

Bushfire Assessment

Proposed Multiple Dwelling Development
(Manufactured Home Estate - Northern Precinct)

Part Lot 2 DP1022067 and Lot B DP377867
Forest Lane, Old Bar

July 2025
Final (Rev2)

Prepared for
Palm Lake Works Pty Ltd

Project No:24298

ABAC Group Pty Ltd t/a

ABAC Australian Bushfire Assessment Consultants

ABN: 75 630 374 060

Email: office@accuplan.com.au

Telephone: 02 6555 5522

PO Box 34 Forster NSW 2428



Document Details

Document Name: 24298_BTA_PLWOldBar_NorthernPrecinctMHE_Rev2

File No. 24298

Date: July 2025

Revision: Final Rev2

Prepared for: Palm Lake Works Pty Ltd

Authors

Prepared by:

Matt Clancy

Registered Planner (RPIA)

Bachelor of Environmental Science (Honours)

Graduate Certificate in Environmental Management

Graduate Diploma in Bushfire Protection

Bushfire Planning and Design Accredited Practitioner: Level 2 – NSW (Accreditation Number BPAD63149)

Reviewed by:

Simon Carroll

Registered Planner (RPIA)

Bachelor of Applied Science (Environmental Health)

Graduate Diploma in Urban & Regional Planning

Master of Environmental & Local Government Law

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)

Report History

Date	Revision	Comment
December 2024	Final (Rev0)	Issue to client
December 2024	Final (Rev1)	Updated Recommendations
June 2025	Final (Rev2)	Amended site plan

© 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 Group Pty Ltd t/a ABAC Australian Bushfire Assessment Consultants.

TABLE of CONTENTS

1.	INTRODUCTION	1
2.	BACKGROUND	1
3.	PROPOSED DEVELOPMENT	2
4.	SITE DESCRIPTION	4
4.1	Site Details	4
4.2	Site Description	4
4.3	Bushfire Prone Vegetation Relative to Location of the Proposal	6
4.4	Environmental Features or Aboriginal Relics	8
4.5	Slope Assessment	8
4.6	Vegetation Classification	10
5.	BUSHFIRE ASSESSMENT	16
5.1	Submission Requirements for BFSA	16
6.	RELATIONSHIP OF PROPOSAL TO PLANNING FOR BUSH FIRE PROTECTION 2019	23
6.1	APZs and building construction	23
6.2	Access	25
6.3	Services – Water, Gas and Electricity	27
6.4	Emergency Management Planning	28
7.	CONCLUSION	28
8.	RECOMMENDATIONS	29
9.	REFERENCES	32

TABLES

Table 4.1: Access and Services	4
Table 4.2: Classification of vegetation on surrounding land.....	10
Table 4.3: Classification of vegetation within the site.....	13
Table 5.1: Minimum Separation Distances (PBP, Table A1.12.3).....	17
Table 5.2: Buildings / Dwellings and Construction Standards.....	20
Table 6.1: Performance criteria and acceptable solutions for APZs and construction	23
Table 6.2: Performance criteria & acceptable solutions for access.....	25
Table 6.3: Performance criteria & acceptable solutions for water, electricity & gas services	27
Table 6.4: Performance criteria & acceptable solutions for emergency management plans.....	28

FIGURES

Figure 3.1: Site Plan Extract	3
Figure 4.1: Site Locality and Bushfire Prone Land Map	7
Figure 4.2: Slope Analysis	9
Figure 4.3: Looking north across Badgers Park.....	10
Figure 4.4: Looking east showing vegetation in the eastern precinct.....	11
Figure 4.5: Looking south showing vegetation across the southern boundary.....	11
Figure 4.6: Looking south-west from the site showing vegetation adjoining the southern part of the western boundary	11
Figure 4.7: Proposed Vegetation Management Zones	14
Figure 4.8: Proposed Golf Course (DA488/1999)	15
Figure 5.1: Minimum separation distances relative to proposed vegetation management zones (PBP Table A1.12.3, FDI 80, <29kW/m ²).....	18
Figure 5.2: Bushfire Attack Levels applying to sites and buildings.....	21

1. INTRODUCTION

This Bushfire Assessment has been prepared in relation to a proposed multiple dwelling development involving installation of manufactured homes to establish a manufactured home estate (MHE) on land at Lot 2 DP1022067 and Lot B DP377867, Forest Lane, Old Bar (the “site”).

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

While the proposed development is characterised as multiple dwellings for the purposes of *Greater Taree Local Environmental Plan 2010* (LEP), the development is also consistent with a Manufactured Home Estate (MHE) as defined in Schedule 7 of *State Environmental Planning Policy (Housing) 2021* (Housing SEPP).

MHEs, within the meaning of the Housing SEPP, are prescribed as a Special Fire Protection Purpose (SFPP) development and require the issue of a Bush Fire Safety Authority (BFSA) pursuant to Section 100B of the *Rural Fires Act 1997* (RF Act).

The purpose of this report is to carry out a bushfire assessment having regard to the provisions of the NSW Rural Fire Service guideline, *Planning for Bush Fire Protection 2019* (PBP) and the information requirements for obtaining a bushfire safety authority under Clause 45 of the *Rural Fires Regulation 2022*.

2. BACKGROUND

The more elevated parts of the site are zoned R1 General Residential and are separate stages of a Concept Approval for a staged subdivision of land known as ‘Precinct 3, Old Bar’ as follows:

- Stages 2 and 3 (‘Jarberg North’ & ‘Stone’) occupying the northern part of the site adjacent to Forest Lane. This part of the site is known as the ‘northern precinct’.
- Stage 10 (‘Jarberg West’) occupying the western part of the site adjacent to existing residential development in the Ocean Blue Estate. This part of the site is known as the ‘western precinct’.

The northern and western precincts are shown in Photo 4.1.

The parts of Lot 2 DP1022067, which are partly zoned *RE2 Private Recreation* and *C3 Environmental Management*, is subject to a separate development consent for a golf course. The golf course was

originally approved in 1999 by consent to DA488/1999. That consent was last modified in September 2014 by approval to MOD2023/0226.

MOD2023/0226 introduced a vegetation management plan (VMP) to guide the final vegetation assemblages that are to be established following restoration of areas subject to earthworks, including construction of stormwater detention basins.

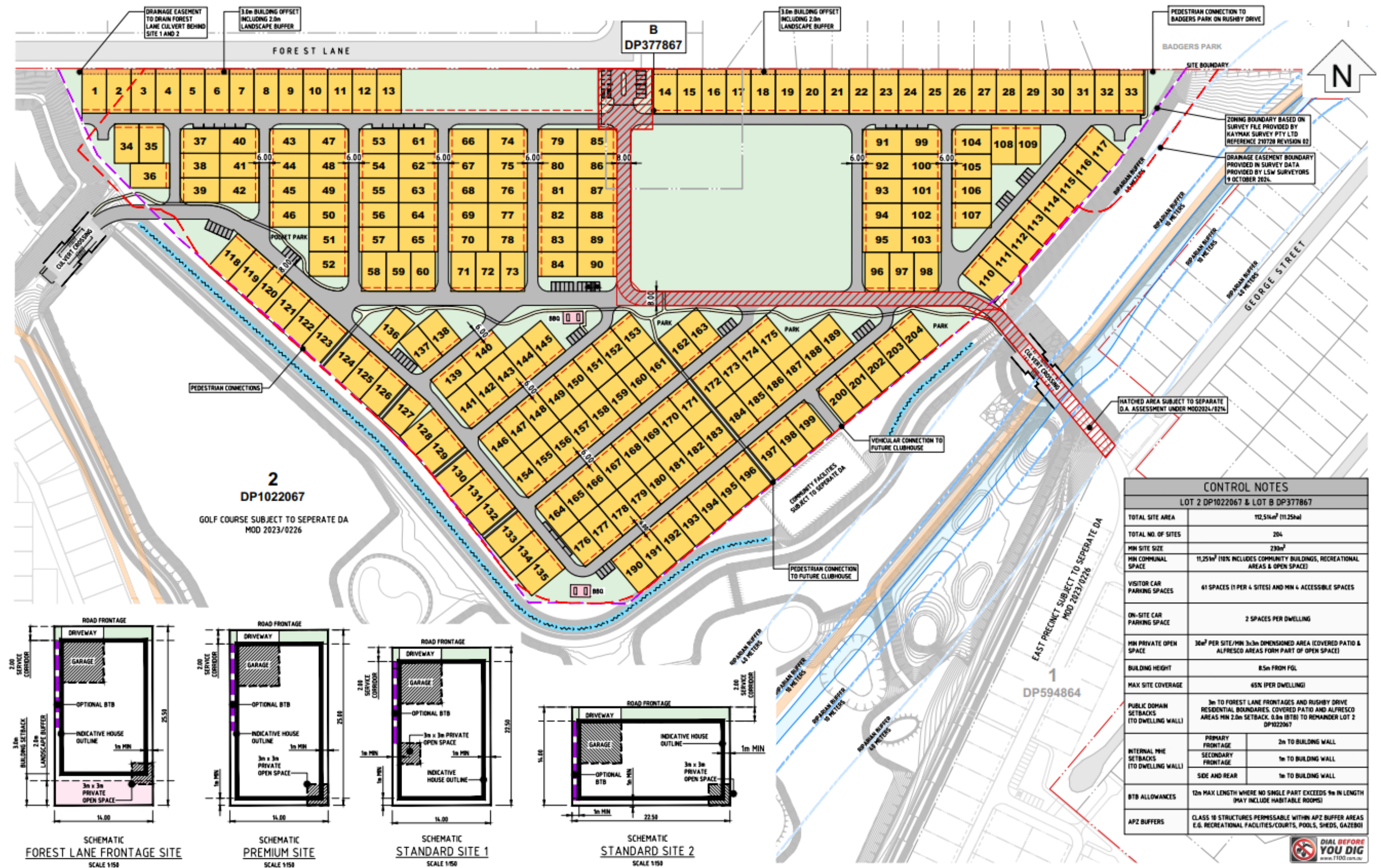
Land within the northern and western precincts has been subject to recent vegetation clearing works associated with DA 229/2018 and SWC 2022/0749 which granted consent for bulk earthworks across those parts of the site.

3. PROPOSED DEVELOPMENT

The proposed development involves construction of a residential land lease community providing 204 dwelling sites and associated internal road network. The proposal does not include construction of community buildings (except BBQ areas and parks), with all community buildings to be subject to separate development applications in conjunction with development on other parts of Lot 2.

Manufactured homes will be installed on each dwelling site in accordance with the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021* (the LG Regulation) subject to any conditions of consent for the proposed development.

The proposed development is shown on plans by VIA Architects, *Job No. NL223154, Rev 6* dated 15.05.2025. An extract of the site plan is at Figure 3.1.



4. SITE DESCRIPTION

4.1 Site Details

Address	Forest Lane, Old Bar
Lot / DP	Part Lot 2 DP1022067 and Lot B DP377867
Area	11.25 hectares (Total)
Fire Weather District	North Coast fire weather district (FDI 80)

4.2 Site Description

The site of the proposed development comprises the northern part of Lot 2 DP1022067 and Lot B DP377867, occupying approximately 11.25 hectares of land at the southern edge of Old Bar Village.

Forest Lane forms the northern boundary of the development site, while the south-eastern and south-western boundaries of the development site comprise the RE2 zoned parts of Lot 2 DP1022067 that are subject to approvals for the construction of a golf course and associated stormwater management infrastructure. Existing residential development also adjoins the eastern end of the northern boundary.

Land within the site is relatively flat, with a slight fall to the south and east towards Racecourse Creek. Land within the site (being the northern part of Lot 2 DP1022067) has also been subject to recent clearing works and is clear of any significant vegetation.

Photo 4.1, on the following page, shows the condition of the site and surrounding land (prior to removal of vegetation from the areas annotated as northern precinct and western precinct).

Table 4.1 summarises the services and infrastructure available to the site.

Table 4.1: Access and Services

Service	Availability
Access	The part of Lot 2 DP1022067 subject to the proposed development has public road frontage to Forest Lane at the northern boundary. Public roads servicing the site are bitumen-sealed public roads providing two-way access.
Water	The site is serviced by reticulated water.
Electricity	Underground electricity and telecommunications are available.



Photo 4.1: Aerial view looking south-east across the site with approximate boundary highlighted yellow. Development area (northern precinct) outlined blue.

4.3 Bushfire Prone Vegetation Relative to Location of the Proposal

Land in the site and surrounding land is mapped as bushfire prone land (BFPL) for the purposes of Section 10.3 of the EP&A Act. The land is mapped as Category 3 Vegetation, as shown in Figure 4.1.

Category 3 land is described in the RFS *Guide for Bush Fire Prone Land Mapping* (V5b, November 2015) as medium bushfire risk vegetation and corresponds with areas of vegetation having formations of grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands (Keith, 2004).

Inspection of the site indicates that surrounding vegetation formations more closely correspond to *tall heath* and *coastal swamp forest* vegetation formations (Keith, 2004), which are more representative of Category 1 vegetation. As described in the *Guide for Bush Fire Prone Land Mapping*, Category 1 vegetation is the highest risk for bushfire and corresponds with areas of vegetation having formations of forest, heaths (tall and short) and forested wetlands. This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production.

While mapped as BFPL, land within Lot 2 DP 1022067, and adjoining land to the east, is subject to development consents that would result in significant modification or removal of existing vegetation formations. Those consents and the resulting vegetation management regimes (and associated vegetation classifications) are discussed further in Section 4.6.

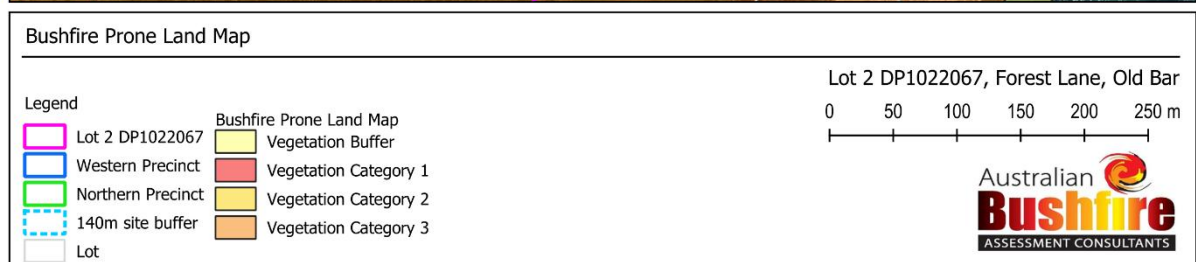
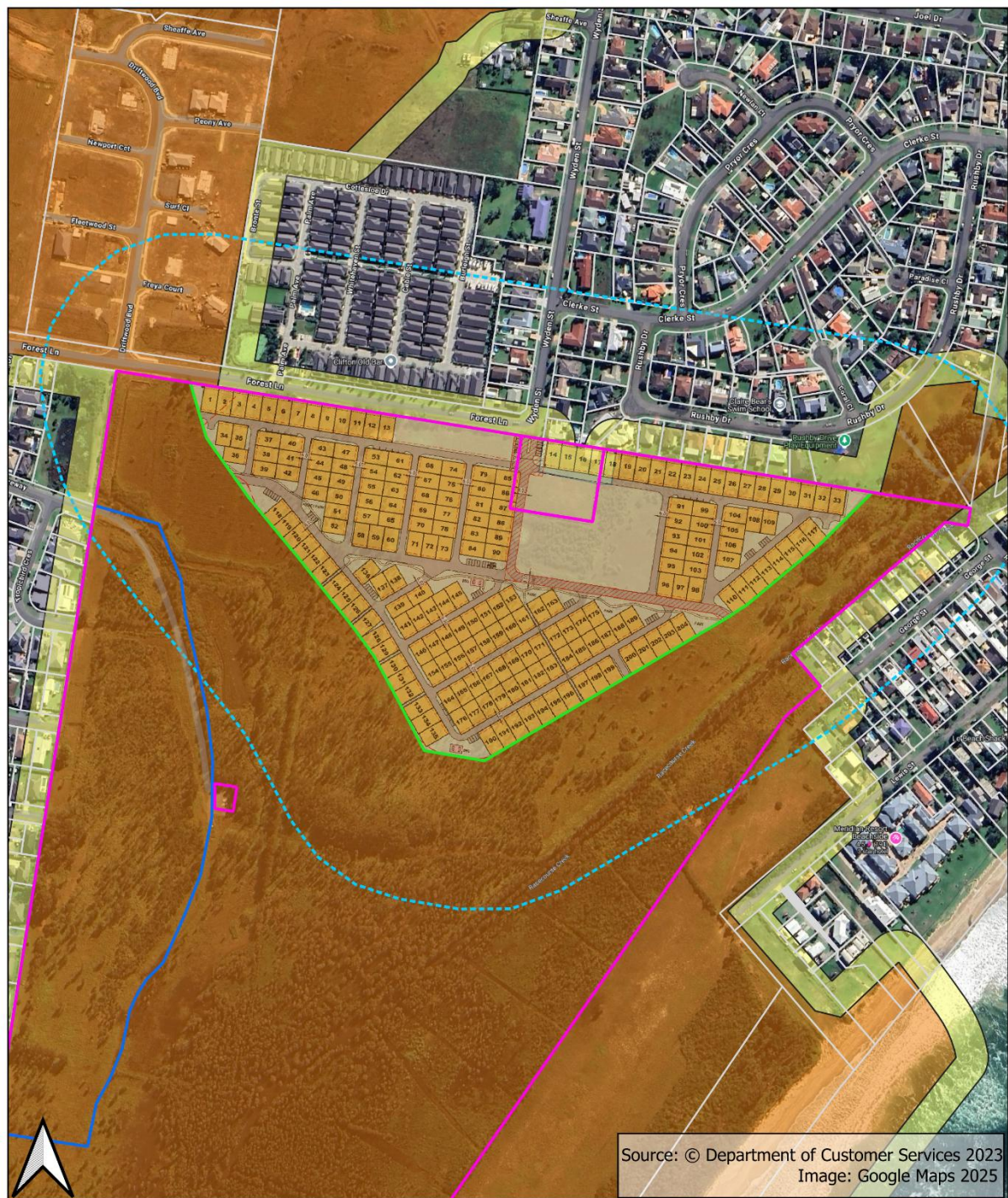


Figure 4.1: Site Locality and Bushfire Prone Land Map

4.4 Environmental Features or Aboriginal Relics

An AHIMS search indicates that there are several Aboriginal sites recorded in and around the site. It is understood that those sites are located outside of the proposed development footprint. There are no known archaeological constraints that might be relevant to bushfire protection measures for the proposed development (although the presence of undiscovered Aboriginal objects remains possible).

The site benefits from consent to undertake bulk earthworks across the northern part of the site. A Subdivision Works Certificate has also been issued in relation to earthworks and vegetation removal across the entire northern precinct (the northern part of Lot DP1022067 and the land in Lot B DP377867 which is subject to the proposed development).

The parts of Lot 2 DP1022067 which are zoned RE2 is approved for the construction of a golf course pursuant to DA 488/1999. The last modification to DA 488/1999 (determined 23 September 2024) included a condition requiring the management of vegetation within the site in accordance with a vegetation management plan (JWA, October 2023), including areas that are to be managed for either conservation or asset protection zone (APZ) purposes. The VMP restricts provision of APZs and other fuel management strategies outside of the approved management zones in that document.

There is unlikely to be any other environmental constraints that have not been considered in the environmental assessment of approved development proposals across the site.

4.5 Slope Assessment

The assessment of slope has been undertaken in accordance with the methodology in Section A1.5 of PBP 2019. The assessment of slope was undertaken via analysis of Digital Elevation Model (DEM) and through field analysis using a hand-held inclinometer and range finder. Relevantly, the slope of the land is also assessed having regard to the final landforms to be established in the adjacent golf course pursuant to DA 488/1999.

The slope of land most likely to influence bushfire behaviour is depicted in below in Figure 4.2 and summarised in Table 5.2 .



Figure 4.2: Slope Analysis

4.6 Vegetation Classification

4.6.1 Surrounding Land

Land surrounding the site contains a mixed landscape with a combination of urban landscapes and natural areas. Except for remnant and riparian vegetation in the corridor of Racecourse Creek (adjacent to the north-eastern corner of the site), the landscapes in northerly, westerly and easterly directions are occupied by existing or approved urban development with minimal potential to present a bushfire hazard.




Land adjoining the eastern boundary (Lot 1 DP594864) benefits from a separate consent to establish a MHE on that land. The nearest unmanaged vegetation to the east comprises a revegetation zone occupying the easternmost 15 metres of land in Lot 1 (>100 metres from the site). The revegetation zone is contiguous with vegetation within Crown land to the east of Lot 1, characterised by a mixture of tall heath and littoral rainforest vegetation formations.

The southern boundary, and the southern part of the western boundary (south of Albatross Way), adjoins Council owned land that contains forest vegetation formations that are likely to present some bushfire hazard potential to the site.

Vegetation within 140 metres of the site is summarised in Table 4.2.

Table 4.2: Classification of vegetation on surrounding land

Direction	Formation (Keith, 2004) / Description	Photo
North-east	<p><u>Classification:</u> Remnant (rainforest)</p> <p>Urban development and Council maintained parkland (Badgers Park) maintained in minimal fuel condition.</p> <p>Patches of remnant native vegetation surrounded by parkland conservatively classified as rainforest as per A1.11.1 of PBP.</p>	 <p>Figure 4.3: Looking north across Badgers Park</p>

Direction	Formation (Keith, 2004) / Description	Photo
East	<p><u>Classification:</u> Tall Heath</p> <p>Revegetation zone in the eastern part of the approved MHE development on Lot 1 DP594864 extending south into the eastern part of Lot 4 DP594864. Includes limited areas of littoral rainforest.</p>	 <p>Figure 4.4: Looking east showing vegetation in the eastern precinct</p>
South	<p><u>Classification:</u> Coastal Swamp Forest</p> <p>Regenerating vegetation in part of Lot 4 DP594864 adjoining the southern boundary of the overall Lot 2 DP 1022067.</p>	 <p>Figure 4.5: Looking south showing vegetation across the southern boundary</p>
West	<p><u>Classification:</u> Forest</p> <p>Vegetation in the south-eastern corner of Council sporting fields/recreation reserve (Lot 2 DP879651) adjoining the southern part of the western boundary of the overall Lot 2 DP 1022067.</p> <p><u>Classification:</u> Coastal Swamp Forest</p> <p>Regenerating vegetation in a bioretention basin at the north-eastern corner of Lot 2 DP879651, south of Albatross Way.</p>	 <p>Figure 4.6: Looking south-west from the site showing vegetation adjoining the southern part of the western boundary</p>

4.6.2 *Vegetation within the site*

Within the part of the site to be developed as an MHE, vegetation is proposed to be managed and landscaped such that any potential bushfire threats are removed from the areas proposed to be developed for dwelling sites, roads and recreation areas (generally the northern areas of Lot 2 DP1022067 which are zoned R1).

As mentioned previously, the proposed modification to the development consent for the golf course (occupying the RE2 zoned part of Lot 2 DP1022067) is to be subject to a VMP. It is assumed that only the extant vegetation within the C3 zoned parts of Lot 2 DP1022067 will be retained during the construction phase of the golf course.

The classification of vegetation within the site is based on the final landscaping objectives and revegetation/regeneration assumptions for the various management zones (MZs) shown in Figure 4.7 and referenced in Condition 1(c) of DA488/1999. MZs to be established via the VMP are shown in Figure 4.7.

Table 4.3 summarises the various final land use zones and target revegetation assumptions with corresponding vegetation formations for the purposes of Appendix 1 of PBP.

Table 4.3: Classification of vegetation within the site

Zone	Formation (Keith, 2004)	Description
MZ1 Biofiltration Swales	Freshwater wetland (managed in minimal fuel/low threat condition)	4.5 metre bioretention swale located on outer edge of the perimeter fire trails. These areas are planted with macrophytes and other effective nutrient-reducing species for water quality improvement purposes. Shrub and tree regrowth to be managed in accordance with the VMP. Note: The bioretention swale would be separated from other vegetation by non-vegetated areas and would present limited bushfire threats to development within the site or surrounding land.
MZ1 Fairways & Greens (RL5.0)	Low threat	Managed grass fairways/greens, to be regularly mown to maintain golf course playing conditions.
MZ1 Course 'Rough' & Tracks (RL4.5)	Low threat	Managed grass to the standard of a 'rough' maintained in a minimal fuel condition. Other vegetation may comprise scattered trees and landscaping consistent with the standard of an APZ and Outer Protection Area (OPA).
MZ3 Flood Detention Basin (RL3.8m)	Coastal swamp forest	Intermittently saturated detention basin for regional flood mitigation. Assumed regeneration of extant swamp sclerophyll forest assemblages. Specific areas may be practically maintained for hazard reduction through use of light equipment. These areas include: 1. Land around any future clubhouse and other facilities (not part of this proposal); 2. APZ (29 metres wide) adjacent to the eastern boundary with Lot 1 DP 594864. This is a requirement of the bushfire safety authority issued by the RFS for the approved MHE development on Lot 1 (shown as MZ2 in Figure 4.7).
MZ3 (north-west corner of Lot 2 DP1022067)	Remnant Coastal swamp forest (as rainforest)	Isolated detention basin in north-western corner of Lot 2 DP1022067. While potentially regenerating as mixed coastal swamp forest and wetlands, this part of MZ3 has an area <1 hectare and could be considered as an area of remnant vegetation at worst (and considered the same as for rainforest on that basis).
MZ4 Ponds (permanent water (RL2.9))	Freshwater wetland	Permanent pond with fringing macrophytes. Potential for Casuarina spp. to colonise fringes. Fuel loads likely to be subject to hydrological influences on species assemblage.
MZ4 Constructed Wetlands	Forested wetland	Regularly saturated constructed wetlands at the northern end of the site (north of hole 4). These areas are planted with macrophytes and other effective nutrient-reducing species for water quality improvement purposes. Fuel loads likely to be subject to hydrological influences on species assemblage.
MZ5 C2 zoned parts of Lot 2 DP1022067)	Coastal swamp forest	Retention and rehabilitation of existing swamp sclerophyll forest within C2 zoned parts of Lot 2 DP 1022067. No bushfire maintenance required.

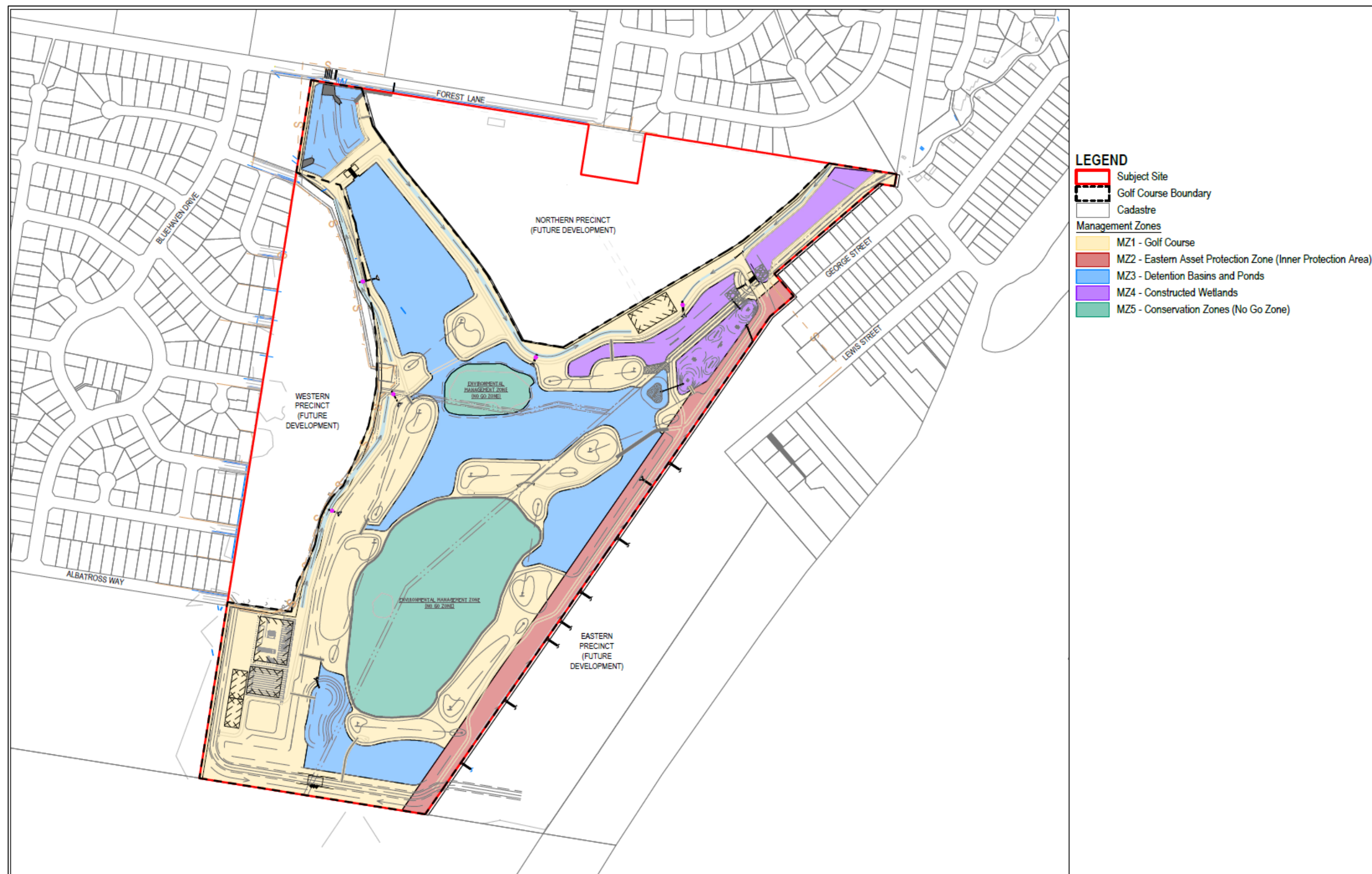


Figure 4.7: Proposed Vegetation Management Zones
(Source: JWA Pty Ltd). North to top of page.



5. BUSHFIRE ASSESSMENT

The proposed development is for a MHE providing sites for permanent residential occupation.

MHEs are a specific residential-based SFPP for the purposes of Section 6.3.2 of PBP. Importantly, Section 6.3.2 of PBP states that *where evidence can be provided which confirms that dwellings within the manufactured home estate will be constructed to the appropriate construction standards under AS 3959 or NASH Standard, an APZ can be provided which meets 29kW/m² in line with Tables A1.12.3.*

It is expected that conditions of consent would be imposed to ensure that future dwellings (which do not necessarily require a Construction Certificate for placement on site) incorporate bushfire-resisting construction in accordance with the construction requirements for any identified Bushfire Attack Level (BAL). Table 5.2 is an assessment of BALs for the manufactured home structures to be installed on the dwelling sites in the proposed development.

5.1 Submission Requirements for BFSA

The following is a summary of the submission requirements for a BFSA in relation to subdivision on BFPL, as per Clause 45 of the *Rural Fires Regulation 2022*.

5.1.1 *The extent to which the development is to provide for setbacks, including asset protection zones*

Table 6.8a (*Performance criteria and acceptable solutions for APZs and construction for SFPP development*) of PBP provides a variation for manufactured home estates to the effect that APZs are to be in accordance with Table A1.12.3 of PBP where it is demonstrated that all new dwellings will be constructed to BAL-29.

The site is in the North Coast fire (weather) area and the relevant Fire Danger Index (FDI) is FDI 80.

Appendix 1 of PBP 2019 provides the methods for determining the minimum APZs for residential development. Minimum APZs are based on maximum potential radiant heat levels <29kW/m² for any future manufactured home(s) to be installed on the proposed dwelling sites when assessed in accordance with Table A1.12.3 of PBP 2019.

Table 5.1 summarises the relevant separation distances in relation to vegetation formations which are expected to occur within the surrounding golf course development following revegetation in accordance

with the VMP. Figure 5.1 depicts the minimum separation distances in relation to the proposed MHE development site (northern precinct).

Table 5.1: Minimum Separation Distances (PBP, Table A1.12.3)

Vegetation Formation	Slope	Minimum Separation
Coastal Swamp Forest (Existing vegetation & future MZ5, MZ3)	Flat	20 metres
Freshwater wetland (Ponds, MZ4)		5 metres
Forested Wetland (MZ4)		8 metres
Remnant (MZ3 – Patches <1 hectare, patches in Badgers Park)		9 metres

5.1.2 *The siting and adequacy of water supplies for fire fighting*

The proposed development will be serviced by reticulated water.

Clause 34 of the LG Regulation requires provision of fire hydrants throughout the development so that no part of a dwelling site or community building is more than 90 metres from a fire hydrant.

Fire hydrant location, spacing, design and sizing is to be as per AS2419.1:2021.

The siting and adequacy of water supplies is considered in relation to the performance criteria of PBP in Section 4.2 of this assessment.

5.1.3 *The capacity of nearby public roads to handle increased volumes of traffic when a bush fire emergency occurs*

Forest Lane is a public road with apparent capacity to handle increased traffic. The capacity of public roads is considered in relation to the performance criteria of PBP (Section 5) in Section 6.2 of this assessment.



Figure 5.1: Minimum separation distances relative to proposed vegetation management zones (PBP Table A1.12.3, FDI 80, <29kW/m²)

5.1.4 *Whether or not nearby public roads that link with the fire trail network have two-way access*

There is no fire trail network within the site. The adjacent road network has two-way access.

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

The primary access will be via Forest Lane. The site layout also includes an alternative emergency access/egress routes through the golf course (not yet developed), as a separate but related DA, towards either Lewis Street (east) or Albatross Way (west).

Two-way roads throughout the proposed development are to be constructed with a sealed width of 6 metres in accordance with Clause 21 of the LG Regulation. Major roads are to have a constructed width of 8 metres.

The minimum constructed width of roads throughout the development is to be maintained via the provision of constructed parking bays. Other than parking within these constructed parking areas, parking within the road carriageways within the development is to be restricted to maintain the minimum required constructed width of roads.

The adequacy of arrangements for access to and egress from the development are considered in relation to the performance criteria of PBP 2019 (Chapter 6) in Table 6.2 to this assessment.

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

Recommendations are made for a *Bush Fire Emergency Management and Evacuation Plan* to be prepared in relation to the proposed development, consistent with the NSW RFS document, *Development Planning - A Guide to developing a bush fire emergency management and evacuation plan* (December 2014).

The proposed development also includes community open space within the approved golf course to be developed in the RE2 zoned parts of Lot 2 DP1022067. The separate consent for those areas of the land provides that those areas are to be managed for the purposes of conservation and/or bushfire hazard reduction purposes in accordance with the VMP (JWA, 2023) referenced in Condition 1(c) of DA488/1999.

5.1.7 The construction standards to be used for building elements in the development

Manufactured homes are not defined as *buildings* for the purposes of the NCC. Individual manufactured homes are installed on each site in accordance with the LG Regulation subject to any conditions of consent for the proposed development.

While there is no development consent process for installation of manufactured homes, the structures are subject to bushfire-resisting construction requirements as per AS3959 (or the NASH Standard), to be identified via through development consent conditions. If necessary, BALs and construction standards may also be identified in any future Approval to Operate (ATO) the MHE.

Appendix 1 of PBP provides the site assessment methodology for determining the applicable Bushfire Attack Level (BAL). Once the BAL is determined, construction requirements for the corresponding BAL apply subject to AS3959-2018: *Construction of buildings in bushfire-prone areas* subject to Section 7.5 of PBP.

Table 5.2 is a summary of the highest construction standards likely to apply to individual manufactured homes and community buildings.

Table 5.2: Buildings / Dwellings and Construction Standards

Site numbers / Facility	Highest BAL
Community Facilities	
Future community building (subject to separate consent and not part of this proposal)	BAL-19
Dwelling Sites	
Sites 1, 118-129, 134-135*	BAL-29*
Sites 36, 130-131, 133	BAL-19
Sites 2-7, 34,35, 37-46, 48-52, 56-60, 136-143, 146-148, 154-156, 164-172, 175-204, 93-117, 26-33.	BAL-12.5
All remaining sites	BAL-LOW

Table 5.2 identifies the highest BAL applying to any part of the site area and has been determined in the absence of any specific dwelling designs. In relation to Sites 1, 118-129 & 134-135, the actual BAL is to be determined by an accredited bushfire consultant prior to installation of any home having regard to the actual separation between the nearest part of the proposed dwelling and hazards existing within the approved golf course at that time.

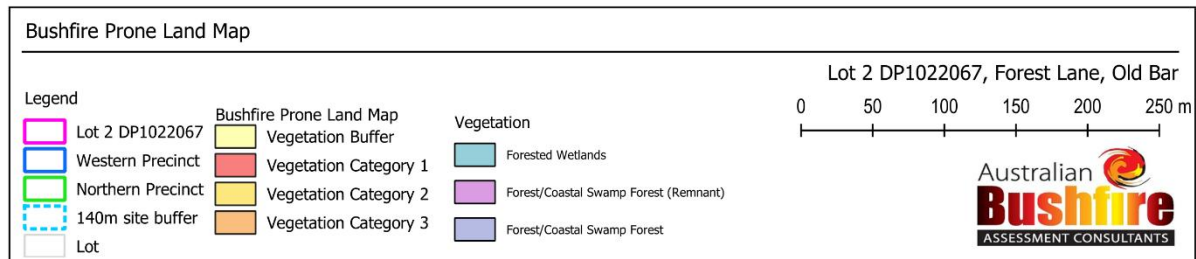
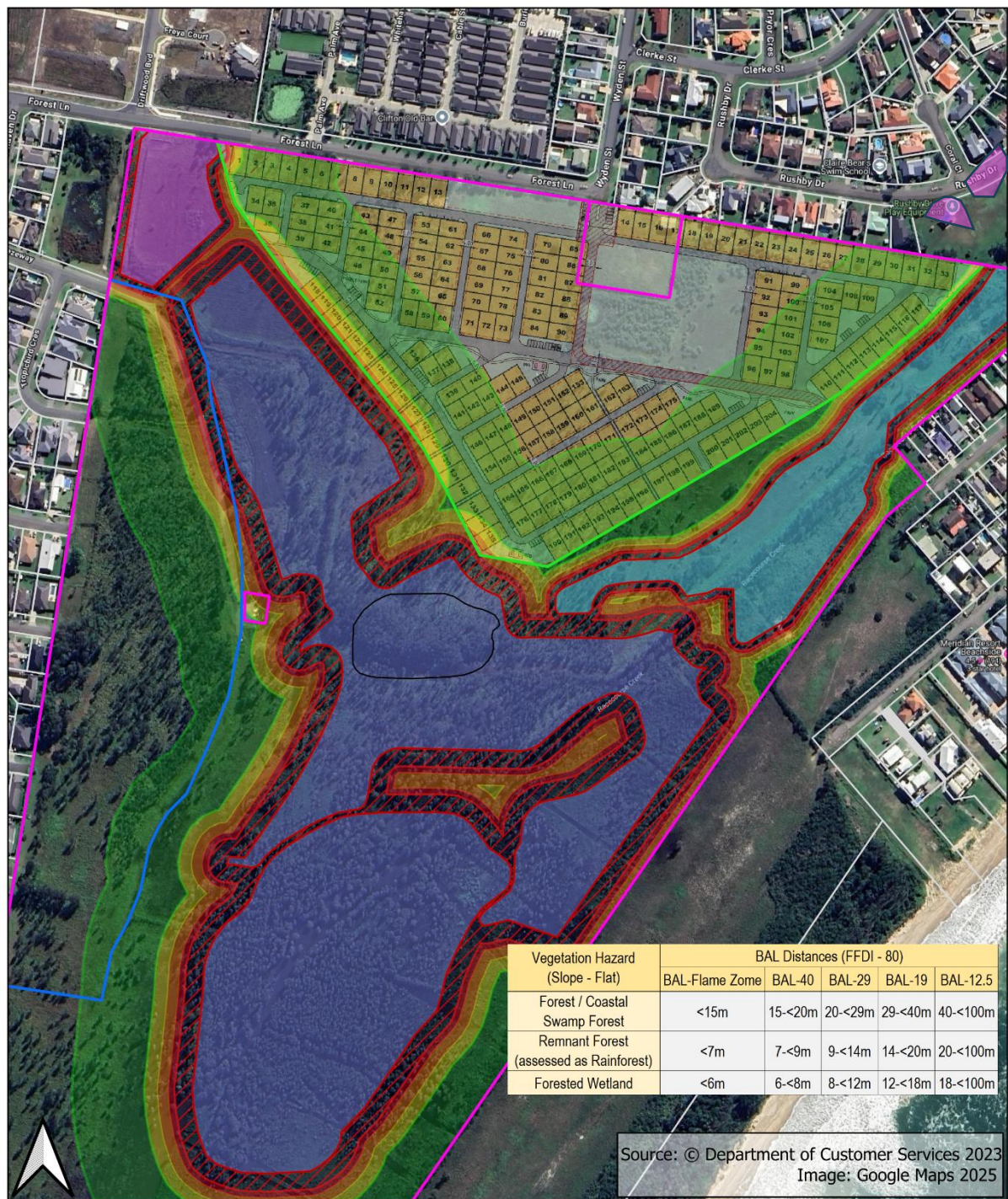


Figure 5.2: Bushfire Attack Levels applying to sites and buildings

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

The proposed development does not involve the provision of sprinkler systems. As mentioned previously, the relevant provisions of the LG Regulation require the provision of fire hydrants throughout the development (see discussion in Section 4.1.2 of this document).

5.1.9 *Registered Fire Trails on the property*

No registered fire trails exist on the property, and none are proposed.

5.1.10 *An assessment of the extent to which the proposed development conforms with or deviates from Planning for Bush Fire Protection*

Section 6 is an assessment of the development in relation to the performance criteria in Chapter 6 of PBP 2019 relating to SFPP developments.

6. RELATIONSHIP OF PROPOSAL TO PLANNING FOR BUSH FIRE PROTECTION 2019

Development for the purposes of a MHE is subject to specific considerations in Chapter 6 of PBP 2019 relating to SFPP developments. Relevant performance criteria are considered in Table 6.1 to Table 6.4.

6.1 APZs and building construction

Table 6.1 considers the proposal in relation to relevant performance criteria in Table 6.8a of PBP 2019.

Table 6.1: Performance criteria and acceptable solutions for APZs and construction

Performance criteria	Relationship of proposal to acceptable solutions	Meets Criteria ?
Asset Protection Zones		
[Variation for manufactured home estates] <i>APZs achieve radiant heat levels that are commensurate with the construction standard for the proposed dwellings.</i>	<p>All sites are to be long-term dwelling sites for permanent residential occupation.</p> <p>For the purposes of 6.3.2 of PBP 2019, the proposal is a MHE (with manufactured homes capable of being constructed to AS3959).</p> <p>As the land is subject to FFDI 80, an APZ is to be provided which results in a radiant heat flux of $\leq 29\text{kW/m}^2$ as per Table A1.12.3 of PBP.</p> <p>Minimum separation distances are described in Table 4.2.</p> <p>As shown in Figure 5.1, each dwelling site and future community building is capable of providing the minimum separation distances in Table A1.12.3 of PBP.</p>	Yes
<i>APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</i>	<p>The slope of the land is $<18^\circ$ and there are no apparent constraints for the practical maintenance of APZs without compromising soil stability.</p> <p>APZ maintenance was considered in the determination of the last modification to DA488/1999 (for the golf course and the RE2 zoned parts of Lot 2 DP1022067) as discussed in detail earlier in this assessment.</p>	Yes
<i>APZs are managed and maintained to prevent the spread of fire towards the building.</i>	<p>Figure 5.1 shows the extent of land to be managed as an APZ through implementation of the VMP referenced in Condition 1(c) of DA488/1999 (for the golf course and the RE2 zoned parts of Lot 2 DP1022067).</p> <p>APZs are to be managed to the specifications of the VMP to maintain fuel loads and structure consistent with the requirements of Appendix 4 of PBP.</p>	Yes
<i>The APZ is provided in perpetuity.</i>	<p>APZs will be contained within the development site.</p>	Yes

Performance criteria	Relationship of proposal to acceptable solutions	Meets Criteria ?
Landscaping		
<i>Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.</i>	Any site landscaping for those parts of the site required to be managed as an APZ is to be consistent with Appendix 4 of PBP.	Yes
Construction Standards		
[Variation for manufactured home estates] <i>The proposed manufactured home can withstand bush fire attack in the form of wind, embers, radiant heat, and flame contact.</i>	Figure 5.2 of this assessment details the applicable BALs for the dwelling sites within the MHE development, which range from BAL-29 to BAL-LOW. Each dwelling site will be subject to radiant heat flux <29kW/m ² .	Yes

6.2 Access

Table 6.2 assesses the proposal against the relevant performance criteria in Table 6.8b of PBP.

Table 6.2: Performance criteria & acceptable solutions for access

Performance criteria	Relationship of proposal to performance criteria	Meets criteria?
Access		
<i>Firefighting vehicles are provided with safe, all-weather access to structures.</i>	<p>There are no public roads proposed.</p> <p>Internal roads are to be two-wheel drive, sealed all-weather roads that will provide access throughout the development and to all dwelling sites.</p> <p>Turning heads are to be provided at the terminus of any dead end roads.</p> <p>Recommendations are made for those turning heads to be designed in accordance with Appendix 3 of PBP to facilitate access by emergency service vehicles throughout the development, inclusive of any temporary turning heads that may be required until connecting road networks are constructed through the golf course to other development in the western precinct and remaining parts of Lot 2 DP1022067 (subject to separate DAs).</p> <p>Standards for internal access roads are provided in Table 6.8b of PBP and Clause 21 of the LG Regulation.</p> <p>It is noted that the plans for the development indicate road widths of at least 6 metres.</p> <p>Recommendations are made for internal roads to be provided in accordance with the LG Regulation and Table 6.8b of PBP to provide all weather access.</p>	Yes
<i>The capacity of access roads is adequate for firefighting vehicles.</i>	<p>Recommendations have been made to ensure the capacity of the proposed internal roads, including connecting roads to future precincts, are sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes) and any bridges or causeways clearly indicate load rating (where appropriate).</p>	Yes
<i>There is appropriate access to water supply.</i>	<p>Reticulated water is available to the site.</p> <p>(Subject to design) fire hydrant spacing, design and sizing is to be as per the relevant clauses of A2419.1:2021 and located outside of the road carriageway and/or parking bays (where applicable) to ensure accessibility to reticulated water for fire suppression.</p> <p>The LG Regulation requires the provision of fire hydrants within 90 metres of any dwelling site.</p>	Yes

Performance criteria	Relationship of proposal to performance criteria	Meets criteria?
Perimeter Roads		
<i>Perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating.</i>	<p>The internal roads within the MHE development are not public roads and the acceptable solutions relating to public perimeter roads are not directly applicable to the MHE development.</p> <p>While there are no perimeter roads, the proposal does not rely upon road networks for maintenance of minimum separation distances, in perpetuity, between dwelling sites and hazards. Vegetation management (including APZ maintenance) is undertaken as part of the estate operational management plan and as guided by the VMP applying to the RE2 and C2 zoned parts of Lot 2 DP1022067 which are subject to separate development consent.</p>	N/A
Non-Perimeter Roads		
<i>Non-perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating.</i>	<p>Non-perimeter two-way access roads are to have a carriageway width of 6 metres with parking provided outside of the carriageway width.</p> <p>Hydrants are to be located clear of parking areas.</p> <p>Curves of roads to have a minimum inner radius of 6 metres.</p> <p>Road grades do not exceed the maximum grades identified in Table 6.8b of PBP 2019.</p> <p>The proposed road design and construction can facilitate crossfall not exceeding 3°.</p> <p>No overhanging obstructions exist above access roads.</p>	Yes

6.3 Services – Water, Gas and Electricity

Table 6.3 assesses the proposal against the relevant performance criteria in Table 6.8c of PBP 2019.

Table 6.3: Performance criteria & acceptable solutions for water, electricity & gas services

Performance Criteria	Relationship of Proposal to Performance Criteria	Meets Criteria
Water Supply		
<i>An adequate water supply for firefighting purposes is installed and maintained.</i>	Reticulated water is available to the site.	Yes
<i>Water supplies are located at regular intervals. The water supply is accessible and reliable for firefighting operations.</i>	(Subject to design) fire hydrant spacing, design and sizing is to be as per the relevant clauses of A2419.1:2021 and not located within any road carriageway. Clause 21 of the <i>LG Regulation</i> requires the provision of fire hydrants to be located not less than 90 metres from any dwelling site or community building.	Yes
<i>Flows and pressure are appropriate.</i>	(Subject to design) fire hydrant flows and pressures are to comply with the relevant clauses of A2419.1:2021.	Yes
<i>The integrity of the water supply is maintained.</i>	As above.	Yes
<i>Water supplies are adequate in areas where reticulated water is not available.</i>	Reticulated water is available to the site.	N/A
Electricity Services		
<i>Location of electricity services limits the possibility of ignition of surrounding bush land or fabric of buildings.</i>	Electrical supply is to be underground.	Yes
Gas Services		
<i>Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.</i>	Any future gas installations are to be consistent with performance criteria.	Yes

6.4 Emergency Management Planning

Table 6.4 assesses the proposal against the relevant performance criteria in Table 6.8d of PBP.

Table 6.4: Performance criteria & acceptable solutions for emergency management plans

Performance Criteria	Relationship of Proposal to Performance Criteria	Meets Criteria?
Emergency Management		
<i>A Bush Fire Emergency Management and Evacuation Plan is prepared</i>	Recommendations include preparation of a Bush Fire Emergency Management and Evacuation Plan (consistent with the NSW RFS document: <i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i>).	Yes
<i>Appropriate and adequate management arrangements are established for consultation and implementation of the Bush Fire Emergency Management and Evacuation Plan</i>	As above.	Yes

7. CONCLUSION

This Bushfire Assessment has been prepared in relation to the proposed manufactured home estate on land at Lot 2 DP1022067 and Lot B DP377867, Forest Lane, Old Bar.

The proposal has been assessed against the relevant provisions of *Planning for Bush Fire Protection 2019* (PBP) including the objectives for manufactured home estates described in 6.3.2 of PBP.

Table 5.2 of this assessment shows the applicable BALs for each proposed dwelling site and community building. Construction requirements under AS3959-2018 will apply to manufactured homes to be installed on the proposed dwelling sites for the assessed BALs.

The following recommendations are made in relation to building construction standards, APZs, water supplies, servicing, landscaping and emergency management for the proposed development.

8. RECOMMENDATIONS

Asset Protection Zones

- A. The proposed development site (being the R1 zoned land in the northern part of Lot 2 DP1022067 as shown in Figure 3.1 of this assessment), inclusive of any parks/communal areas, is to be maintained in a manner consistent with the standard for an Inner Protection Area (IPA) for the purposes of Appendix 4 of PBP. A clear area of lawn or pavement is maintained adjacent to any manufactured homes installed on dwelling sites in the development.
- B. Until such time as works commence on the golf course development (as approved under DA488/1999 for the parts of Lot 2 DP1022067 generally south of the subject development shown in Figure 3.1 of this assessment), land within 20 metres of any dwelling site in the proposed development is to be maintained to the standard of an Inner Protection Area (IPA) for the purposes of Appendix 4 of PBP. The minimum APZ is to be established prior to issue of any Approval to Operate and/or occupation of any manufactured homes/dwellings and maintained until hazards are removed. The minimum APZ is to be detailed in the conditions of any Approval to Operate which might be issued under the *Local Government Act 1993* until construction of the golf course is completed in accordance with DA488/1999.
- C. Following completion of the golf course (as approved under DA488/1999 for the parts of Lot 2 DP1022067 generally south of the subject development shown in Figure 3.1 of this assessment), land in the parts of Lot 2 DP1022067 adjoining the proposed manufactured home estate is to be maintained in perpetuity in accordance with the Vegetation Management Plan prepared by JWA Pty Ltd, dated October 2023 and referenced in Condition 1(c) of DA488/1999.

Revegetation of the RE2 zoned parts of the site (approved golf course) is to reflect the vegetation specifications contained in Section 5 of the VMP (JWA, 2023) and achieve the following vegetation formations (Keith, 2004) at maturity:

- i. MZ1 Golf Course: APZ (to contain only low threat vegetation for the purposes of Section A1.10 of PBP).
- ii. MZ2 Eastern APZ: APZ (to contain only low threat vegetation for the purposes of Section A1.10 of PBP).
- iii. MZ3 Detention Basins and Ponds: Coastal swamp forest (forested wetlands).
- iv. MZ4 Constructed Wetlands: Forested wetlands (ephemeral basins) and freshwater wetlands (ponds).

- v. MZ5 Conservation Zones: Coastal swamp forest (forested wetlands).

The approved VMP is to be incorporated into the Operational Management Plan (or equivalent) to ensure maintenance of vegetation management specifications, including APZs, in perpetuity.

Construction Standards

- D. Any manufactured homes to be installed on dwelling sites within the manufactured home estate must incorporate construction that complies with Australian Standard AS3959-2018 *Construction of buildings in bush fire-prone areas* (as amended by Section 7.5 of PBP), or the NASH Standard (1.7.14 updated) *'National Association of Steel Framed Housing (2021) Steel Framed Construction in Bush Fire Areas'*, to meet the construction requirements for the BAL identified for the respective dwelling sites in the table below (or as determined by an accredited bushfire consultant prior to installation):

Site numbers / Facility	Highest BAL*
Dwelling Sites	
Sites 1, 118-129, 134-135*	BAL-29*
Sites 36, 130-131, 133	BAL-19
Sites 2-7, 34,35, 37-46, 48-52, 56-60, 136-143, 146-148, 154-156, 164-172, 175-204, 93-117, 26-33.	BAL-12.5
All remaining sites	BAL-LOW

***Note:** The identified BAL is the highest BAL applying to any part of the site area (subject to recommendation (C)) and has been determined in the absence of any specific dwelling designs. In relation to Sites 1, 118-129 & 134-135, the actual BAL is to be determined by an accredited bushfire consultant prior to installation of any home having regard to the actual separation between the nearest part of the proposed dwelling and hazards existing within the approved golf course at that time.

- E. The final BAL for each site is to be detailed in a BAL construction plan, prepared by an accredited bushfire consultant, and provided to Council prior to issue of an Approval to Operate that allows occupation of the relevant homes.

Access

- F. Internal roads are to comply with Division 3, Subdivision 3 of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021* and the applicable requirements of Table 6.8b of PBP as follows:
- (i) Parking bays are to be provided outside of any road carriageway.
 - (ii) Any traffic management devices are to be constructed to facilitate access by emergency services vehicles.
 - (iii) A minimum vertical clearance of 4 metres is to be maintained to any overhanging obstructions, including tree branches.
 - (iv) Curves are to have a minimum inner radius of 6 metres and be minimal in number to allow for rapid access and egress.
 - (v) The minimum distance between inner and outer curves is to be 6 metres. Curves are to have a minimum inner radius of 6 metres and be minimal in number to allow for rapid access and egress.
 - (vi) Internal perimeter roads are to incorporate roll top or flush kerbs.
- G. Any turning heads are to be constructed in accordance with Appendix 3 of PBP.
- H. New internal road surfaces are to be designed and constructed to have capacity to carry fully loaded fire fighting vehicles (up to 23 tonnes).

Services and Water Supplies

- I. Water, electricity and gas are to comply with Table 6.8c of PBP, including provision of:
- i. Underground power; and
 - ii. Reticulated water supply using a ring main system (where applicable).
- J. The development is to incorporate a fire hydrant system in accordance with the relevant clauses of AS 2419.1:2021 – *Fire hydrant installations System design, installation and commissioning*.
- K. All above-ground water service pipes external to the proposed manufactured homes are to be metal, including and up to any taps.

Emergency Management

- L. A Bush Fire Emergency Management and Evacuation Plan is to be prepared consistent with the NSW RFS document: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*.

NOTE & DISCLAIMER:

1. This assessment relates only to the development described in this assessment.
2. This assessment has been based on bushfire protection guidelines as outlined in the document entitled *Planning for Bush Fire Protection 2019 (PBP)*.
3. 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.
4. 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/landowner to obtain all necessary approvals in this regard.

9. REFERENCES

JWA Pty Ltd (October, 2023), Vegetation Management Plan

NSW Rural Fire Service (2019)

Planning for Bush Fire Protection 2019

Standards Australia (2018)

AS 3959-2018 Construction of buildings in bushfire-prone areas