



Bushfire Hazard Assessment

SSD-63475709

14 Mingara Drive, Tumby Umbi

Mingara Recreation Club

14 Mingara Drive, Tumby Umbi

Prepared for

Mingara Leisure Group Pty Ltd



22 July 2024

Version 1.0

Project Name:	Mingara Recreation Club – SSD--63475709
Site Details	Mingara Recreation Club
Client Details:	Mr. Michael Cardillo Assistant Development Manager Pariter Pty Ltd Level 23, Deutsche Bank Place 126 Phillip Street SYDNEY NSW 2000
BlackAsh Contact Details	
Corey Shackleton	Principal – Bushfire & Resilience
0418 412 118	corey.shackleton@blackash.com.au

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**Corey Shackleton / Principal Bushfire & Resilience**

Blackash Bushfire Consulting

B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)

Fire Protection Association of Australia BPAD Level 3 – 34603

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Contents

1.	Summary	4
2.	Introduction	5
3.	Site Context	5
4.	The Proposal	8
5.	Legislative Framework	10
6.	Bushfire Prone Land	10
7.	Planning for Bushfire Protection 2019	12
	7.1. General Objectives of Planning for Bushfire Protection	12
	7.2. Specific Objectives for SFPP Development	12
8.	Bushfire Threat Assessment	14
	8.1. Methodology	14
	8.2. Bushfire Hazard	14
	8.3. Vegetation	14
	8.4. Slopes Influencing Bushfire Behavior	15
	8.5. Fire Weather	16
9.	Bushfire Protection Measures	19
	9.1. Asset Protection Zones	19
	9.2. Bushfire Attack Levels	20
10.	Access	21
11.	Water Supply and Utilities	21
12.	Emergency Management Arrangements	21
13.	Assessment Against the Aim and Objective of PBP	22
14.	Recommendations	23
15.	Conclusion	23
	Appendix 1: References	24

1. Summary

Table 1 is a summary of compliance with relevant documents and approaches to limit bushfire attack and meet the requirements of the NSW planning framework for new development in Bushfire Prone Areas.

Table 1: Summary

Planning for Bushfire Protection 2019 Classification	Special Fire Protection Purpose
Location	Lot 13 DP 120439
Local Government Area	Central Coast
Can this proposal comply with AS3959, 2009	YES
Does this development comply with the requirements of <i>Planning for Bushfire Protection 2019</i>?	YES – Not Bushfire Prone
Does this development comply with the Aims and objectives of <i>Planning for Bushfire Protection 2019</i>?	YES – Not Bushfire Prone
Is referral to the NSW RFS required?	NO

Assessment Framework	☒ <i>Planning for Bushfire Protection 2019</i>
	☒ Meets the deemed to satisfy provisions
	☐ Alternate solution/ performance-based assessment

2. Introduction

Blackash Bushfire Consulting has been commissioned by Mingara Leisure Group Pty Ltd to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD-63475709) for the proposed.

The development is not located on bushfire prone land, however bushfire has still been carefully considered in the design process. This report has been completed having regard to Secretary for Planning and Environment's (the Secretary) Environmental Assessment Requirements (SEARs) issued for the proposal on 18 October 2023. The SEARs (Item 23) requires the following in relation to bushfire:

"If the development is on mapped bush fire prone land, or a bush fire threat is identified on or adjoining the site, provide a bush fire assessment that details proposed bush fire protection measures and demonstrates compliance with Planning for Bush Fire Protection."

Given the development is not on bush fire prone land, there are no formal compliance requirements, however an assessment has still been undertaken to ensure an appropriate level of bushfire protection measures, as per *Planning for Bushfire Protection 2019* (PBP 2019). This report will demonstrate that an appropriate combination of protection measures has been provided to meet the aims and objectives of *Planning for Bush Fire Protection 2019*.

This assessment has been prepared by Corey Shackleton, Principal Bushfire & Resilience (FPAA BPAD Level 3 Certified Practitioner No. BPD-L3-34603) who is recognised by the NSW RFS as qualified in bushfire risk assessment and have been accredited by the Fire Protection Association of Australia as a suitably qualified consultant to undertake alternative solution proposals.

3. Site Context

The site is located at 14 Mingara Drive, Tumby Umbi, within the Central Coast Local Government Area (LGA). The development site is legally described as Lot 13 DP1204397.

The broader Mingara Club Precinct also encompasses Lot 1 and Lot 2 in DP 1010532 and Lot 71 DP1011971 and currently contains a registered club, health and wellness centre (including aquatics, gym facilities, physio, hairdresser, beautician and martial arts studio), car parking, creche, bowling greens and green space with a regional athletics centre. A hotel is currently under construction.

Immediately surrounding the Mingara Club Precinct are fast food outlets and other restaurants, service station, car wash, retail, medical centre and a retirement village to the south and west. Industrial development is to the north of Wyong Road and residential development to the west. The specific area of the site, the subject of the proposed development, is land located to the west of the Mingara

Recreation Club and south of the Athletics field. This development site is currently a vacant grassed area.

The site is in the Central Coast Local Government Area (LGA).

The surrounding locality is described as follows:

- North: Immediately north of the development site is the athletics track/field, forming part of the broader Mingara Club precinct. Further north on the northern side of Wyong Road is industrial zoned land and most of the surrounding context comprises low density residential, environmental conservation, living and management.
- East: Directly east of the site is a hotel (under construction), the main Club building and car park, accessible from Mingara Drive and Wyong Road. Further east of the site are fast food and commercial land uses on Wyong Road, then low density residential uses. Further east is more residential development with the Bateau Bay Square shopping centre forming the major commercial node for the area.
- South: The Glengara Retirement Village is immediately south (and southwest) of the site and is one to two storeys in height. Beyond that, the area of Tumby Umbi is primarily larger environmental living residential lots.
- West: A drainage corridor and some taller vegetation is located directly west of the site. Further west is the northern portion of the Glengara Retirement Village.



Legend

Subject Land



Date: 1/09/2022

0 0.25 0.5

Kilometers

Coordinate System: GDA 1994 MGA Zone 56

Imagery: © Nearmap

Figure 1: Site Location

4. The Proposal

The proposed development comprises subdivision of land and the construction and operation of a seniors housing development. The proposal includes thirteen villa buildings, three multi storey independent living unit (ILU) buildings and one mixed high care and ILU building housing communal facilities together with car parking, open space and associated works including site preparation works and landscaping.

Detailed Description

The proposed SSDA seeks approval to redevelop the site to accommodate a seniors living development inclusive of the following:

- Site establishment works, including minor excavation and tree removal and earthworks.
- Construction and operation of:
 - Thirteen (13) villa buildings, housing four (4) independent living units in each
 - Three (3) multi storey independent living unit (ILU) buildings of:
 - Building 1 – undercroft car parking, 5 levels of 2-bed and 3-bed ILUs
 - Building 3 - undercroft car parking, 6 levels of 2-bed and 3-bed ILUs
 - Building 4 - undercroft car parking, 5 levels of 2-bed and 3-bed ILUs
 - One (1) mixed high care and ILU building (Building 2) of:
 - Part undercroft car parking, part communal/amenities level at ground with 3 levels of high care suites and 3 levels of ILUs
 - The building will include communal facilities including a café, residential lounge, multi-function spaces, consultation/therapy rooms, library and staff/admin areas.
- Provision of 219 x 2-bed and 3-bed independent living units and 39 high care suites
- Total site GFA of 31,739.7 sqm comprising:
 - Townhouses: 7,223.3 sqm GFA
 - Building 1: 4,595.6 sqm GFA
 - Building 2: 5,315.7 sqm GFA
 - Building 3: 5,520.0 sqm GFA
 - Building 4: 9,085.1 sqm GFA
- Vehicle access will be provided via the existing road access from Wyong Road and via Mingara Drive. The site also accommodates a north-south internal shared access road and dedicated porte cochere in front of Building 2.
- Private, passive and communal open space, landscaping and perimeter and internal pedestrian pathways
- Subdivision of the land and two stage construction.

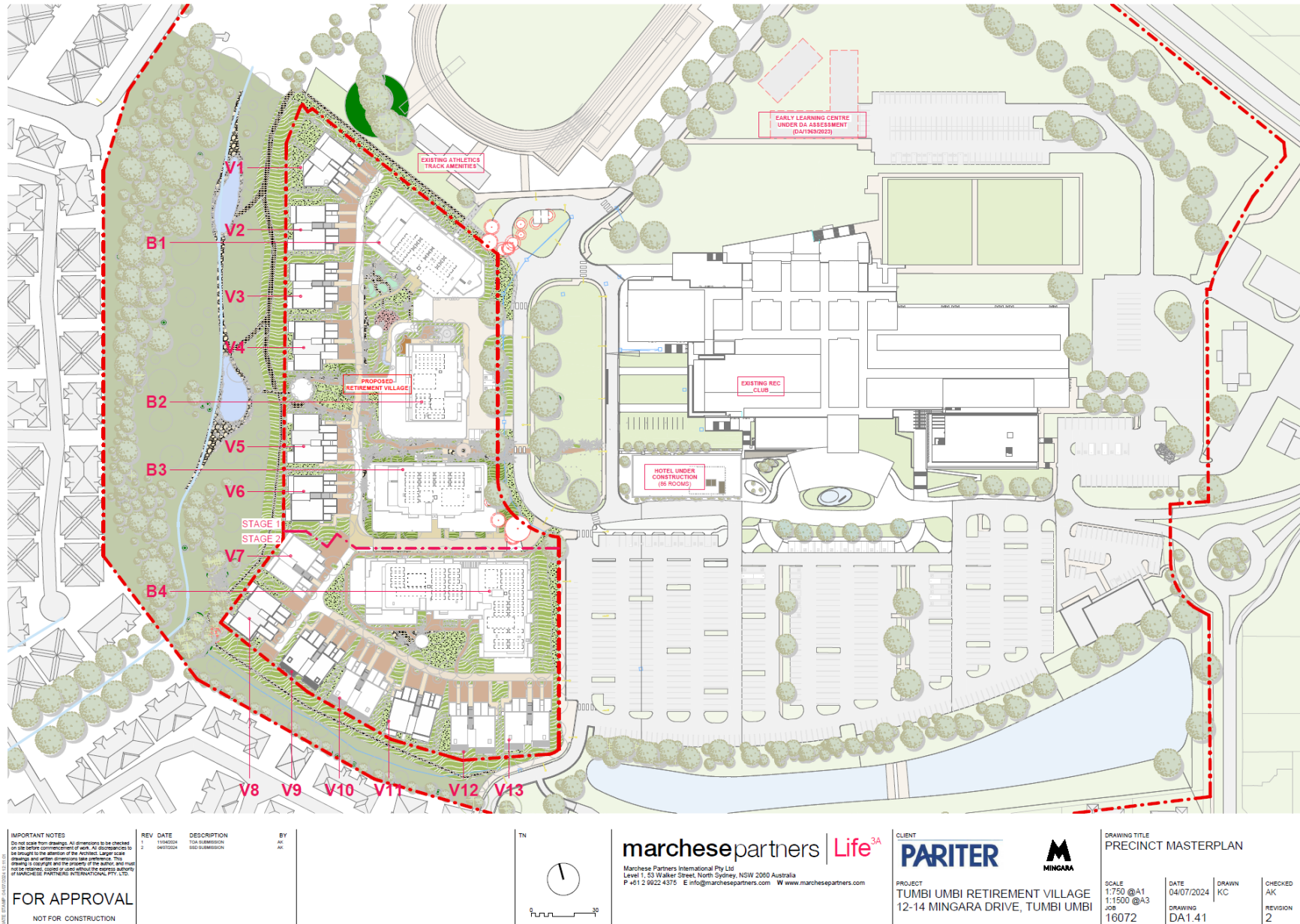


Figure 3: Proposed Development Masterplan

5. Legislative Framework

The proposed retirement village development is designated as Special Fire Protection Purpose development by PBP 2019.

The site is not identified as 'bushfire prone land' (see Figure 2) for the purposes of Section 10.3 of the *Environmental Planning and Assessment Act, 1979* (EPA Act) and therefore the legislative requirements for development on bushfire prone lands are not applicable.

Typically, the proposed Retirement Village is designated as a seniors living development and is therefore considered a Special Fire Protection Purpose (SFPP) development. However, because it is not located on bushfire prone land, it is therefore not Integrated Development under s.4.46 of the EPA Act.

Typically, if on bushfire prone land, as a Retirement Village, the application needs to be able to justify that the proposal can achieve radiant heat levels of less than 10kW/m² at all habitable buildings.

6. 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 NSW RFS.

Figure 2 shows the Bushfire Prone Land Map for the site. The extract from the Central Coast Bushfire Prone Map shows that the proposed Retirement Village is not located on bush fire prone land.



Legend

- Watercourse
- Subject Land
- Project Area
- Cadastre

Bushfire Prone Land

- Vegetation Buffer
- Vegetation Category 1
- Vegetation Category 3

Roads



Date: 1/09/2022

0 250 500

Meters

Coordinate System: GDA 1994 MGA Zone 56

Imagery: © Nearmap

Figure 2: Bushfire Prone Land

7. Planning for Bushfire Protection 2019

NSW RFS PBP 2019 is the formal NSW guideline which provides development standards for planning, designing and building on bushfire prone lands in NSW. PBP 2019 details specific provisions for Special Fire Protection Purpose (SFPP) development considering site specific risk, occupant vulnerability and the appropriate suite of bushfire protection measures (BPMs).

PBP 2019 sets out an overall framework consisting of an aim and objectives, specific objectives for defined development types, types of BPMs which may be employed in a development or risk assessment, and performance criteria for each BPM.

While the site is not bushfire prone and legislatively the requirements of PBP 2019 do not apply, the proposed development has nonetheless been assessed on its merits.

7.1. General Objectives of Planning for Bushfire Protection

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 defensible 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.*

7.2. Specific Objectives for SFPP Development

The proposed Retirement Village is for 'seniors living' and therefore has been assessed as an SFPP, defined in Section 100B(6) of the *Rural Fires Act 1997* as a development that includes schools (as well as other purposes). 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:

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

8. Bushfire Threat Assessment

8.1. Methodology

PBP 2019 provides a methodology to determine the bushfire threat and commensurate size of any asset protection zone (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. For the Manufactured Home Estate, APZ requirements are based on keeping radiant heat levels at all habitable buildings below 10kW/m².

The following assessment is prepared in accordance with Section 100B of the RF Act, Clause 44 of the RF Reg and PBP 2019. This assessment is based on the following resources:

- Planning for Bush Fire Protection (NSW RFS, 2019);
- Central Coast Bushfire Prone Land Map;
- Aerial mapping; and
- Detailed GIS and Site analysis.

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

8.2. Bushfire Hazard

An assessment of the bushfire hazard is necessary to determine the application of bushfire protection measures such as Asset Protection Zone (APZ) locations and dimensions and future building 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 2019.

8.3. Vegetation

Predominant Vegetation is classified by structure or formation using the system adopted by Keith (2004) and by the general description using PBP 2019. Vegetation types give rise to radiant heat and fire behaviour characteristics.

The predominant vegetation is determined over a distance of at least 140 metres in all directions from the proposed site boundary or building footprint on the development site. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

There is no bushfire prone vegetation within 100 metres of the proposed development. See Figure 4.

The site is surrounded by residential development and while there are small areas of low-risk bushfire hazard to the west of the site. These are more than 150 metres from the proposed buildings and more than 100 metres from the areas of revegetation within the drainage corridor.

The drainage corridor in the west of the site will be subject to revegetation / regeneration. The Mingara Recreation Club Seniors Housing - Vegetation Management Plan (VMP), prepared by écologique, dated 19/07/2024 identifies 5 zones:

- Zone 1 – Existing Wooded Vegetation (Coastal Floodplain Wetland) – 0.89ha
- Zone 2 – Western Grassed Batter (Managed) – 0.35ha
- Zone 3 – Eastern Grassed Batter (Managed) – 0.51ha
- Zone 4 – Drainage Channel & Ponds – 0.16ha
- Zone 5 – Drainage Swale (Restoration – groundlayer plantings) – 0.15

Figure 5 shows the VMP areas.

Given the area of revegetated Coastal Floodplain Wetland is less than 1 hectare and more than 100 metres from the nearest area of bushfire prone vegetation, it is not considered a bushfire hazard in the context of PBP 2019 or the *Guide for Bush Fire Prone Land Mapping* (Version 5b, November 2015). The Guide for Bush Fire Prone Land Mapping states:

“Section 7.1.2 Exclusions:

Vegetation excluded from being mapped as bush fire prone includes:

- *Single areas of vegetation less than 1 hectare in area and greater than 100 metres separation from other areas of Category 1, 2 or 3 vegetation;”*

See Figure 5.

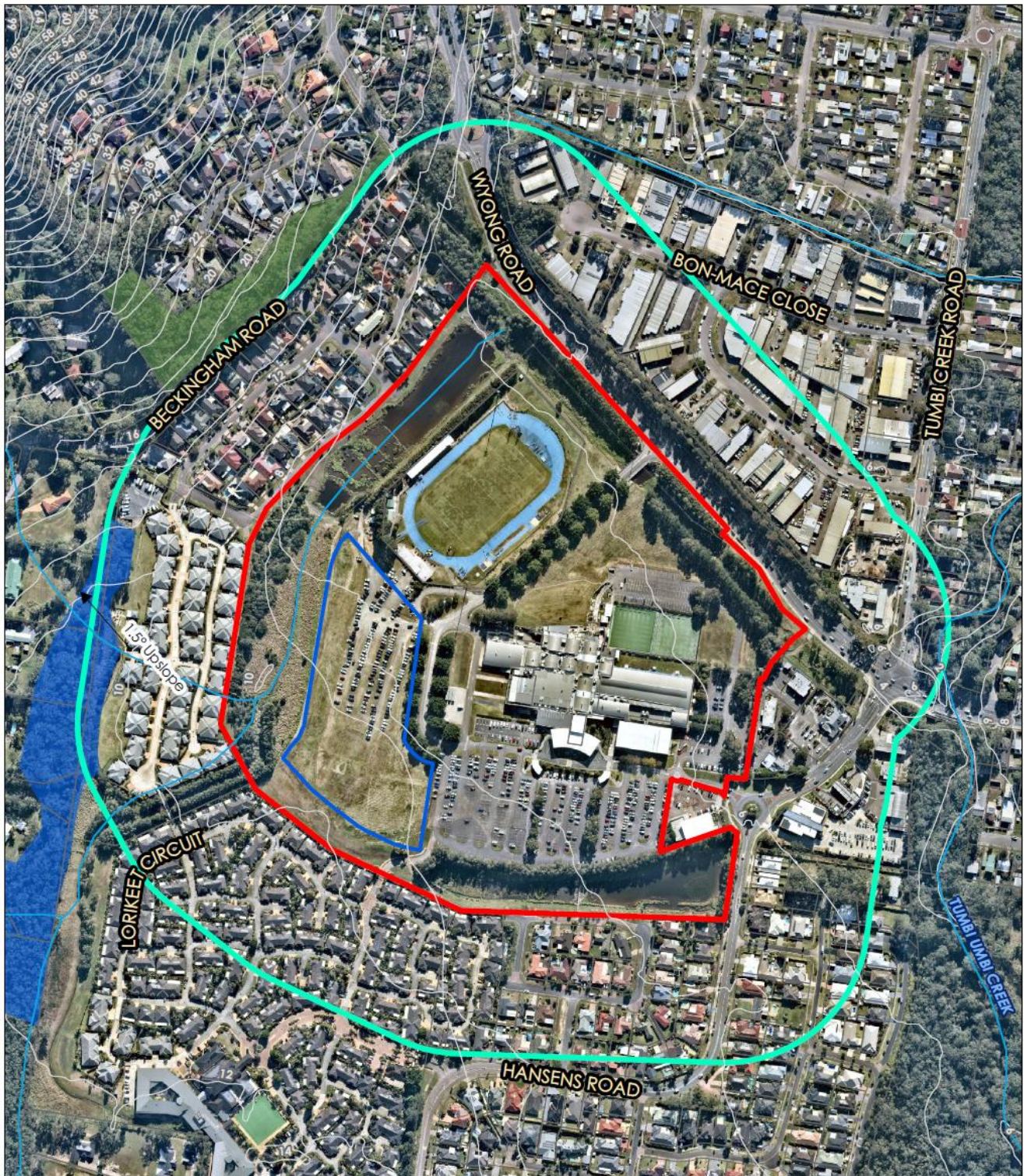
8.4. Slopes Influencing Bushfire Behavior

The ‘effective slope’ influencing fire behaviour approaching the site has been assessed in accordance with the methodology specified within PBP 2019. 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.

The land surrounding the site is relatively flat but not considered bushfire prone.

8.5. Fire Weather

The fire weather is dictated by PBP 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.



Legend

- Watercourse
- Contour - 10m
- Project Area
- Subject Land
- Cadastre
- Vegetation Assessment Buffer
- Northern Hinterland Wet Sclerophyll Forests
- Coastal floodplain Wetlands



Date: 1/09/2022

0 50 100

Meters

Coordinate System: GDA 1994 MGA Zone 56

Imagery: © Nearmap

Figure 4: Vegetation and Slope Assessment



Tumbi Umbi Retirement Living Project

Figure 3.2. VMP management zones

Legend

- | | |
|--|-------------------------------------|
| VMP area | Zone 4: Channel |
| Zone 1: Rehabilitation | Zone 4: Ponds |
| Zone 2: Rehabilitation - fuel management | Zone 5: Drainage swale revegetation |
| Zone 3: Revegetation - fuel management | |

Coordinate system: MGA Zone 56 (GDA 2020)
Image source: Nearmap 22 May 2024



Figure 5: Revegetation Plan (based on VMP)

9. Bushfire Protection Measures

PBP 2019 recognises the unique attributes of SFPP development and promotes detailed site analysis and the application of a combination of bushfire protection measures (BPMs) to achieve an acceptable outcome.

The BPMs work in combination to provide a suite of measures that meet the aim and objective and Section 6 of PBP 2019. The BPMs are shown in Figure 6.

Appropriate combinations depend upon geographic location and site circumstances.

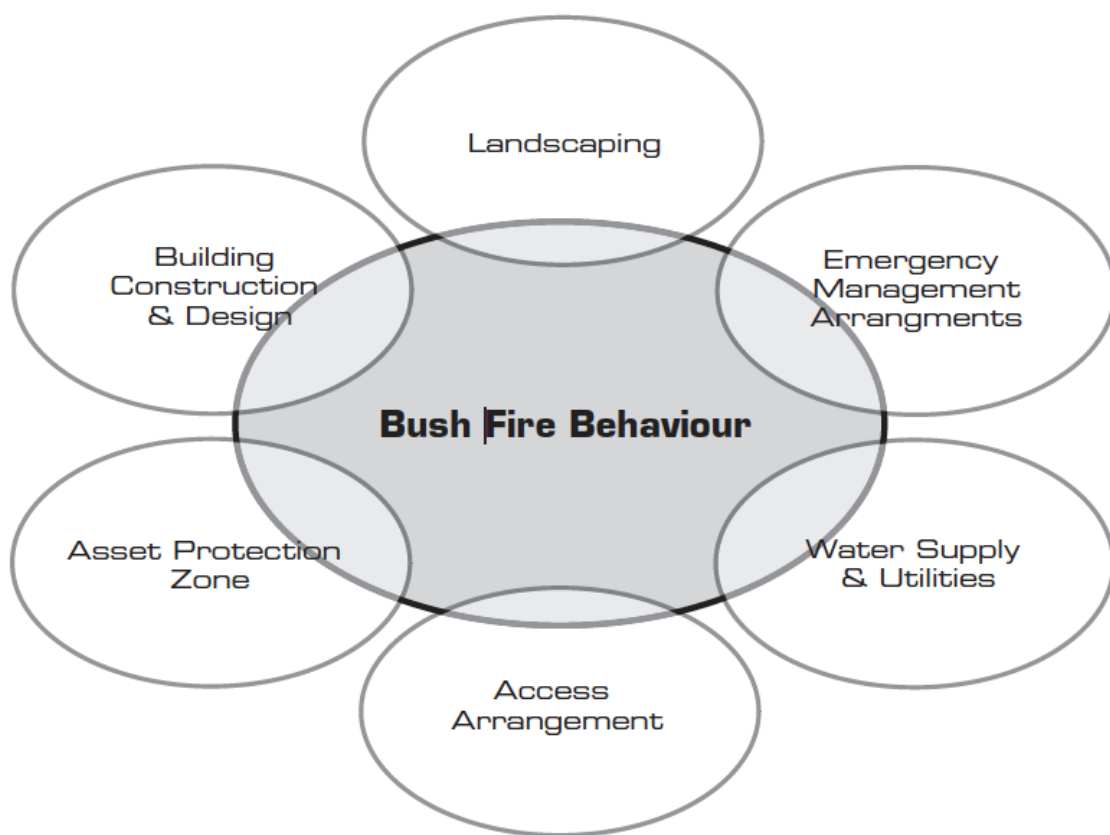


Figure 6: Bushfire Protection Measures in Combination (source PBP 2019 p. 26).

9.1. Asset Protection Zones

An Asset Protection Zone (APZ) is a buffer zone between a bushfire hazard and buildings. The APZ is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, smoke and ember attack. The appropriate APZ distance is based on vegetation type, slope and the nature of the development.

The APZ can include roads or properties managed to be consistent with APZ standards set out in NSW RFS document *Standards for Asset Protection Zones*. The APZ provides a fuel-reduced, physical

separation between buildings and bush fire hazards is a key element in the suite of bush fire measures and dictates the type of construction necessary to mitigate bushfire attack.

The proposed development is not located on bushfire prone land. The site is surrounded by managed land and the area of revegetated Coastal Floodplain Wetland is less than 1 hectare and more than 100 metres from the nearest area of bushfire prone vegetation and there it is not considered a bushfire hazard.

Table 1 is a summary of the APZ requirements for the proposed development. All required APZ are accommodated within the site.

Table 2: APZ Assessment.

Direction	Slope	Vegetation	Minimum APZ	APZ provided
North	NA	Managed Land	NA	NA
East	NA	Managed Land	NA	NA
South	NA	Managed Land	NA	NA
West	NA	Residential / Managed Land / Low-Threat Exclusion	NA	NA

9.2. Bushfire Attack Levels

The Bushfire Attack Level (BAL) is a means of measuring the severity of a buildings or sites potential exposure to ember attack, radiant heat and direct flame contact. In the Building Code of Australia, the BAL is used as the basis for establishing the requirements for residential construction to improve protection of building elements.

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).

The BAL ratings are used as the basis for establishing the requirements for construction to improve protection of a (proposed) building from potential bushfire attack. Given the development is not bushfire prone and there is no bushfire hazard within 100 metres, the Bushfire Attack Level to the site is BAL-Low.

10. Access

All proposed buildings have direct access to the proposed or internal road network.

The proposed internal road network consists of a network of internal roads. These roads all comply with the non-perimeter and perimeter road standards (Table 6.8b) of PBP 2019 as appropriate.

11. Water Supply and Utilities

The Site will be adequately supplied by the newly installed services associated with the village. The site is serviced by reticulated water supply, and hydrants will be located at regular intervals to comply with AS2419 and PBP 2019. All future buildings will be connected to the reticulated town's water main for domestic needs.

This complies with PBP 2019.

The Site will be adequately supplied by the newly installed electricity services associated with the village. Electricity supply for the new development will comply with PBP 2019. The retirement village won't have a gas connection, however any gas services are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008).

This complies with PBP 2019.

12. Emergency Management Arrangements

Given the site is not bushfire prone, there are no bushfire emergency management requirements.

13. NCC Specification 43

The 2022 edition of the National Construction Code (NCC 2022) contains amendments to its bush fire protection provisions. This includes a suite of new provisions for Class 9 Buildings in bush fire prone areas that accommodate certain types of vulnerable occupants. These provisions are contained within Specification 43 of the NCC. The NSW RFS has released an Addendum which aligns PBP 2019 with NCC 2022.

The proposed development is not located on bushfire prone land and therefore, the requirements of Specification 43 are considered applicable.

14. Assessment Against the Aim and Objective of PBP

All development in Bushfire Prone Areas needs to comply with the aim and objectives of PBP. Table 2 shows the compliance with PBP.

Table 2: Compliance with Aim & Objectives of PBP.

Aim	Meets Criteria	Comment
The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including fire fighters) and to minimise impacts on property from the threat of bushfire, while having due regard to development potential, onsite amenity and the protection of the environment.	Yes	The proposed development is not located on bushfire prone land.
Objectives	Meets Criteria	Comment
Afford occupants of any building adequate protection from exposure to a bushfire.	Yes	The development provides opportunity for all occupants to be shielded from any external bushfire. Construction will comply with the NCC.
Provide for a defensible space to be located around buildings.	Yes	Defensible space is provided around the buildings.
Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent the likely fire spread to buildings.	Yes	The building is separated from the vegetated areas and provide APZs and commensurate construction in accordance with the NCC.
Ensure that safe operational access and egress for emergency service personnel and occupants is available.	Yes	The site has direct access to public roads, and access and egress for emergency vehicles and evacuation is adequate. The development provides for the movement of heavy articulated trucks about the site.
Provide for ongoing management and maintenance of bushfire protection measures.	Yes	The proposed development is not located on bushfire prone land.
Ensure that utility services are adequate to meet the needs of firefighters.	Yes	Utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting).

15. Recommendations

The following recommendation is made to ensure the proposed development is provided with adequate bushfire protection in accordance with PBP:

Recommendation 1: At the commencement of building works and in perpetuity, the identified Zones 2 and 3 within the Mingara Recreation Club Seniors Housing - Vegetation Management Plan (VMP), prepared by écologique, dated 19/07/2024 shall be maintained as an Asset Protection Zone. Zones 2 and 3 shall be established and maintained as an inner protection area as outlined within *Planning for Bushfire Protection 2019* and the NSW RFS document 'Standards for Asset Protection Zones'.

16. Conclusion

The Bushfire Hazard Assessment to support a State Significant Development (SSD) application for the proposed Retirement Village at 14 Mingara Drive, Tumby Umbi.

The site is in a low-risk area which is not bushfire prone and the proposed development can respond and implement an appropriate level of bushfire protection measures, as per PBP 2019. Importantly, there is no bush fire threat identified on or adjoining the site.

This Report is a Bush Fire Hazard Assessment that demonstrates not only that the site is not bushfire prone, but an appropriate combination of protection measures has been provided to ensure the proposed development meets the aim and objectives of *Planning for Bush Fire Protection 2019*.



Corey Shackleton | Principal Bushfire & Resilience
Blackash Bushfire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 - 34603



Appendix 1: References

Australian Building Codes Board Building Code of Australia Volumes 1&2

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

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