

# **Bushfire Assessment**

In relation to

## **Seniors Living Development**

**Manor Road  
Harrington**

**Prepared for:  
Bayline Developments**

**Final (Issue 1)**

**August 2018**

**Project: 18090**

PO Box 34 Forster NSW 2428

© This document is copyright.

Level 1 Building Q – Head Street Car Park  
4 Head Street, Forster NSW 2428

**e: [simon@bushfireconsultants.com.au](mailto:simon@bushfireconsultants.com.au)**

Phone (02) 6555 5522

## TABLE of CONTENTS

1. INTRODUCTION.....	3
2. THE PROPOSED DEVELOPMENT .....	3
3. DESCRIPTION OF THE SITE.....	5
4. CLASSIFICATION OF VEGETATION .....	11
5. ASSESSMENT OF THE SLOPE OF THE LAND.....	12
6. ANY SIGNIFICANT ENVIRONMENTAL FEATURES.....	12
7. ANY THREATENED SPECIES.....	12
8. ANY ABORIGINAL RELICS .....	13
9. BUSHFIRE ASSESSMENT.....	13
10. COMPLIANCE WITH PLANNING FOR BUSHFIRE PROTECTION .....	20
11. CONCLUSION/RECOMMENDATIONS .....	25
ANNEXURE 1 .....	29
ANNEXURE 2 .....	30

© This document is copyright.

It is a breach of copyright for this document to be used to support a development application for any persons/entities other than those for whom this document was prepared. Other than for the purpose for which this document has been prepared and subject to conditions prescribed under the Copyright Act no part of this document may in any form nor by any means be reproduced or stored in a retrieval system or transmitted without the prior written permission of ABAC Australian Bushfire Assessment Consultants.

---

## 1. Introduction

ABAC Australian Bushfire Assessment Consultants have been commissioned by Bayline Developments to carry out a bushfire assessment in relation to a proposed seniors living development on land comprising:

- Lot 2 DP 1219123, 26 Manor Road, Harrington;
- Lot 2 DP 1219124, 48 Manor Road, Harrington; and
- Lot 6 DP 1217806, 56 Manor Road, Harrington.

The land within the site is mapped as bushfire prone land for the purposes of Section 10.3 of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

As seniors housing within the meaning of *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*, the proposed development is development for a Special Fire Protection Purpose (SFPP) as defined under Section 100B of the *Rural Fires Act 1997*.

The purpose of this report is to carry out a bushfire assessment having regard to the provisions of the NSW guideline entitled *Planning for Bush Fire Protection 2006* (PBP).

## 2. The Proposed Development

The development application seeks consent for the establishment of a seniors living development on the site, comprising 293 residential dwellings/lots.

The proposal also involves the construction/provision of associated roads and infrastructure.

Facilities to be provided in conjunction with the development include:

- Recreation Centre;
- Building containing fourteen (14) short-term accommodation units and manager's residence;
- Retail tenancies (six (6));

- 
- Clubhouse;
  - Men's shed/maintenance shed; and
  - Caravan/boat parking area.

The proposed development is shown on a site master plan by EJE Architecture as detailed below.

<b>Project Number</b>	11843		
<b>Project</b>	Harrington Manor		
<b>Client</b>	Bayline Developments		
<b>Drawing</b>	<b>Date</b>	<b>Title</b>	<b>Revision</b>
A102	August 2018	Site Master Plan	[a]

An extract of the site master plan is at Annexure 1.

### 3. Description of the Site

The site comprises land identified as:

- Lot 2 DP 1219123, 26 Manor Road, Harrington;
- Lot 2 DP 1219124, 48 Manor Road, Harrington; and
- Lot 6 DP 1217806, 56 Manor Road, Harrington.

The site has a total area of approximately 22.66 hectares. The site is shown in Figure 3.1.



Figure 3.1: Aerial Photo of Site (Source: SIX Maps, 2018)

North to top of page

Manor Road adjoins the northern boundary of the site, with land to the northern side of Manor Road occupied by the existing Colonial Holiday Park & Leisure Village caravan park. Manor Road intersects with Harrington Road towards the eastern side of the site. The western part of the Manor Road reserve, which extends north from the north-western corner of the site to Harrington Road, is unformed.

The eastern boundary of the site adjoins residential properties along the western side of Pretoria Parade adjoin the eastern boundary of the site.

A rural property, Lot 1 DP 34303, 22 Manor Road, adjoins the western boundary of the site.

The southern boundary of the site adjoins three (3) rural residential properties at 24, 50 and 52 Manor Road.

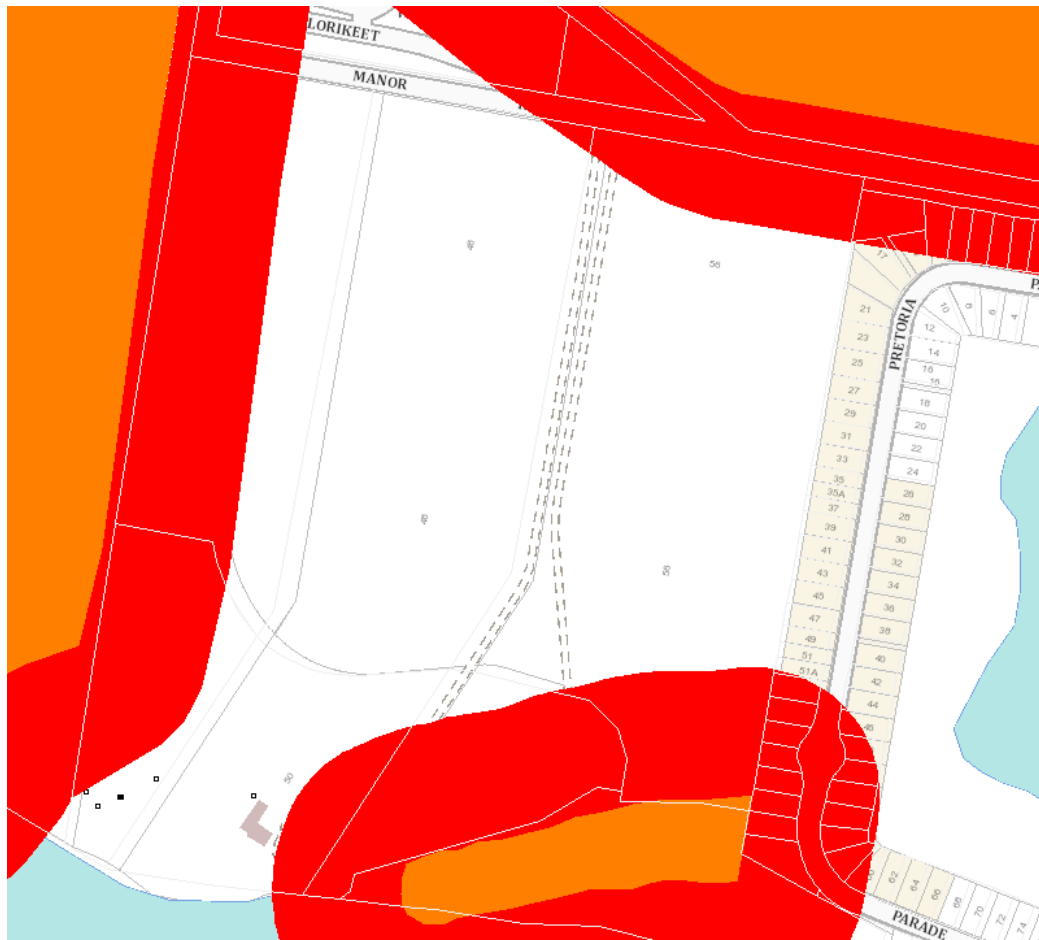
Each of these rural residential properties contains an existing dwelling, ancillary buildings and sheds.

The land on the subject site and adjoining land for a considerable distance is flat.

The southern boundary of the eastern part of the site contains an area of environmental reserve within Lot 7 DP 1217806. Vegetation within Lot 7 (Public Reserve) comprises forested wetland vegetation, with this area subject to frequent inundation. The extent of this vegetation is evident in Figure 1.

Vegetation within the rural property adjoining the western boundary of the site, Lot 1 DP 34303, comprises open forest vegetation for two-thirds of the length of the western boundary of the site and grassland vegetation within a radius of about 80-100 metres adjacent to the southern part of the western boundary of the site.

Land within part of the site is mapped as bushfire prone land. An extract of Mid-Coast Council's bushfire prone land map is at Figure 3.2.



**Figure 3.2: Extract of Bushfire Prone Land Map (Source: Mid-Coast Council)**  
North to top of page

The land along the western boundary, the eastern part of the northern boundary and the southern boundary of the eastern part of the site is mapped as being located within the bushfire buffer (shown red) to areas of Category 1 potential bushfire hazard vegetation (shown orange) to the north/north-east, west and south-east of the site respectively. The major part of the site (shown white) is not mapped as bushfire prone land.

The land within the site is zoned part R5 Large Lot Residential under the provisions of Greater Taree Local Environmental Plan 2010 (LEP).

The land to the north and west of the site is zoned RU1 (Primary Production) while the land to the east of the site is zoned R1 General Residential. The area



of environmental reserve to the south-east of the site is zoned E2 (Environmental Conservation).

The following photographs on the following pages show the general condition of the land.



**Photo 1: View looking east along the existing gravel roadway in Manor Road (towards its intersection with Harrington Road). Manor Road is to be upgraded in conjunction with the proposed development.**





**Photo 2: View looking west along Manor Road. The site is to the left. Part of the existing caravan park is to the right.**



**Photo 3: View of part of the land within the site.**





**Photo 4: View of part of the land within the site.**



**Photo 5: View of part of the land adjoining the western boundary of the site.**



**Photo 6: View of vegetation within part of the National Park, to the north-east of the site.**

## **4. Classification of Vegetation**

Vegetation over the land within the subject site is mostly grassland with some isolated trees. The proposed development will involve the modification of the land and clearance of any vegetation existing over the land.

With respect to the area of environmental reserve (Lot 7) to the south-east of the site, the vegetation comprises forested wetland vegetation with this area subject to frequent inundation.

Vegetation within the rural allotment adjoining the western boundary of the site, Lot 1 DP 34303, comprises open forest vegetation. The forest vegetation in the land to the west of the site has, for the most part, been modified by understorey management in the areas closer to the western boundary of the subject site.

Forest vegetation is also located within the part of the Crowdy Bay National Park, located to the north-east of the site on the opposite side of Harrington Road.

Vegetation within the rural residential allotments to the south of the site comprises grassland.

Based upon the provisions of *Planning for Bush Fire Protection* 2006, the vegetation formation on and around the site, within a distance of 140 metres, is classified as:

- *Dry sclerophyll (open forest) vegetation* for the length of the western boundary of the site.
- *Dry sclerophyll (open forest) vegetation* within the area of National Park to the north-east of the site, on the opposite side of Harrington Road.
- *Grassland vegetation* within the rural residential allotments to the south of the site.
- *Forested wetland vegetation* on the area of environmental reserve to the south-east of the site (Lot 7).

## **5. Assessment of the Slope of the Land**

The effective slope of the land, out to a distance of 100 metres from the site (that is, the slope of the land most likely to influence bushfire behaviour for the purposes of calculating Asset Protection Zones), has been assessed as being generally flat.

## **6. Any Significant Environmental Features**

There was no information in relation to any significant environmental features that may exist on or near the land available at the time of assessment. The proposal will involve removal of some vegetation within the site for the establishment of asset protection zones and ongoing maintenance.

## **7. Any Threatened Species**

There have been no details of any flora and/or fauna assessments provided by the client to assist in the preparation of this assessment.

## 8. Any Aboriginal Relics

There have been no details provided by the client as to any known items/relics of Aboriginal heritage significance known to exist on the site.

## 9. Bushfire Assessment

### 9.1 The extent to which the development is to provide for setbacks including Asset Protection Zones

The site is located within the Mid-Coast Local Government Area, in the North Coast Fire Weather Area, and is subject to an FDI rating of 80 according to Table A2.3 of *Planning for Bush Fire Protection* 2006.

The required minimum Asset Protection Zones (APZs) for a Special Fire Protection Purpose (on flat land) are indicated in Table 9.1 below based upon the provisions of Table A2.6 of *Planning for Bush Fire Protection* 2006, with vegetation classified as:

- *Dry sclerophyll (open forest) vegetation* for the length of the western boundary of the site.
- *Dry sclerophyll (open forest) vegetation* within the area of National Park to the north-east of the site, on the opposite side of Harrington Road.
- *Grassland vegetation* within the rural residential allotments to the south of the site.
- *Forested wetland vegetation* on the area of environmental reserve to the south-east of the site (Lot 7).

Table 9.1	
Vegetation structure	APZ minimum required
Open forest	60
Forested wetland	50
Grassland	10



Importantly, the APZs as per Table 9.1 are required to be provided to the residential components of the proposed development.

The proposed development can incorporate the required APZs to the residential components of the development subject to final design.

In relation to APZs to the residential component in the north-eastern part of the site, the land on the northern side of Harrington Road – within part of the National Park – is subject to an easement which comprises a strip of cleared land which accommodates a major service corridor and contains overhead electricity lines, sewer and water mains and telecommunications cabling. The cleared strip of land within this easement delineates the southern extent of unmanaged forest vegetation within that area relative to the north-easternmost dwellings in the proposed development.

The width of the easement and extent of cleared land directly opposite the north-eastern part of the site is approximately 28 metres and, plus the 20 metre width of the road reserve to Harrington Road, results in an effective separation distance of at least 48 metres between the eastern part of the northern site boundary and any unmanaged vegetation within the National Park.

The plans for the proposed development indicate the provision of a 10 metre buffer within the northern boundary of the site. This area is proposed to be constructed as a wetland for water quality purposes and will separate residential buildings from the northern boundary of the site. This area is to be maintained to the standard for an Inner Protection Area so as to form part of the overall effective separation distance between the north-easternmost residential buildings and unmanaged vegetation within the National Park. As such, location of the northernmost part of the building footprint of these residential buildings no closer than 12 metres from the eastern part of the northern boundary of the site will achieve an overall effective separation distance of 60 metres between the residential



buildings and vegetation in the National Park to the northern side of Harrington Road.

The proposal involves the location of a number of structures in the western part of the site, within the APZ area between the westernmost dwellings within the development and the western boundary of the site. The structures and facilities in that part of the site include tennis courts, swimming pool, club house gym and manager's residence, bowling green, men's shed, maintenance shed and caravan/boat parking facilities.

It is not unprecedented that buildings such as clubhouses are located within the overall APZs between residential buildings in a seniors living development and the potential bushfire hazard vegetation. It is important, however, that the final design of the clubhouse building demonstrate that entry/exit to the building is located towards the eastern part of the building. In this manner, access/egress would be towards the east of the building and emergency services personnel accessing/egressing will have the benefit of shielding by the building between them and any bushfire in the vegetation on the land to the west of the site.

The proposed short-term accommodation building, recreation centre and retail tenancy building are all located in the central part of the proposed development and are significantly >100 metres from any vegetation to the north, west and south of the site.

The plans indicate that the manager's residence (for the overall development) will be contained within the eastern part of the building that will contain the fourteen (14) short-term accommodation units.

The function of overall site management will include being able to instigate and coordinate emergency evacuation procedures in the event of a bushfire. Locating the manager's residence within the site in this manner ensures that it is >100 metres from any potential bushfire hazard vegetation.

---

## **9.2 The siting and adequacy of water supplies for fire fighting**

Reticulated water is available to the site. There are no details of hydraulic design proposed in relation to fire services to the proposed development.

According to *Planning for Bush Fire Protection 2006*, an acceptable solution for a reticulated water supply is that:

*Fire hydrant spacing, sizing and pressures comply with AS2419.1-2005. Where this cannot be met, the RFS will require a test report of the water pressures anticipated by the relevant water supply authority. In such cases, the location, number and sizing of hydrants shall be determined using fire engineering principles.*

Other acceptable solutions for water supply within a reticulated area (and non-reticulated if applicable) considered relevant to the subject development site require that:

- *hydrants are not located within any road carriageway;*
- *the provisions for parking on public roads are met and will not involve the obstruction of access to any fire hydrant(s).*

Overall, in relation to water supply for firefighting purposes, the provision of water supplies for firefighting will involve the installation of hydrant connection points in order to meet the minimum standards outlined by AS 2419 and *Planning for Bush Fire Protection 2006*.

These measures are a design matter and would be detailed on construction and fire services drawings for the proposed development following any approval of development plans.

## **9.3 The capacity of public roads to handle increased volumes of traffic in the event of a bushfire emergency**

The site is served by the public roadway in Manor Road. Manor Road intersects with Harrington Road, a main road, at the eastern side of the side.

Manor Road will be required to be upgraded in conjunction with the proposal so as to comply with Section 4.2.7 of Planning for Bush Fire Protection and to provide a standard of access to ensure that the roads will have capacity to handle increased volumes of traffic in a bushfire emergency.

The following points from *Planning for Bush Fire Protection 2006* are relevant to the standards to be achieved via the upgrading of the road:

- two wheel drive, all weather access;
- traffic management devices are to be designed and installed so that they do not restrict access for emergency services vehicles;
- curves have a minimum inner radius of 6 metres;
- intersection curves incorporate at least 6 metres between the inner and outer curve;
- a carrying capacity of at least 28 tonnes or 9 tonnes per axle, and be clearly signposted with the load rating;
- all sections of proposed public roadway/vehicle access shall be 'No Parking' on the side of the road where any hydrant connection points are located.

#### **9.4 Whether or not public roads in the vicinity have two-way access**

Traffic from the proposed development will travel in an easterly direction via Manor Road to the intersection with Harrington Road. From that point, traffic can travel in either an easterly or north-westerly direction via Harrington Road.

#### **9.5 The adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response**

Internal road widths are to comply with Section 4.2.7 of Planning for Bush Fire Protection 2006.

Separate entry points are to be provided to the proposed development from Manor Road. From those entry points, the internal roads will form

two (2) loops within the site. The western loop will be between the western and eastern entry points to the site from Manor Road. The eastern loop will run from the eastern entry point to the site around to the easternmost dwellings. All travel through the site is to be two-way.

The internal roads between series of dwellings are interconnected back to the main loop roads through the site. One (1) dead end road – approximate length 50 metres – is shown in the north-eastern corner of the development.

A preliminary layout detail prepared by Tattersall Lander Pty Ltd (see extract at Annexure 2) details the width of internal road pavements as being a minimum of 6 metres wide with 3 metre wide shoulders to either side of the pavement. This will allow access for firefighting vehicles to the site in the event of a bushfire emergency, with the ability for vehicles to drive onto part of the road shoulder if there is the need to pass other vehicles.

It appears that the proposed arrangements for access to and egress from the site for the purposes of an emergency response will be appropriate in the circumstances of the proposed development.

#### **9.6 The adequacy of bushfire maintenance plans and fire emergency procedures for the development site**

A bushfire emergency/evacuation plan is to be prepared for the development consistent with the RFS Guidelines for the Preparation of emergency/Evacuation Plan and implemented prior to occupation.

#### **9.7 The construction requirements to be used for building elements in the development**

The provision of the minimum required APZs to residential buildings within the site will result in those buildings being subject to construction requirements for BAL-12.5 as per AS3959-2009 (Construction of buildings in bushfire prone areas).

---

Any buildings >100 metres from any potential bushfire hazard vegetation would be assumed to be BAL-LOW for the purposes of AS3959-2009.

Any Class 9 building <16 metres from the western boundary of the site (containing forest vegetation) would be subject to the requirements of AS3959-2009. This would be likely to include the clubhouse building and, subject to BCA classification, this building may be subject to BAL-FZ (Flame Zone) for the purposes of AS3959-2009.

#### **9.8 The adequacy of sprinkler systems and other fire protection measures to be incorporated into the development**

There are no details as to any sprinkler system or other fire protection measures that may be proposed as part of the development.

## 10. Compliance with Planning for Bushfire Protection

The proposal involves establishment of an aged care facility on the land.

The details provided in Section 9 of this report outline the Bushfire Assessment issues in connection with the development in relation to the specifications set out in Chapter 4 (Performance Based Controls) of *Planning for Bushfire Protection*.

### 10.1 Asset Protection Zones

In relation to the provision of Asset Protection Zones, Table 10.1 assesses the proposal against the relevant performance criteria.

**Table 10.1**

Performance Criteria	Relationship of proposal to Performance Criteria
<i>Radiant heat levels of greater than 10kW/m<sup>2</sup> will not be experienced by occupants or emergency workers entering or exiting a building</i>	<p>10.1.1 The proposed development can incorporate the required APZs to the residential components of the development subject to final design.</p> <p>10.1.2 Based on the effective separation distance provided by the roadway in Harrington Road and the cleared strip of land within the easement over land within the part of the National Park adjoining the northern side of Harrington Road, location of the northernmost part of the building footprint of residential buildings no closer than 12 metres from the eastern part of the northern boundary of the site will achieve an overall effective separation distance of 60 metres between the north-easternmost residential buildings and vegetation in the National Park to the northern side of Harrington Road. Land between the residential building footprint and the northern boundary of the site is to be capable of management to the standard for an Inner Protection Area</p> <p>10.1.3 The final design of the proposed club house building is to demonstrate that entry/exit to the building is located towards the eastern part of the building. In this manner, access/egress would be to the east of the building and emergency services personnel accessing/egressing will have the benefit of shielding provided by the building between them and any bushfire in the vegetation on the land to the west of the site</p>



Performance Criteria	Relationship of proposal to Performance Criteria
<i>Applicants demonstrate that issues relating to slope are addressed: maintenance is practical, soil stability is not compromised and the potential for crown fires is negated</i>	<p>10.1.4 Land within the site is to be maintained as an Inner Protection Area</p> <p>10.1.5 The land within the site is flat</p>
<i>APZs are managed and maintained to prevent the spread of a fire towards the building</i>	10.1.6 Maintenance of land within the site is to be consistent with the requirements of the NSW Rural Fire Service document entitled Standards for Asset Protection Zones (2005)
<i>Vegetation is managed to prevent flame contact and reduce radiant heat to buildings, minimize the potential for wind driven embers to cause ignition and reduce the effect of smoke on residents and fire-fighters.</i>	10.1.7 Land within the site is to be maintained as an Inner Protection Area

## 10.2 Access

In relation to access, Tables 10.2.1 and 10.2.2 assesses the proposal against the relevant performance criteria.

**Table 10.2.1 – Access: Public Roads**

Performance Criteria	Relationship of proposal to Performance Criteria
<i>Firefighters are provided with safe all-weather access to structures (thus allowing more efficient use of firefighting resources)</i>	10.2.1.1 Harrington Road is a two-wheel drive, sealed, all-weather road  10.2.1.2 Manor Road is to be upgraded between the intersection with Harrington Road and the access points to the site
<i>Public road widths and design that allow safe access for firefighters while residents are evacuating an area.</i>	10.2.1.3 Harrington Road is two-way and allows traffic to pass in opposite directions  10.2.1.4 Manor Road will be upgraded between the intersection with Harrington Road to the access points to the site
<i>The capacity of road surfaces and bridges is sufficient to carry fully loaded fire fighting vehicles.</i>  <i>Roads that are clearly sign-posted (with easily distinguishable names) and buildings/properties that are clearly numbered.</i>	10.2.1.5 The capacity of the public roads that serve the site appears sufficient to carry fully loaded fire fighting vehicles (approximately 15 tonnes as the area has reticulated water)
<i>there is clear access to reticulated water supply</i>	10.2.1.6 The final design is to demonstrate that: <ul style="list-style-type: none"> <li>(a) hydrants are not located within any road carriageway; and</li> <li>(b) Parking arrangements will ensure that there will be no obstruction of access to any fire hydrant(s)</li> </ul>
<i>parking does not obstruct the minimum paved width</i>	10.2.1.7 The proposed development does not propose any car parking on public roads serving the development

**Table 10.2.2 – Access: Internal Roads**

Performance Criteria	Relationship of proposal to Performance Criteria
<i>Internal road widths and design enable safe access for emergency services and allow crews to work with equipment about the vehicle</i>	<p>10.2.2.1 Access to the site is to be from Manor Road</p> <p>10.2.2.2 Proposed internal road design and widths are consistent with Section 4.2.7 of <i>Planning for Bush Fire Protection 2006</i>. The preliminary layout detail (see Annexure 2) details the width of internal road pavements as being a minimum of 6 metres wide with 3 metre wide shoulders to either side of the pavement. This will allow access for firefighting vehicles to the site in the event of a bushfire emergency, with the ability for vehicles to drive onto part of the road shoulder if there is the need to pass other vehicles</p>

### 10.3 Water Supply, Electricity and Gas

In terms of water supply for firefighting, reticulated water is available to the site. Table 10.3 assesses the proposal against the relevant performance criteria for water supply, electricity and gas.

**Table 10.3**

Performance Criteria	Relationship of proposal to Performance Criteria
<b>Water Supply</b>  <i>Water supplies are easily accessible and located at regular intervals</i>	10.3.1 No details of hydraulic design in relation to the proposed development  10.3.2 Final design of the development is to detail the provision of reticulated water throughout the proposed development including installation of hydrant connection points in order to meet the minimum standards outlined by AS 2419 and <i>Planning for Bush Fire Protection 2006</i>
<b>Electricity Services</b>  <i>location of electricity services will not lead to ignition of surrounding bushland or the fabric of buildings or risk to life from damaged electrical infrastructure</i>	10.3.3 All electricity to the development is to be underground
<b>Gas services</b>  <i>location of gas services will not lead to ignition of surrounding bush land or the fabric of buildings</i>	10.3.4 Reticulated gas supply available

---

## 11. Conclusion/Recommendations

The proposal involves a proposed seniors living development on land at:

- Lot 2 DP 1219123, 26 Manor Road, Harrington;
- Lot 2 DP 1219124, 48 Manor Road, Harrington; and
- Lot 6 DP 1217806, 56 Manor Road, Harrington.

As seniors housing within the meaning of *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*, the proposed development is a SFPP as defined under Section 100B of the *Rural Fires Act 1997*.

The following recommendations are made in relation to bushfire protection measures for the proposal and are based on the relevant provisions of the NSW Rural Fire Service guideline entitled *Planning for Bush Fire Protection 2006*. These recommendations are subject to change prior to finalisation of the assessment following receipt of final development application plans for the proposed development.

### **Asset Protection Zones**

- (a) Land within the site is to be maintained as an Asset Protection Zone (APZ), to the standard for an Inner Protection Area.
- (b) Based on the effective separation distance provided by the roadway in Harrington Road and the cleared strip of land within the easement over land within the part of the National Park adjoining the northern side of Harrington Road, the north-easternmost residential buildings in the development are to be no closer than 12 metres from the northern boundary of the site so as to achieve an overall effective separation distance of 60 metres between the residential buildings and the southernmost unmanaged vegetation in the National Park to the northern side of Harrington Road.

- (c) Land between the northernmost residential buildings and the northern boundary of the site is to be capable of management to the standard for an Inner Protection Area.

### **Construction & Design**

- (d) Subject to the provision of the minimum required Asset Protection Zones, any residential buildings within the development and within 100 metres of any unmanaged vegetation are to comply with the requirements for construction to BAL-12.5 as per AS3959-2009 (Construction of buildings in bushfire prone areas).
- (e) The proposed clubhouse building is to be designed so that any access/egress to the building is located in the eastern part of the site and/or is fully shielded from the unmanaged vegetation on land to the west of the site.
- (f) The proposed clubhouse building is to comply with any applicable construction requirements as per AS3959-2009, subject to final design and siting.

### **Access**

- (g) Internal road design and widths are to comply with Section 4.2.7 of *Planning for Bush Fire Protection 2006*.

### **Water supply**

- (h) Final design of the development is to detail the provision of reticulated water throughout the proposed development including installation of hydrant connection points in order to meet the minimum standards outlined by AS 2419 and *Planning for Bush Fire Protection 2006*.



---

### **Evacuation/Emergency Plan**

- (i) A bushfire emergency/evacuation plan is to be prepared for the development consistent with the RFS Guidelines for the Preparation of emergency/Evacuation Plan and implemented prior to occupation.

### **Services**

- (j) Services and equipment (fire protection measures) are to be provided to the proposed development in accordance with Part E of the Building Code of Australia.



**SIMON CARROLL    August 2018**

*Graduate Diploma in Design for Bushfire Prone Areas*

*Graduate Diploma in Building Fire Safety & Risk Engineering*

*Bushfire Planning and Design Accredited Practitioner: Level 3 – NSW*

*Accreditation Number BPAD9326*

### **NOTE & DISCLAIMER:**

1. *This Assessment has been based on bushfire protection guidelines as outlined in Planning for Bush Fire Protection 2006 (PBP). As noted by PBP, notwithstanding the precautions recommended, it should always be remembered that bushfires burn under a range of conditions and an element of risk, no matter how small, always remains.*
2. *The adoption of bushfire protection measures cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the unpredictable behaviour and nature of fire and the difficulties associated with extreme weather and fire weather conditions.*
3. *This assessment does not imply or infer any approval for the removal and/or thinning of vegetation for Asset Protection or other purposes. It is the responsibility of the client/land owner to obtain any and all necessary approvals in this regard.*

## REFERENCES

NSW Rural Fire Service (2006)

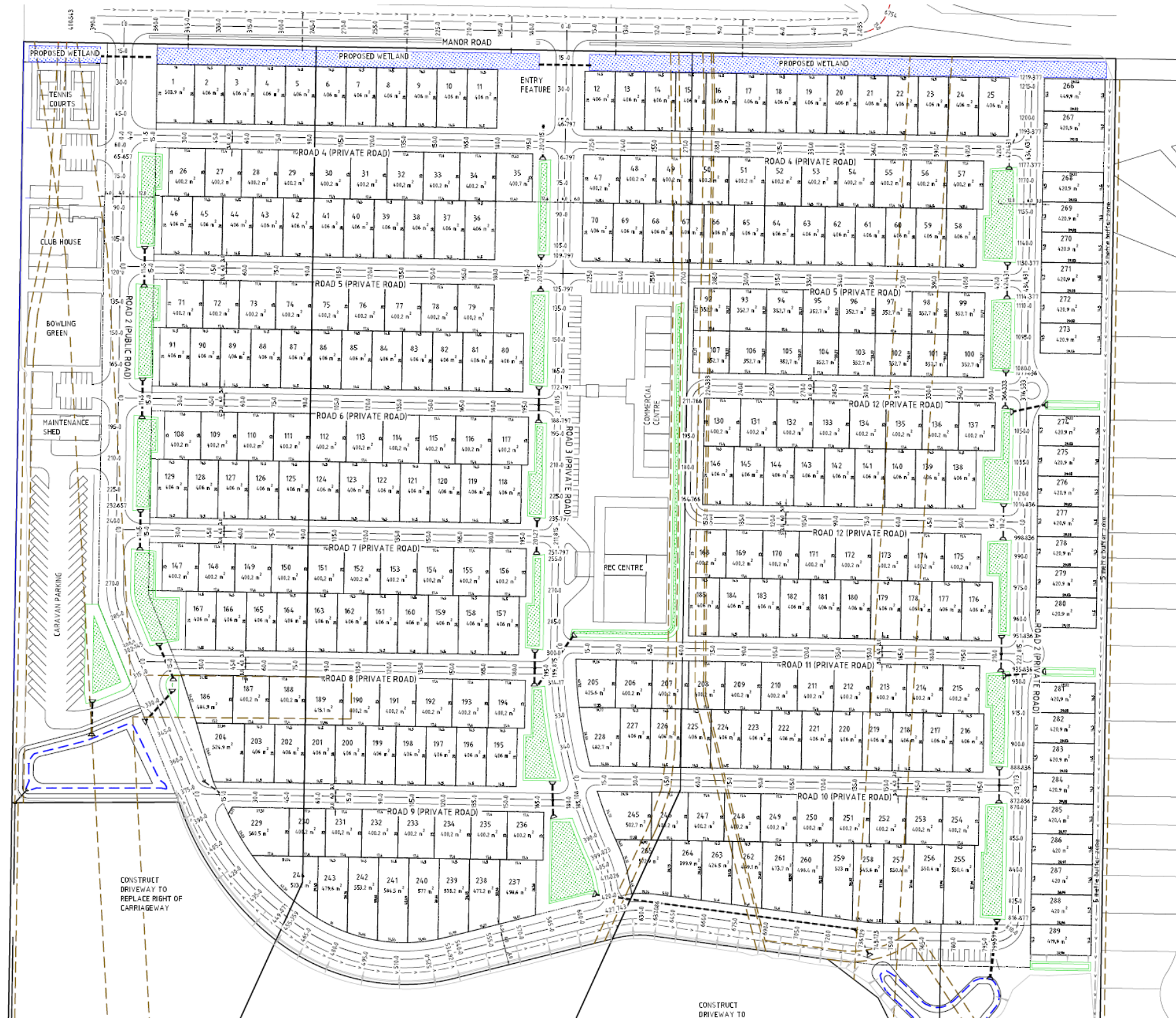
*Planning for Bushfire Protection 2006*

Standards Australia (2009)

*AS3959-2009 Construction of buildings in bushfire-prone area*



**Annexure 1** [Source: EJE Architecture – Not to Scale – North to top of page]



**Annexure 2** [Source: Tattersall Lander – Not to Scale – North to top of page]