BLACKASH
BUSHFIRE CONSULTING

Bushfire Assessment

Lourdes Retirement Village

Proposed Redevelopment

95 Stanhope Road, Killara

Prepared for

Stockland

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

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Document Tracking

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Contents

Glossary of Terms

APZ	Asset protection zone
AS2419	*Australian Standard – Fire hydrant installations*
AS3745	*Australian Standard – Planning for emergencies in facilities*
AS3959	*Australian Standard – Construction of buildings in bushfire-prone areas 2018*
BAL	*Bushfire attack level*
BCA	*Building Code of Australia*
BSA	Bushfire safety authority
EPA Act	*Environmental Planning & Assessment Act 1979*
FDI	Fire danger index
ha	Hectare
m	Metres
PBP	*Planning for Bushfire Protection 2019*
RF Act	*Rural Fires Act 1997*

1. Introduction

Stockland have commissioned Blackash Bushfire Consulting (Blackash) to undertake a Bushfire Assessment for the proposed redevelopment of the entirety of the Lourdes Retirement Village and the existing independent living units at 95 Stanhope Road, Killara (the site) which is shown in Figure 1.

The Bushfire Hazard Assessment analyses the bushfire matters pertaining to the site and the ability to address bushfire issues relevant to the rezoning. The NSW RFS have endorsed the rezoning and noted that any future DA approval must comply with the *Bushfire Engineering Design Compliance Strategy* and requires Bush Fire Safety Authority (BFSA) under s100B of the *Rural Fires Act 1997* (RFA).

While not part of the assessment criteria, given its location, any bushfires impacting the site would be burning under what is typically a cooler easterly or south-easterly wind and considerable fire brigade intervention would likely see significant firefighting resources available at the site.

While the NSW RFS have not 'approved' any development at this stage, their support for the rezoning is based on the above operational realities of the site, coupled with:

- The considerable building protection measures that all buildings will be provided (i.e. constructed with one hour fire rated external walls and internal sprinklers) which is over and above the typical requirements;
- The introduction of the residential development on the interface (replacing the current Independent Living) ensuring the more 'at risk' residents are located further away from the bushland and shielded by the residential development. This significantly reduces the bushfire risk profile;
- The unique layout and construction of the site which provides for radiant heat shielding and an integrated underground network of pedestrian accessways leading to the basement carpark and into the refuge building. This underground network and radiant heat shielding enables all residents to move safely to the onsite refuge; and
- The occupation of the site being carefully managed to ensure residents aren't adversely exposed to bushfire events.

Should the NSW RFS not issue a BFSA at the DA stage, the site would simply remain 'as-is' until such DA consent can be obtained.

Based on design and the proposed performance-based bushfire protection strategy, the bushfire safety outcome created for the site is considered significantly better than what may be provided through a 'typical' deemed-to-satisfy approach.

This assessment has been prepared by Corey Shackleton, Principal Bushfire and Resilience, Blackash Bushfire Consulting (FPAA BPAD-Level 3 Certified Practitioner No. BPD-PA-34603). A site inspection was completed by Blackash on 4 December 2020.

1.1. Location

The site is located in the suburb of Killara in the Ku-ring-gai LGA. It is located in a suburban low density residential area consisting of large lot single detached one and two storey dwellings. Stanhope Road is a collector road which is located off the Pacific Highway.

The local area is characterised by tree-lined streets and pockets of remnant bushland. Located on the southern boundary of the site, are several large open spaces and bushland parks, including Soldiers Memorial Park and Seven Little Australians Park. Bushland walking trails through these places link the suburb of Lindfield to Middle Harbour.

The land slopes away from Stanhope Road towards the bushland to the south and east on the other side of Lourdes Avenue. The site is adjoined by unmanaged bushland to the east and south which is associated with Gordon Creek. This bushland is primarily riparian forest with steep slopes and continues along Gordon Creek to the northeast (see Figure 1).

Given the location of the site, any bushfires impacting the site would be burning under what is normally a cooler easterly or south-easterly wind. The site is located within Fire & Rescue NSW district and based on the typical fire response in the area, considerable fire brigade intervention would see significant firefighting resources available at the site.

1.2. Project Description

The site currently contains the existing Lourdes Retirement Village which was constructed in 1983 and consists of a total of 240 units. These units range from 2-3 storey's in height and include:

- 108 Independent living apartments:
- 49 serviced apartments;
- Residential Aged Care Facility (RACF) with 83 beds; and
- Community building and associated infrastructure. Buildings.

Due to its age, the existing facility now presents major accessibility constraints and no longer meets the contemporary needs of the residents. There are no bushfire design or protection measures in place.

The proposal for the site may include a medium density development of the southern portion of the site comprising approximately 63 town houses and a new seniors housing development at the northern portion of the site comprising approximately:

- 141 independent living units;
- A new aged care facility with 110 beds; and
- 1,400sqm of internal communal space.

Legend

Watercourse

Subject Land

N

DKGIS

Date: 8/06/2021

0 75 150 300 450

Metres

Coordinate System: GDA 1994 MGA Zone 56

Imagery: © Nearmap

Figure 1: Site Location

2. Legislative Framework

As a Planning Proposal, the relevant Ministerial Directions under Section 9.1 of the *Environmental Planning and Assessment Act 1979*, must be satisfied. Ministerial Direction 4.4 applies to all local government areas in which the responsible Council is required to prepare a bush fire prone land map under section 10.3 of the *Environmental Planning and Assessment Act 1979*. This direction applies when a relevant planning authority prepares a planning proposal that will affect or is in proximity to land mapped as bushfire prone land.

Following the Planning Proposal, any future development on bushfire prone land will require a bush fire safety authority. Section 100B of the *Rural Fires Act 1997* states that the Commissioner of the NSW RFS may issue a bush fire safety authority for:

a) *a subdivision of bush fire prone land that could lawfully be used for residential or rural residential purposes; or*
b) *development of bush fire prone land for a special fire protection purpose.*

A bush fire safety authority authorises development to the extent that it complies with standards regarding setbacks, provision of water supply and other matters considered by the Commissioner to be necessary to protect persons, property or the environment from danger that may arise from a bush fire.

A retirement village is considered a Special Fire Protection Purpose development and must obtain a bush fire safety authority before developing on bush fire prone land.

Section 100B of the *Rural Fires Act 1997* is typically satisfied through compliance with the requirements of *Planning for Bush Fire Protection 2019*, however this is not a specific requirement of the Act. The *Bushfire Engineering Design Compliance Strategy* (Appendix 3) was prepared by Blackash Bushfire Consulting and supported by the NSW RFS as the means for designing and determining compliance.

The requirement for a bush fire safety authority is not considered necessary for the rezoning approval process, but nonetheless essential for any future development.

2.1. Bushfire Prone Land

Bushfire prone land maps provide a trigger for the development assessment provisions and consideration of sites that are bushfire prone. Bushfire prone land (BFPL) is land that has been identified by council, which can support a bushfire or is subject to bushfire attack. Bushfire prone land maps are prepared by local council and certified by the Commissioner of the RFS.

The site is identified as 'bushfire prone land' (see Figure 2) as mapped by Ku-ring-gai Shire Council for the purposes of Section 10.3 of the EPA Act and the legislative requirements for building on bushfire prone lands are applicable. The site is adjoined by Category 1 Bush Fire Prone Vegetation to the south

and east with the associated buffer covering much of the site. This does not preclude development; it simply starts the process to consider bushfire in the design of new development.

2.2. Ministerial Direction

As the site is bushfire prone, Ministerial Direction 4.4 applies.

An assessment has been undertaken of the matters the relevant planning authority must do under Ministerial Direction 4.4 (Appendix 2). Despite compliance through a performance-based approach, the *Department of Planning and Environment* considers the planning proposal to be inconsistent with clause (6)(b). Notwithstanding the inconsistency, it is noted the NSW RFS have indicated their satisfaction with the proposed performance-based approach and that RFS do not object to the progression of the planning proposal pursuant to clause (7) of Direction 4.4.

2.3. Bushfire Protection Compliance

The *Bushfire Engineering Design Compliance Strategy* (Appendix 3) was prepared by Blackash Bushfire Consulting and supported by the NSW RFS as the means for designing and determining compliance.

The *Bushfire Engineering Design Compliance Strategy* will satisfy section 100B of the *Rural Fires Act 1997* through a performance-based approach using the Bush Fire Engineering Brief (BFEB) process. The BFEB process will be undertaken in accordance with the *International Fire Engineering Guidelines* and in close collaboration with the NSW RFS.

This will be undertaken within the context of complying with the Aims and Objectives of *Planning for Bush Fire Protection 2019*. Consideration will be given to the most appropriate construction approval regime and ongoing compliance will be ensured through implementation of the *Bush Fire Protection, Operations and Maintenance Plan* as developed through the design strategy.

The bushfire safety outcome created for the site through this compliance approach will be significantly better than what may be provided through a 'typical' deemed-to-satisfy approach.

A summary of Ministerial Direction 4.4. *Planning for Bush Fire Protection* is provided as Appendix 2.

2.4. Response to Gateway Conditions

On 10 May 2022, the Executive Director at the Department of Planning and Environment, as delegate of the Minister for Planning and Homes, determined the proposed amendment to the Ku-ring-gai Local Environmental Plan 2015 should proceed subject to several conditions.

The conditions included a range of matters, however the following are relevant to bushfire:

1. *The planning proposal is to be updated and submitted to the Department for review and endorsement prior to public exhibition to include:*
   (c) An updated Urban Design Study to:
   - *The side setbacks of the terrace housing to the south and east present as hard edges to the surrounding bushland and a softer bushland edge with the built form should be considered.*

The setbacks proposed have been specifically designed to ensure APZ are maximised as far as practical to reduce the impact of radiant heat. Moving buildings closer to the bush, or introducing significant vegetation onto the site will create bushfire protection and safety issues.

A redesign to move buildings closer to the bushland is not supported from a bushfire perspective, however more sensitive landscaping can be incorporated to ensure 'softer' look/feel.

3. *Consultation is required with the following public authorities and government agencies under section 3.34(2)(d) of the Act:*
   - *The Commissioner of the NSW Rural Fire Service (RFS);*

   During consultation, RFS should specifically determine whether detached dwellings, dual occupancies and/or semi-detached dwelling land uses could provide appropriate bushfire risk mitigation for the seniors housing as an alternative to the proposed medium density dwellings.

From a bushfire perspective, the medium density dwellings on the outside was deliberate built strategy. The concept design created a unique layout which provided radiant heat shielding to residents moving within the central portions of the site. This radiant heat shielding enables all residents to move safely to the onsite refuge.

While providing for detached dwellings, dual occupancies and/or semi-detached dwellings does not, in itself, create a bushfire risk issue, it does impact on the broader design strategy. The medium density dwelling design has been carefully developed to ensure the safety of the SFPP components within the site.

Figure 2: Bushfire Prone Land.

2.5. Planning for Bushfire Protection 2019

All development on BFPL must satisfy the aim and objectives of PBP 2019. The aim of PBP 2019 is to provide for the protection of human life and minimise impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment. The objectives are to:

I. *afford buildings and their occupants protection from exposure to a bush fire;*

II. *provide for a defendable space to be located around buildings;*

III. *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;*

IV. *ensure that appropriate operational access and egress for emergency service personnel and occupants is available;*

V. *provide for ongoing management and maintenance of BPMs; and*

VI. *ensure that utility services are adequate to meet the needs of firefighters.*

In response to their distinctive vulnerabilities, PBP 2019 treats residential development and Special Fire Protection Purpose development differently and has Specific Objectives unique to both types of development.

2.5.1. Specific Objectives for Residential Development

Any residential development on the should respond to the specific objectives for residential and rural residential subdivisions which are defined in PBP 2019 as follows:

- *minimise perimeters of the subdivision exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided);*
- *minimise vegetated corridors that permit the passage of bush fire towards buildings;*
- *provide for the siting of future dwellings away from ridge-tops and steep slopes, within saddles and narrow ridge crests;*
- *ensure that APZs between a bush fire hazard and future dwellings are effectively designed to address the relevant bush fire attack mechanisms;*
- *ensure the ongoing maintenance of APZs;*
- *provide adequate access from all properties to the wider road network for residents and emergency services;*

- *provide access to hazard vegetation to facilitate bush fire mitigation works and fire suppression; and*
- *ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.*

2.5.2. Specific Objectives for SFPP Development

The proposed retirement village is a designated SFPP, defined in Section 100B(6) of the *Rural Fires Act*. Planning for Bushfire Protection states that:

> *"An SFPP development is one which is occupied by people who are identified as at-risk members of the community. In a bushfire event, these occupants may be more susceptible to the impacts of radiant heat and other bushfire effects. Evacuating at-risk members of the community is more challenging because they may be physically or psychologically less able to relocate themselves or are unfamiliar with their surroundings. Examples of SFPP developments are schools, hospitals, nursing homes and tourist accommodation."*

The specific objectives within PBP 2019 for SFPP developments are to:

- *Minimise levels of radiant heat, smoke and ember attack through increased APZ, building design and siting;*
- *Provide an appropriate operational environment for emergency service personnel during firefighting and emergency management;*
- *Ensure the capacity of existing infrastructure (such as roads and utilities) can handle the increase in demand during emergencies as a result of the development; and*
- *Ensure emergency evacuation procedures and management which provides for the special characteristics and needs of occupants.*

3. Bushfire Threat Assessment

While PBP is clear that no development in bushfire prone areas can be guaranteed to be entirely safe from bushfires (PBP 2019 p. 11), the aim of the document is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment (PBP 2019 p. 10).

The detailed site analysis and the application of a combination of bushfire protection measures are used to achieve an acceptable outcome. Appropriate combinations not only depend upon site location and site circumstances but also on the nature of the proposed use. The site assessment methodology within PBP will be used to determine the bushfire threat to the site.

3.1. Assessment Methodology

PBP 2019 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.

The following assessment is prepared in accordance with Section 100B of the RF Act, Clause 44 of the RF Reg and PBP. This assessment is based on both a site inspection and desktop assessment of the site assessment utilising the following resources:

- Planning for Bushfire Protection (NSW RFS, 2019);
- Site Inspection; and
- Aerial mapping detailed GIS analysis.

The methodology used in this assessment is in accordance with PBP 2019 and is outlined in the following sections.

3.2. Bushfire Hazard

An assessment of the Bushfire Prone Land is necessary to determine the application of bushfire protection measures such as Asset Protection Zone (APZ) locations and future building construction levels. The vegetation formations (bushfire fuels) and the topography (effective slope) combine to create the bushfire threat that may affect bushfire behaviour at the site, and which determine the planning and building response of PBP.

3.2.1. Fire weather

The fire weather is dictated by PBP 2019 and assumes a credible worst-case scenario and an absence of any other mitigating factors relating to aspect or prevailing winds. The site has a Fire Danger Index (**FDI**) of 100 as per PBP 2019. A more detailed analysis of the FDI may be undertaken as part of the detailed bushfire assessment, engineering and design work at the DA stage.

3.2.2. Vegetation Assessment

The RF Regulation requires a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in PBP.

Predominant Vegetation is classified by structure or formation using the system adopted by Keith (2004) and by the general description using PBP and is shown in Figure 3.

Vegetation types give rise to radiant heat and fire behaviour characteristics. The predominant vegetation is determined in all directions from the building footprints. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

The vegetation impacting the site (see Figure 3) is considered Forest for the purposes of assessing bushfire threat. A more detailed analysis of the vegetation, including the impact of the sandstone outcrops and the applicability of any Short Fire Run modelling will be undertaken as part of the detailed bushfire assessment, engineering, and design work at the DA stage. The assessment below is a conservative 'worst-case'.

Figure 3: Vegetation and Slope

3.2.3. Slopes Influencing Bushfire Behavior

The RF Reg requires an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property or from the proposed development footprint).

The effective slope' influencing fire behaviour approaching the sites has been assessed in accordance with the methodology specified within PBP. This is conducted by measuring the worst-case scenario slope where the vegetation occurs over a 100 metre transect measured outwards from the development boundary or the existing/ proposed buildings.

Figure 3 shows the effective slopes relevant to the proposal. A more detailed analysis of the effective slopes, including the influence of adjoining rock formations, creeklines and potential Short Fire Runs will be undertaken as part of the detailed bushfire assessment, engineering and design work at the DA stage.

4. Bushfire Compliance Strategy

PBP 2019 recognises the unique attributes of both residential and SFPP developments and promotes detailed site analysis and the application of a combination of bushfire protection measures (**BPMs**) to achieve an appropriate outcome.

The BPMs work in combination to provide a suite of measures that meet the Aim and Objectives and Specific Objectives PBP 2019. The BPMs are shown in Figure 4.

Appropriate combinations depend upon geographic location and site circumstances.

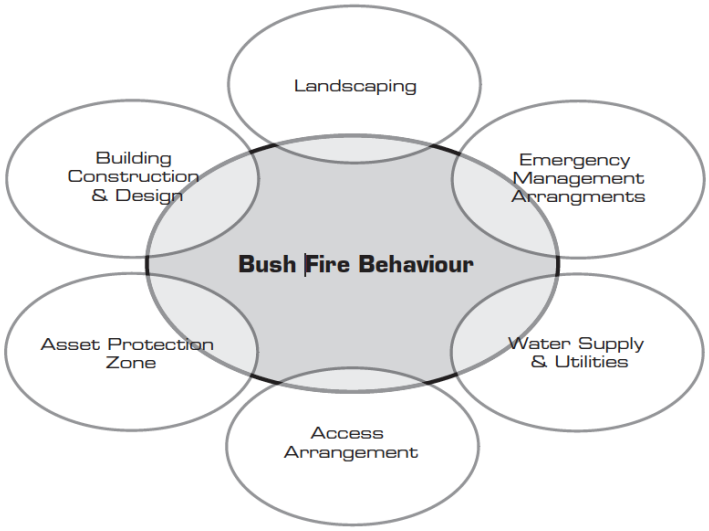

Figure 4: Bushfire Protection Measures in Combination (source PBP 2019 p. 26)

4.1. Asset Protection Zones

For proposed new residential and SFPP development, PBP 2019 requires that a minimum separation is provided in the form of Asset Protection Zones (**APZ**). The APZ is a fuel-reduced, physical separation between buildings and bushfire hazards.

A detailed analysis and application of APZ will be undertaken as part of the detailed bushfire assessment, engineering and design work at the DA stage. This will ensure appropriate APZ are incorporated into any future development. Regardless of the final design, the entire site will be managed as an APZ and the layout and construction of the site will ensure radiant heat shielding to all residents, enabling them to move safely to the onsite refuge without exposure to greater than 10kW/m^2 of radiant heat.

4.2. Building Construction & Design

All proposed buildings must be located, designed and constructed in a manner that can withstand the relevant bushfire attack in the form of wind, embers, radiant heat and flame contact.

In order to provide the most appropriate and complaint outcome, all buildings must be assessed against the methodology in PBP 2019 to determine the appropriate Bushfire Attack Level (BAL). The BAL is a means of measuring the ability of a building to withstand attack from bushfire. The BAL assesses the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per square metre, which is the basis for establishing the requirements for construction to improve protection of a building from potential attack by a bushfire, as defined in *Australian Standard AS 3959-2009 Construction of buildings in bushfire-prone areas* (AS 3959-2018).

A detailed analysis and application of building construction will be undertaken as part of the detailed bushfire assessment, engineering and design work at the DA stage. Notwithstanding, a suite of considerable building protection measures will be provided to all buildings (i.e. constructed with one hour fire rated external walls and internal sprinklers) which is over and above the typical requirements of PBP 2019 and AS3959. The layout and construction of the site will be designed so the buildings themselves can withstand the potential fire impact and provide radiant heat shielding for the central portions of the site.

4.3. Water Supply

An adequate supply of water is essential for firefighting purposes. Any future development will ensure suitable water supply arrangements will be provided for firefighting that meet the NSW RFS requirements.

The site is capable of providing water supplies in accordance with PBP 2019. This will form a key element of the detailed bushfire assessment, engineering and design work at the DA stage.

4.4. Landscaping

The bush fire risk can be reduced by implementing simple measures to reduce vegetation levels. This can be done by designing and managing landscaping to implement an APZ around the property.

Landscaping throughout the site will form a key element of the detailed bushfire assessment, engineering and design work at the DA stage and can comply with PBP 2019.

4.5. Gas and electrical supplies

Electricity supply for the new development will comply with PBP 2019. All electrical transmission lines will be underground. This complies with PBP 2019.

The site is capable of providing gas services in accordance with section 6.8.3 of PBP 2019 and compliance will form a key element of the detailed bushfire assessment, engineering and design work at the DA stage.

4.6. Access Arrangements

The design of public access roads and property access (within a site) should enable safe access, egress and defendable space for fire fighters and emergency services. The access for the development must ensure safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing the area.

The site is capable of providing access in accordance with Section 6.8.2 of PBP 2019 including width, grade, crossfall, hydrant locations, parking and curve radius. Compliance and will form a key element of the detailed bushfire assessment, engineering and design work at the DA stage.

4.7. Emergency Management Arrangements

Prior to occupation of any future development, a *Bush Fire Emergency Management and Evacuation Plan* will be prepared. The *Bush Fire Emergency Management and Evacuation Plan* will be consistent with the following:

- The NSW RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan;
- Australian Standard AS 3745:2010 Planning for emergencies in facilities; and
- Australian Standard AS 4083:2010 Planning for emergencies – Health care facilities.

From the built form perspective, the unique layout and construction of the site will provide for radiant heat shielding and an integrated underground network of pedestrian accessways leading to the basement carpark and into the refuge building. This underground network and radiant heat shielding enables all residents to move safely to the onsite refuge.

The *Bush Fire Emergency Management and Evacuation Plan* will be designed to complement the built form. It will be designed so that the occupation of the site is managed to ensure residents aren't adversely exposed to bushfire events. This will include triggers for moving residents into the refuge area or off-site as appropriate on days of bad fire weather or if bushfires are expected to impact the site.

4.8. Ongoing Compliance

To ensure the holistic management of the site, including all bushfire protection measures, a *Bushfire Protection, Operations and Maintenance Plan* will be developed which will include the *Emergency Management and Evacuation Plan* and ongoing maintenance and certification of the essential bushfire protection measures (i.e., APZ).

5. Recommendations

The following recommendations are made to ensure any future development is designed in a manner that ensures appropriate bushfire protection for the site:

Recommendation 1: Any future development must be designed in accordance with the *Bushfire Engineering Design Compliance Strategy*.

Recommendation 2: Any future development must comply with the aims and objectives of PBP 2019.

Recommendation 3: Any future development must satisfy section 100B of the *Rural Fires Act 1997* and obtain a Bush Fire Safety Authority from the NSW RFS Commissioner.

Recommendation 4: A *Bushfire Protection, Operations and Maintenance Plan* is developed which will include an *Emergency Management and Evacuation Plan* and ongoing maintenance and certification of essential bushfire protection measures.

Recommendation 5: Emergency management and evacuation planning is developed and implemented through a holistic system to minimise exposure of occupants to potential high-risk bushfire events. This is based on fire weather predictions, actual fire weather conditions and bush fire activity.

6. Conclusion

The proposal rezoning presents no issues in the context of bushfire.

In the authors professional opinion, the site is suitable for redevelopment and has the capability to provide appropriate bushfire protection measures which satisfy the aim and objectives of *Planning for Bush Fire Protection 2019*. The NSW RFS have indicated their satisfaction with the proposed performance-based approach and do not object to the progression of the planning proposal pursuant to clause (7) of Ministerial Direction 4.4

Based on design and the proposed performance-based approach, the bushfire safety outcome that will be created for the site is considered significantly better than what may be provided through a 'typical' deemed-to-satisfy approach.

The detailed design and compliance issues must be addressed through any future development and associated DA approval process. Any future development must comply with the approved *Bushfire Engineering Design Compliance Strategy* and obtain a Bush Fire Safety Authority (BFSA) under s100B of the *Rural Fires Act 1997* (RFA).

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Appendix 1: References

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

Keith, David (2004). *Ocean Shores to Desert Dunes – The Native Vegetation of New South Wales and the ACT*. The Department of Environment and Climate Change.

NSW Rural Fire Service (2015). *Guide for Bushfire Prone Land Mapping.*

NSW Rural Fire Service (2019). *Planning for Bushfire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Homeowners.*

NSW Rural Fire Service (2017). *Short Fire Run Methodology for assessing bush fire risk for low risk vegetation.*

NSW Government (1979). *Environmental Planning and Assessment Act 1979*. NSW Government Printer.

Appendix 2: Ministerial 4.4. Planning for Bush Fire Protection

Objectives:

Part 1	Comment	Complies
The objectives of this direction are: (a) to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and (b) to encourage sound management of bush fire prone areas.	The site planning proposal will be designed in accordance with the NSW RFS approved *Bushfire Engineering Design and Compliance Strategy*. This was developed in consultation with the NSW RFS and identifies a suite of design measures that need to be incorporated to ensure compliance with the Aim and Objectives of PBP 2019. The planning proposal creates a significantly better bushfire outcome than what currently exists (entire site developed with non-compliant aged care). The future development will comply with PBP 2019.	YES

Where the Direction Applies:

Part 2	Comment	Complies
This direction applies to all local government areas in which the responsible Council is required to prepare a bush fire prone land map under section 146 of the Environmental Planning and Assessment Act 1979 (the EP&A Act), or, until such a map has been certified by the Commissioner of the NSW Rural Fire Service, a map referred to in Schedule 6 of that Act.	The site is within a local government area who has prepared a bushfire prone map; therefore the direction applies.	YES

When this Direction Applies:

Part 3	Comment	Complies
This direction applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land.	The site is bushfire prone, therefore the direction applies.	YES

What a relevant planning authority must do if this direction applies:

Part 4	Comment	Complies
In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 3.34 of the Act, and prior to undertaking community consultation in satisfaction of Schedule 1, clause 4 of the Act, and take into account any comments so made,	The NSW RFS have been heavily consulted and have supported the proposed Planning Proposal (late 2020 and again in 2021). The *Bushfire Engineering Design and Compliance Strategy* was developed in consultation with the NSW RFS and approved in 2020. The NSW RFS supported the proposed Planning Proposal subject to compliance with the *Bushfire Engineering Design and Compliance Strategy*.	YES

Part 5 *A Planning Proposal must:*	**Comment**	**Complies**
a. *have regard to Planning for Bushfire Protection 2019;*	The site can support appropriate APZ . The *Bushfire Engineering Design and Compliance Strategy* was developed in consultation with the NSW RFS and identifies a suite of design measures that need to be incorporated to ensure compliance with the Aim and Objectives of PBP 2019. Any future development will comply with these agreed design principles (and therefore PBP 2019).	**YES**
b. *introduce controls that avoid placing inappropriate developments in hazardous areas; and*	Any future development can, and will, comply with *Planning for Bush Fire Protection 2019*. This provides a framework of bushfire protection and design parameters that fundamentally ensures inappropriate developments aren't placed in hazardous areas. The site is already developed for the purposes of a SFPP and the future development will significantly reduce the exposure of vulnerable residents and provide a bushfire safety outcome (through a suite of performance-based measures) that far exceeds that required through a typical 'Acceptable Solutions' approach.	**YES**
c. *ensure that bushfire hazard reduction is not prohibited within the APZ.*	Bushfire hazard reduction is not prohibited within the APZ. The APZ will ensure legally that hazard reduction is ongoing and maintained.	**YES**

Part 6: *A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:*	**Comment**	**Complies**
a. *provide an Asset Protection Zone (APZ) incorporating at a minimum:* i. *an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and* i. *an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road;*	The proposal provides an APZ which incorporates the following: • An Inner Protection Area bounded by a perimeter road which circumscribes the adjoining hazard and has a building line consistent with the incorporation of an APZ, within the property; • The entire site will be managed as an Inner Protection Area; • No Outer Protection Area is proposed.	**YES**
b. *for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire*	The site can support appropriate APZ which comply with the performance intent (provisions) of PBP 2019. This is an acceptable approach as PBP 2019 is a 'performance-based' document. This means the APZ aren't determined based in Table A1.12.1 of PBP 2019, rather the APZ and the development itself are designed to achieve the appropriate performance as provided by PBP 2019. This is an acceptable compliance approach and has been agreed by the NSW RFS.	**NO***

Part 6: *A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:*	**Comment**	**Complies**
Protection Purposes (as defined under section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with;	The development concept has been designed to ensure the most vulnerable occupants (SFPP) are located furthest from the bushfire hazard. The design provides for 3 distinct development zones based on vulnerability: 1. Residential - located closest to the hazard, providing an outer ring of shielding to the site; 2. Independent Living (SFPP) – provided further away from the bush and shielded by the residential development; and 3. Aged Care (SFPP) – provided furthest away from the bush, shielded by the ILU and residential areas. The Aged Care building is in an area with very low radiant heat and will be constructed to provide an onsite refuge for all residents. The design will ensure all occupants across the site can move from their place of residence into the 'safer areas' without exposure to dangerous levels of radiant heat. For additional redundancy, the buildings themselves will also be designed to allow residents to 'shelter in place'. The residential buildings will be located, designed, and constructed to ensure appropriate safety as applicable for residential development. In this regard, the APZ provisions will be complied with through a performance-based approach.	
c. *contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks;*	The road layout will be two-way and designed as a 'through road' network with multiple links to Stanhope Road and the perimeter road.	YES
d. *contain provisions for adequate water supply for firefighting purposes;*	The site is serviced by reticulated water and all future development provided with hydrants in accordance with AS2419 and water provisions of PBP 2019.	YES
e. *minimise the perimeter of the area of land interfacing the hazard which may be developed; and*	• The perimeter of the site includes a perimeter road; • The design of the development will be 'simple' to minimise the interface with the bushland; • The design ensures the more 'vulnerable' residents are located furthest away from the bushfire hazard, creating the lowest possible risk profile for the site. • The planning proposal creates a significantly better bushfire outcome than what currently exists. The future development will comply with PBP 2019.	YES
f. *introduce controls on the placement of combustible materials in the Inner Protection Area.*	Controls will be created as part of the Development Application process and the conditions associated with the required APZ.	YES

* *Despite compliance through a performance-based approach, the Department of Planning and Environment considers the planning proposal to be inconsistent with clause (6)(b). Notwithstanding the inconsistency, it is noted the NSW RFS have indicated their satisfaction with the proposed performance-based approach and that RFS do not object to the progression of the planning proposal pursuant to clause (7) of Direction 4.4.*

Consistency:

Part 7	Comment	Complies
A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the council has obtained written advice from the Commissioner of the NSW Rural Fire Service, to the effect that, notwithstanding the non-compliance, the NSW Rural Fire Service does not object to the progression of the planning proposal.	*NSW RFS have indicated their satisfaction with the proposed performance-based approach and do not object to the progression of the planning proposal*. The *Bushfire Engineering Design and Compliance Strategy* was developed in consultation with the NSW RFS and approved in 2020. The NSW RFS supported the proposed Planning Proposal subject to compliance with the *Bushfire Engineering Design and Compliance Strategy*.	**YES**

Appendix 3: Bushfire Engineering Design Compliance Strategy