grassfire hazard located within the 140 metre assessment area, with the vegetation to the north and east comprising of managed fairways. Stands of mature trees were observed between fairways however due to the managed understorey were not considered to pose a bushfire threat. This assessment is consistent with Council's Bush Fire Prone Lands Map.

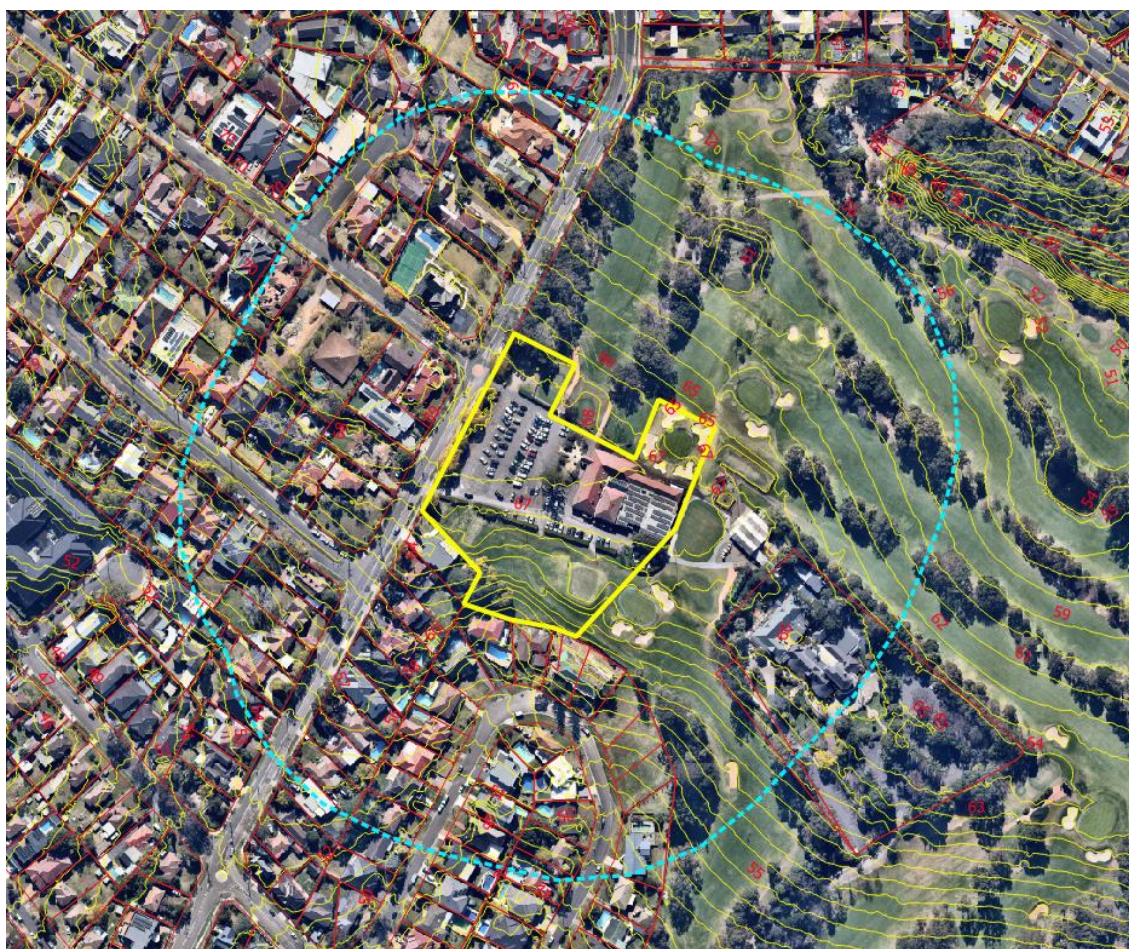


Figure 03: Aerial view of the subject area overlaid with Sydney Metro vegetation layer Investigation area (yellow outline), 140m assessment area (dotted blue line)

The slope of the land under the classified vegetation has a direct influence on the forward rate of spread, fire intensity and radiant heat exposure. The effective slope is considered to be the slope under the classified vegetation which will most significantly influence bushfire behaviour toward the development site.

In accordance with A1.4 'Determine slope' of PBP the slope assessment is to be derived from the most detailed contour data available.

In this instance as no bushfire or grassfire hazard was identified within the assessment area a slope analysis is not required.



Constraints:

Asset Protection Zones for new SFPP development are determined from the prescriptive tables in PBP (table A1.12.1) or bushfire design modelling achieving a radiant heat impact of no more than 10kW/m² at the closest point of the available building footprint.

As no bushfire or grassfire hazard was identified within the 140 metre assessment area there are no minimum required Asset Protection Zones applicable to the proposal. There will however be an expectation of continued operation and management of the adjacent fairways.

6.0 Access

Planning for Bush Fire Protection addresses design considerations for internal roads for properties determined to be bushfire prone.

There is opportunity to satisfy the access requirements by way either demonstrating compliance with the Acceptable Solutions or Performance Criteria (alternate solution). It is strongly encouraged that in the first instance compliance with the Acceptable Solutions is targeted.

While no bushfire or grassfire hazard was identified within 140 metres of the investigation area the access design should cater for fire appliance access.

The access requirements under PBP for SFPP development include;

General Requirements:

- *SFPP access roads are two-wheel drive, all-weather roads;*
- *access is provided to all structures;*
- *traffic management devices are constructed to not prohibit access by emergency services vehicles;*
- *access roads must provide suitable turning areas in accordance with Appendix 3; and*
- *one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.*
- *the capacity of road surfaces and any bridges/ causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges and causeways are to clearly indicate load rating.*
- *hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;*
- *hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005; and*
- *there is suitable access for a Category 1 fire appliances to within 4m of the static water supply where no reticulated supply is available.*

Non-Perimeter Roads:

- *minimum 5.5m carriageway width kerb to kerb for two-way roads;*
- *parking is provided outside of the carriageway width;*
- *hydrants are located clear of parking areas;*

- *there are through roads, and these are linked to the internal road system at an interval of no greater than 500m;*
- *curves of roads have a minimum inner radius of 6m;*
- *the maximum grade road is 15 degrees and average grade of not more than 10 degrees;*
- *the road crossfall does not exceed 3 degrees; and*
- *a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.*

7.0 Services

Water Supply:

The water supply requirements for Special Fire Protection Purpose detailed in section 6 of Planning for Bush Fire Protection can be satisfied in two ways, being:

- *reticulated water is to be provided to the development, where available; or*
- *a 10,000 litres minimum static water supply for firefighting purposes is provided for each occupied building where no reticulated water is available.*

In consideration of the nature of the proposal it would be expected that the hydrant network will be extended to service the future buildings.

Planning for Bush Fire Protection also addresses the installation of electricity and gas within bushfire prone areas.

The following are the requirements for the relevant electricity and gas services which must be applied to any new connections:

Electricity:

- *where practicable, electrical transmission lines are underground, and*
- *where overhead, electrical transmission lines are proposed as follows:*
 - *lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas, and*
 - *no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines*

Gas:

- *reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;*
- *all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;*
- *connections to and from gas cylinders are metal;*

- *if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion;*
- *polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and*
- *above-ground gas service pipes external to the building are metal, including and up to any outlets.*

8.0 Construction

As no bushfire or grassfire hazard was identified within 140 metres of the investigation area the future buildings will not attract any construction requirements under Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018.

9.0 Emergency Management

Planning for Bush Fire Protection addresses Emergency Management within bushfire prone areas, with the following requirements applicable to Special Fire Protection Purpose developments. These requirements are particularly relevant to this site and should be satisfied regardless of a future development.

- Bush Fire Emergency Management and Evacuation Plan is prepared consistent with the:
 - The NSW RFS document: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*; and
 - Australian Standard AS 3745:2010 *Planning for emergencies in facilities*;
- the Bush Fire Emergency Management and Evacuation Plan should include planning for the early relocation of occupants.
- the Bush Fire Emergency Management and Evacuation Plan must consider a mechanism for the early relocation of occupants on days when adverse fire weather is notified or adverse fire activity occurs in the local government area in which the development operates.

Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.

10.0 State Environmental Planning Policy

The proposal is being lodged under *State Environmental Planning Policy (Housing for Seniors or People with a Disability)* 2004. In this regard the following are the controls relating to bushfire protection:

27 Bush fire prone land

- (1) *A consent authority must not consent to a development application made pursuant to this Chapter to carry out development on land identified on a bush fire prone land map certified under section 10.3 of the Act as “Bush fire prone land—vegetation category 1”, “Bush fire prone land—vegetation category 2”, “Bush fire prone land—vegetation category 3” or “Bush fire prone land—vegetation buffer” unless the consent authority is satisfied that the development complies with the requirements of the document titled Planning for Bush Fire Protection, ISBN 978 0 646 99126 9, prepared by the NSW Rural Fire Service in co-operation with the Department of Planning, Industry and Environment, dated November 2019.*
- (2) *A consent authority, in determining a development application made pursuant to this Chapter to carry out development on land in the vicinity of land identified on a bush fire prone land map certified under section 10.3 of the Act as “Bush fire prone land—vegetation category 1”, “Bush fire prone land—vegetation category 2”, “Bush fire prone land—vegetation category 3” or “Bush fire prone land—vegetation buffer”, must take into consideration the general location of the proposed development, the means of access to and egress from the general location and other relevant matters, including the following—*
 - (a) the size of the existing population within the locality,*
 - (b) age groups within that population and the number of persons within those age groups,*
 - (c) the number of hospitals and other facilities providing care to the residents of the facilities within the locality, and the number of beds within those hospitals and facilities,*
 - (d) the number of schools within the locality and the number of students at those schools,*
 - (e) existing development within the locality that has been carried out under this Policy or State Environmental Planning Policy No 5—Housing for Older People or People with a Disability,*
 - (f) the road network within the locality and the capacity of the road network to cater for traffic to and from existing development if there were a need to evacuate persons from the locality in the event of a bush fire,*
 - (g) the adequacy of access to and from the site of the proposed development for emergency response vehicles,*
 - (h) the nature, extent and adequacy of bush fire emergency procedures that are able to be applied to the proposed development and its site,*
 - (i) the requirements of New South Wales Fire Brigades.*
- (3) *In exercising its functions under subclause (1) or (2), a consent authority must consult with the NSW Rural Fire Service and have regard to its comments.*

Subclause 1 will be achieved by satisfying sections 5 to 9 of this assessment.

In relation to subclause 2 we can provide supporting statements addressing items g) and h). All other items are to be addressed by others (i.e. Town Planner, traffic consultant).

11.0 Conclusion

In this instance the overall site is depicted on Parramatta Council's Bushfire Prone Land Map as containing the Category 2 Vegetation and buffer and is therefore considered 'bushfire prone'.

Any future development must demonstrate compliance with the relevant specifications and requirements detailed within *Planning for Bush Fire Protection 2019* as outlined herein.

It is of our opinion that should the proposed development comply with the detail contained herein then we will be in a position to put forward a favourable report for a Development Application.

Comments provided are based on advice received from the NSW Rural Fire Service and the requirements of the *Environmental Planning and Assessment Act 1979*, the *Rural Fires Act 1997*, the *Rural Fires Regulations 2013*, *Planning for Bush Fire Protection 2019*, and Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018.

Should you have any further questions please do not hesitate in contacting myself.

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Quote from Planning for Bush Fire Protection 2019, 'While the material within this publication is current at the time of writing changes in circumstances after the time of publication may impact on the accuracy of the material. Individuals are responsible for ensuring they have the most current version of this publication.'

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Similarly the interpretations and opinions provided by Building Code and Bushfire Hazard Solutions in regard to bushfire design, protection and mitigation are also given in the same good faith.

List of Referenced Documents

Australian Building Codes Board (2019). *National Construction Code Volume One - Building Code of Australia*. ABCB

Australian Building Codes Board (2019). *National Construction Code Volume Two - Building Code of Australia*. ABCB

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Keith, D. (2004). "Ocean Shores to Desert Dunes" Department of Environment and Conservation, Sydney

NSW Department of Planning and Environment (2019). *Planning Portal*. Accessed at: <https://www.planningportal.nsw.gov.au/>

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Standards Australia (2018). *AS3959 Construction of buildings in bushfire-prone areas*.

Standards Australia (2014). *AS/NZS 1596 The storage and handling of LP Gas*

Acknowledgements to:

Geoscience Australia
Nearmap
Street-directory.com.au

Attachments

Attachment 01: N/A