Bushfire management plan / statement addressing the bushfire protection criteria coversheet

Site address: Lot 106 Newton Street Dwellingup WA

Site visit: Yes x No

Date of site visit (if applicable): Day 19 Month November Year 2024

Report author or reviewer: Anthony Rowe

WA BPAD accreditation level (please circle):

Not accredited | Level 1 BAL assessor | Level 2 practitioner | Level 3 practitioner x

If accredited please provide the following.

BPAD accreditation number: 36690 Accreditation expiry: Month December Year 2025

Bushfire management plan version number: 1

Bushfire management plan date: Day 9 Month March Year 2025

If one or more of the following are selected, then these should be automatically referred to DFES	YES	NO
Strategic planning is required to address SPP 3.7 and the Guidelines	x	
The application is a vulnerable land use		x

None of the Above

If one or more of the following are selected, and the decision-maker requires input form DFES, then the application can be referred.	YES	NO
The BAL rating has been calculated by a method other than Method 1 as prescribed by AS 3959		x
An outcomes-based approach has been submitted to demonstrate compliance with the bushfire protection criteria	x	

None of the Above

Note: If a subdivision or development application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, seeking advice from DFES on SPP 3.7 or other matters is at the discretion of the decision-maker.

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer  Date 10/03/2025

Bushfire Management Plan

Lot 106 Newton Street Dwellingup

MARCH 2025

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LIMITATIONS STATEMENT

Envision Bushfire Protection has been commissioned to prepare a Bushfire Management Plan ('BMP') to support the Shire of Murray Structure Plan to facilitate Subdivision for residential development at Lot 106 Newton Street Dwellingup.

Envision Bushfire Protection Pty Ltd

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Version Control

Lot 106 Newton Street Dwellingup			
Version	**Date**	**Author**	
V1	9 March 2025	Anthony Rowe	Submission

Disclaimer

In undertaking this work, the authors have made every effort to accurately apply the available information at the time of writing following the instructions of the regulatory authorities and applying best practice as described by the Fire Protection Association Australia. Any conclusions drawn or recommendations made in the report are made in good faith, and the consultants take no responsibility for how this information and the report are subsequently used.

Envision Bushfire Protection accepts no liability for a third party's use of, or reliance upon, this specific report.

Envision Bushfire Protection accepts no liability for the inaction of the owner to provide or maintain the bushfire protection measures identified in this report. Vegetation is dynamic, building materials may distort, and the accumulation and the location of flammable materials near the building may affect the potential for damage or loss of a building to occur.

Failure to maintain the property and/or building to these standards may compromise an insurance policy if currently covering any of your assets or those of any third party that may be consequentially affected due such failure. If not insured, and if you are seeking insurance, this report may not influence the decision of any insurer not to offer cover.

Importantly the measures contained in this report cannot guarantee human safety or an absence of harm or that the building will not be damaged or would survive a bushfire event on every occasion. This is due to the unpredictable nature of fire behaviour (knowledge in this field continues to develop) and the unpredictable nature of extreme weather conditions.

Scope of this report

Envision Bushfire Protection has been engaged to provide expert bushfire safety and planning advice.

The scope of the advice has been to assess the proposal for compliance with the policy measures described in State Planning Policy 3.7 *Bushfire* and identify appropriate mitigation measures to be considered by the determining authority. This is described in a Bushfire Management Plan and prepared with regard to the Department of Planning Lands and Heritage templates.

The investigations and mitigation measures identified in the BMP, has, in turn, formed the basis for the preparation of a Bushfire Emergency Evacuation Plan.

Client relationship

I was engaged to provide expert bushfire safety and planning advice. My relationship with the client is a standard commercial contract, and no private, personal, or other matter has influenced the content of the BMP or my findings.

STATEMENT OF CONFORMITY – PLANNING AND DEVELOPMENT ACT 2005

Anthony Rowe Level 3 - BPAD36690

Principal Bushfire Consultant **I** Town Planner

BPAD Accredited Practitioner Level 3 I **PIA Registered Practicing Planner**

The signatory declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7 Bushfire and the Planning in Bushfire Guidelines 2024.

SUMMARY

This BMP has been prepared to demonstrate the suitability of the land for residential development in support of a change of use and subdivision (Structure Plan) at Lot 106 Newton Street Dwellingup.

The site is identified as Urban in the Regional Scheme Map and Public Purpose Government Requirements (GR) in the Local Planning Scheme. The Shire seeks to make this parcel available as a residential infill of the Dwellingup township. A hypothetical concept for subdivision has been used only for the purpose of demonstrating the potential for compliance with SPP 3.7.

The site is located within the Shire of Murray (Plate 2) and is within a bushfire prone area (Area 2 Bushfire Prone Map).

State Planning Policy 3.7 *Bushfire (2024)* is applicable to the assessment of the subdivision.

1. **Proposal details (addressed in Section 1)**

The site area is approximately 1.1 ha, flat, and vegetated (forest). It is located at the south eastern extent of the Dwellingup township (residential area). The township interfaces with State Forest at its south and east.

The proposal is to facilitate residential lots (up to ten) with an average size of 1000 m^2.

Plate 4 includes an initial concept that has now been amended to provide a public road around the site instead of the use of an Emergency Access Way.

The purpose of the concept is only to demonstrate capability. A subdivision plan will follow the directions of the structure plan.

Environmental consideration

A first consideration following SPP 3.4 is the prioritisation of native vegetation and to avoid, or where unavoidable minimise the clearing of native vegetation.

The subdivision of the land will require the clearing of native vegetation on the site.

The site is presently identified for development by the Regional Scheme Map and Requirements (GR) in the Local Planning Scheme and represents an orderly (infill) of the town (within the town area).

The expectation is for development; this structure plan does not change the expectation, the removal of the vegetation from the site is unavoidable, for the purpose of SPP3.7. Note this does not obviate the need for approval from the other biodiversity legislation State and Commonwealth.

Compliance with the Bushfire Protection Criteria

The assessment of compliance with SPP 3.7 Outcomes is provided by alignment of the proposal with Bushfire Protection Criteria 5 –Structure Plans and subdivision applications.

<u>Location</u>

The site is within a Broader Landscape Area Type which is classed as unacceptable.

An Outcomes assessment has been undertaken, including scenarios, a vulnerability assessment, and additional mitigation measures.

In this instance the site can achieve an acceptable outcome meeting the policy intent to preserve life and protect property. It is a change of use within the township, located at is south western perimeter. It provides evacuation into the town (BAL Low) and protects existing property (the primary school and properties fronting to or adjoining the site) and the proposed resulting development by armouring the town perimeter with a perimeter road separation, land management, and building construction at the site.

<u>Siting and Design</u>

The concept layout (Plate 4) provides a perimeter road to the south of the site joining to an EAW to provide a perimeter width around the site. An Alternative arrangement (preferred) is to run Forrest Street around the site to connect with Newton Street as a continuous public road.

Figure 5 illustrates that each lot has a developable area that can achieve BAL 29 or less at each (concept) lot. The developable area is based upon an area within each lot 300 m^2 that is capable of accommodating a habitable building/single dwelling of characteristic size in its locality.

All lots are to be maintained in a low threat condition and any lots facing the access from the south and east will require the set back of buildings to achieve BAL 29, from the facing forest. These lots will have a covenant restriction to BAL 29.

Vehicle Access

The Dwellingup township has regional distributor access in cardinal directions from the township.

The primary evacuation route is west and onto the Peel Plain and on to the township of Pinjarra.

An alternative route south, to the township of Waroona is also available, but a longer travel time is required to leave the ranges. Access to the town of Williams (east) is also possible but deeper into forest and not preferred.

The township is also of sufficient size to provide a suitable destination (Hancock Pavillion subject to Shire nomination). It is accessible from all points within the township if identified as an evacuation centre. The Hancock pavilion has amenities (toilets) and undercover shelter within BAL Low.

The proposal is compliant with the acceptable solutions for Vehicle Access.

Water

The site has access to a reticulated water supply and hydrants are located within 110 m north from of the site on Church Street. An additional hydrant will be required near the site (on the Newton Street - Forrest Street extension for all lots to be within 200 m from a hydrant.

Additional Bushfire Management Strategies (addressed in section 5.2)

There are no additional bushfire management strategies required to support, or as an alternative, to compliance with the bushfire protection criteria.

Spatial representation of the bushfire management strategies (Figure 7)

The key features demonstrating compliance with the bushfire protection measures are identified on the *Spatial representation of the bushfire management strategies*.

These illustrated actions follow the *Responsibilities for implementation and management of the bushfire measures,* in this instance key features at the site.

Responsibilities for Implementation and Management of the Bushfire Measures.

The *Responsibilities for Implementation and Management of the Bushfire Measures,* addressed in section 6 of the BMP and identified at Figure 7 supersede or are additional to the details included within the Subdivision application.

The conditions are to be satisfied prior to the issue of land titles.

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Attachment 1 - References

1. PROPOSAL DETAILS

Introduction

A structure plan to facilitate the subdivision of Lot 106 Newton Street Dwellingup.

The site is within Area 2 on the State (OBRM) Map of bushfire prone areas (2024).

Site and Proposal Description

Address	Lot 106 Newton Street Dwellingup			
Local Government Area	Shire of Murray			
Local Planning Scheme Zone	Public Purpose Government Requirements			
Bushfire Season	30 November - 31 May			
Development proposal	Structure Plan to facilitate Subdivision to create 9 -10 residential lots ranging from 1000 m^2 to 1150 m^2			
Land description site **Existing buildings** **Topography** **Site Vegetation**	The site area is approximately 1.1 ha. The site is vacant of buildings The site is level with a slight slope to the west <1.0^0 The site retains remnant forest.			
Adjoining Vegetation	North	East	South	West
Within 150 m	Primary School and urban development	Forest in urban	Contiguous Forest	Contiguous Forest
Road Access	The is site is adjoined by Newton Street (north) and Forrest Street (south) and north west to the township. The proposal will join Newton Street to Forrest Street The township of Dwellingup is the nexus of a regional distributor road, providing access north to North Dandalup, east to the township of Williams, south to the township of Waroona, and west to the township of Pinjarra (preferred destination).			
Nearest Town Centre	The site is within the Dwellingup township. The Pinjarra township is 24 km north west to the site			
Water supply	The site is adjacent the Watercorp reticulated water supply (Newton Street) The site is 110m from the nearest hydrant in Church Street (north from site). The furthest likely lot is > 200m from the nearest hydrant			
Tele communications	The site is within the Telstra network.			
Emergency services	Dwellingup Volunteer Bush Fire Brigade 17 Del Park Rd, Dwellingup (650 m)			

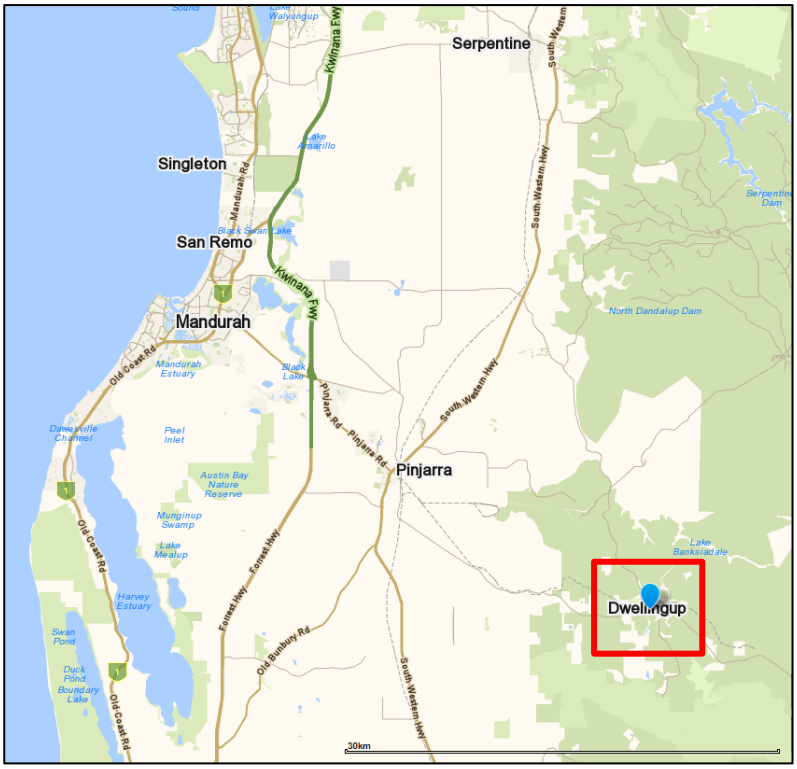


Plate 1: Site location (red box)

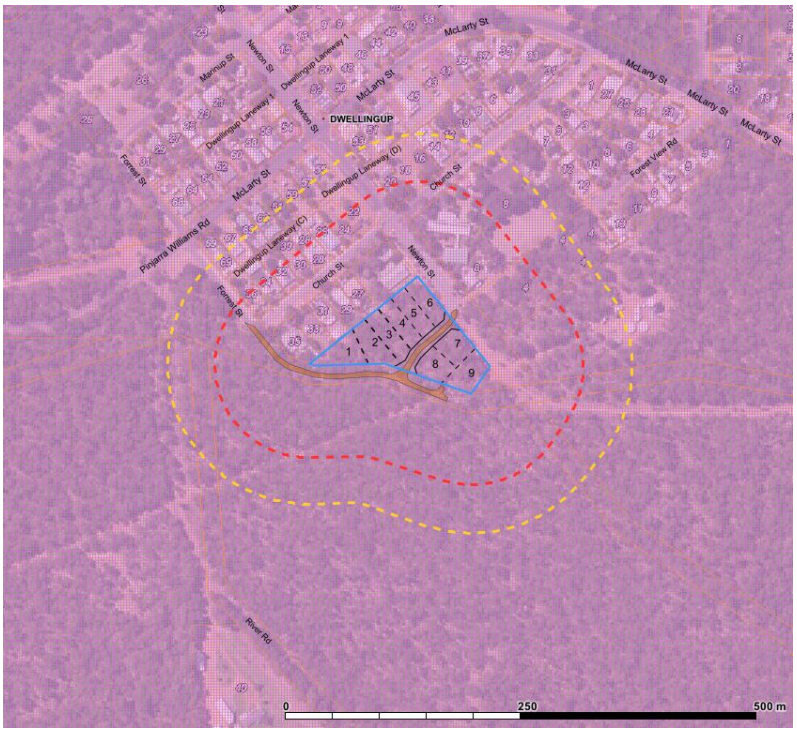


Plate 2: Bushfire Prone Area (pink)

Plate 3a: Regional Scheme Map the site is Urban, adjoined by State Forest at its southern hemisphere

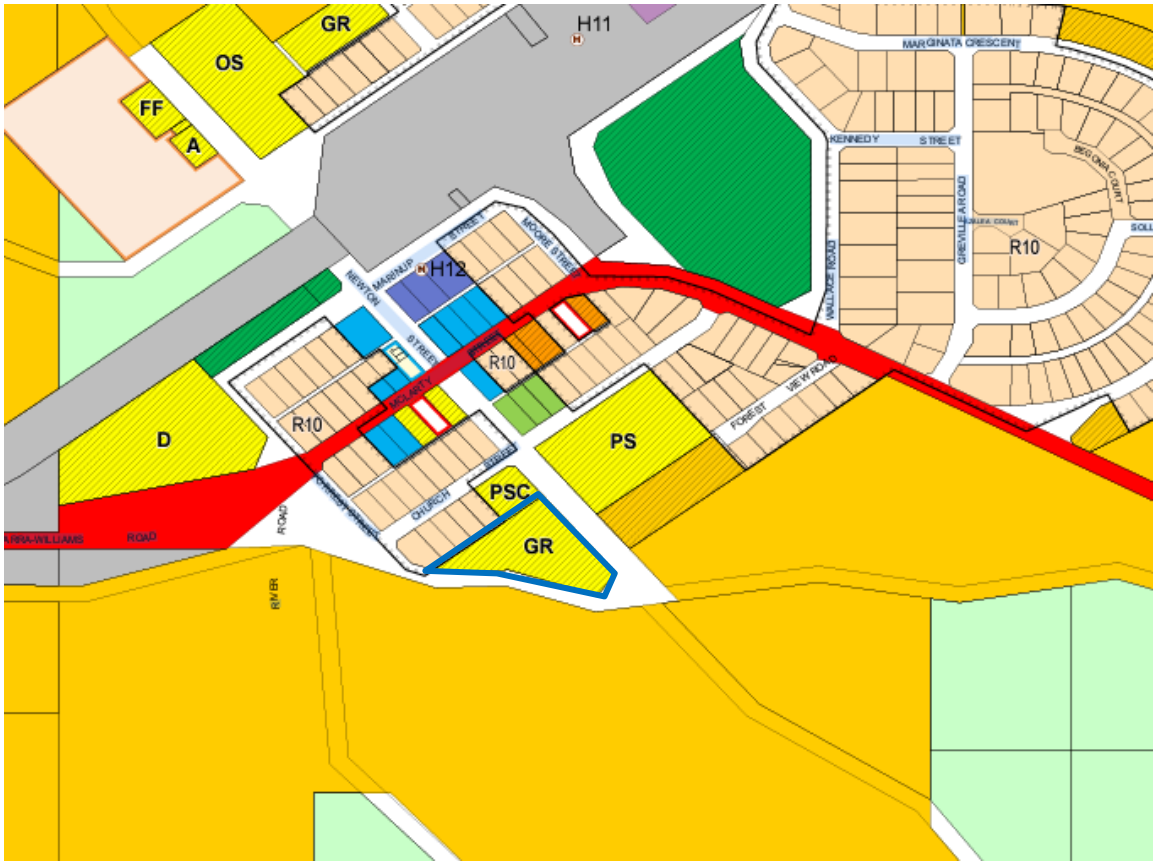


Plate 3b: Local Planning Scheme – The site is 'GR' Public Purpose Government Requirements

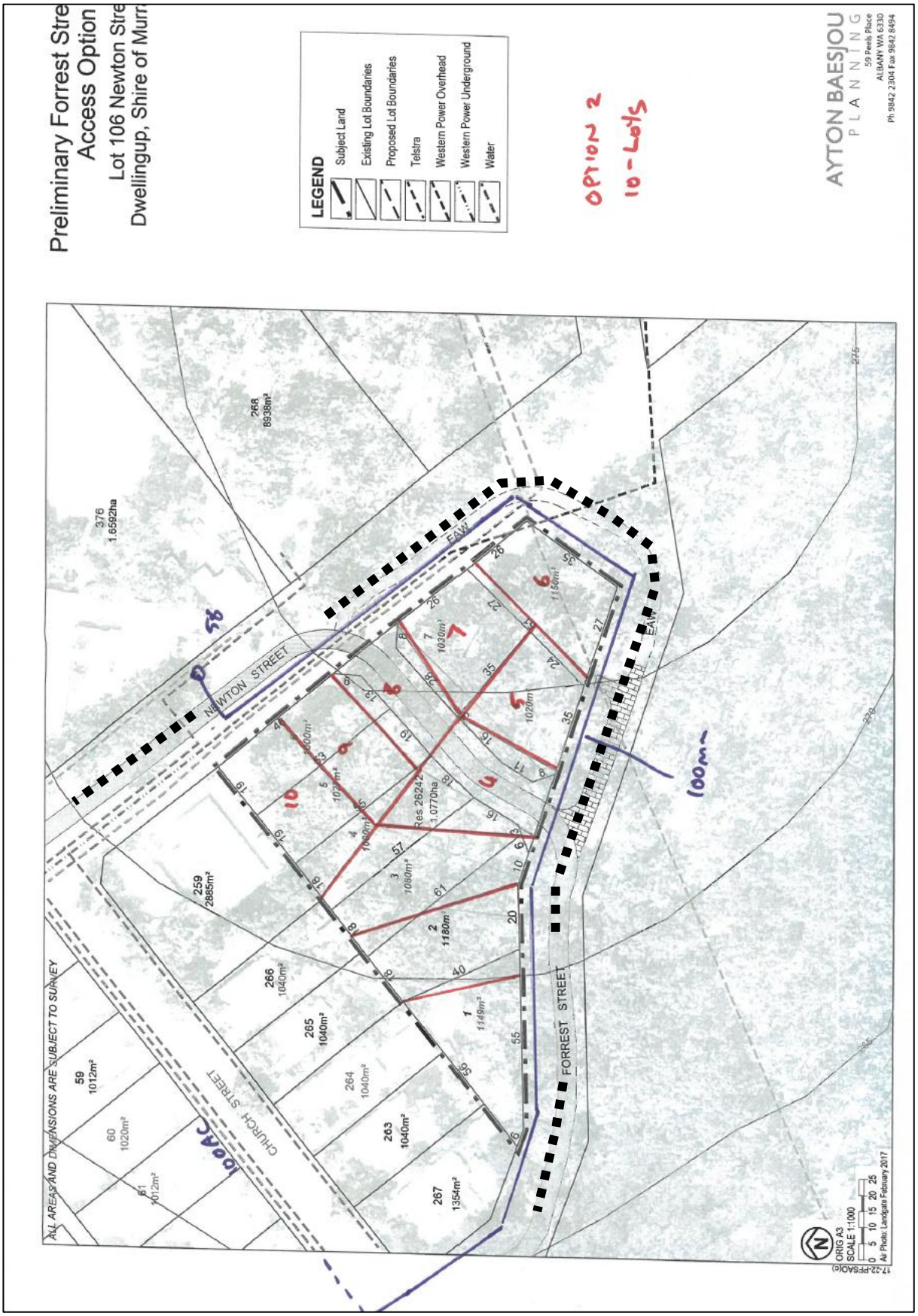


Plate 4: Indicative concept (red lines). The concept provides a public road at its perimeter, joining Forrest Street to Newton Street. The primary fire source is from the south and south west. The site is at the southern edge of the township will displace the threat to the dwellings along Church Street and to the Primary School opposite Newton Street

Regulatory Compliance Requirements

Planning and Development Act 2005 - SPP 3.7

On 7 December 2015, the State Government first introduced by Gazette, a state map of Bushfire Prone Areas by order under the *Fire and Emergency Services Act 1998* and introduced development controls in Bushfire Prone Areas through the *Planning and Development Act 2005*. These controls were authorised by State Planning Policy 3.7 (Planning in Bushfire Prone Areas) and regulations introduced under Part 10A Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015*.

The State Bushfire Map has now been divided into Area 1, within the Perth metropolitan area, and Area 2 being the remainder not within Area 1.

SPP 3.7 and the *Guidelines for Planning in Bushfire Prone Areas was updated 24 September 2024 to be operational from 18 November 2024.*

State Planning Policy 3.7 Planning in Bushfire prone areas 2024.

Key aspects from SPP 3.7 (as a project design brief) to be followed and demonstrated in the proposal include:

SPP Policy Intent

> "To implement effective, risk-based land use planning and development which in the first instance avoids the bushfire risk, but where unavoidable, manages and/or mitigates the risk to people, property and infrastructure to an acceptable level. The preservation of life and the management of bushfire impact are paramount."

The Policy Intent is achieved by compliance with the bushfire protection criteria assessed in section 5 of this BMP. A subdivision is to demonstrate a capability for compliance to be achieved at development application. The lots sizes are to be adjusted to achieve a developable area for a habitable building that is characteristic of the locality and a lot of 1000 m^2.

The objectives of this policy are to:

> *"5.1 Avoid the bushfire risk in the first instance, but where unavoidable, manage and/or mitigate the risk to people, property and infrastructure, to ensure the risks are acceptable and appropriate to the land use and the location."*

The site is an orderly and anticipated expansion infill of the Dwellingup township.

> "5.2 Improve the bushfire resilience of communities through the provision of appropriate community infrastructure, for use by emergency services and the community in the event of a bushfire. "

The site is to be cleared and be developed for residential. It will not introduce an increased risk of ignition of bushfire fuel into the locality.

> "5.3 Ensure development is resilient to increasingly severe and more frequent bushfires compounded by climate change."

The site is within an area that is mapped (identified) as bushfire prone, the subsequent development will be constructed to bushfire standard (passive resistance) to minimise any demand upon emergency services.

> "5.4 Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity."

The site has a longstanding development expectation, and a corresponding expectation of the displacement of the vegetation. The subdivision has been designed to minimise reliance upon the condition of adjoining land, through the use of a perimeter road around the site to absorb the required separations within the site.

2. ENVIRONMENTAL CONSIDERATIONS

2.1 Native Vegetation – Modification and Clearing

A fundamental consideration in the assessment of development under SPP 3.7 is to avoid instances where bushfire risk management measures would conflict with the objectives of the separate State and Federal Environment Protection Legislation.

Environment Protection Act 1986 and Environmental Protection (clearing native vegetation) Regulation 2004

It is an offense to clear native vegetation without the authority of a permit or an exemption. The act of clearing native vegetation, requires a permit from either the Department of Water and Environmental Regulation (DWER) or the Department of Mines, Industry Regulation and Safety (DMIRS), unless an exemption applies.

Exemptions include:

Environment Protection Act 1986

- Clearing required by local government Section 33 *Bush Fires Act 1954.*
- **Clearing in accordance with the terms of a subdivision approval.**
- Clearing in accordance with a permit under the *Bush Fires Act 1954* (prescribed burning) and clearing by a bushfire control officer.

Environmental Protection (clearing native vegetation) Regulation 2004 (exemptions do not apply in Environmentally Sensitive Areas, and clearing > than 5 ha)

https://www.der.wa.gov.au/your-environment/environmentally-sensitive-areas

- Clearing to the extent necessary to construct an approved building.
- Clearing that is for fire hazard reduction burning.
- Clearing to maintain an area cleared in the last ten years.

(WA) Biodiversity Conservation Act 2016 and Bio-diversity Conservation Regulations 2018

The *Biodiversity Conservation Act, 2016*, replaces the *Wildlife Conservation Act, 1950*, and the *Sandalwood Act, 1929*, it became operational with the *Bio-diversity Conservation Regulations 2018*, on 1 January 2019.

The Act provides for listing species, threatened ecological communities (TECs), key threatening processes, and critical habitats. It introduces criteria for listing species 'endangered', 'critically endangered' or 'vulnerable,' to align with the Environment Conservation and Biodiversity Conservation Act 1999 (Cth).

The *Biodiversity Conservation Act 2016* recognises that activities approved under the *Environment Protection Act 1986* do not require further approval include clearing of native vegetation that is either exempt or done under the authority of a clearing permit or done in accordance with an implementation decision under Part IV of the *Environment Protection Act 1986*.

Advice from agencies responsible for environmental protect and biodiversity conservation will be sought, in addition to any separate City requirements.

Commonwealth Environment Protection Biodiversity Conservation Act 1999

The Commonwealth Environment Protection Biodiversity Conservation Act 1999 (EPBC) provides for the protection of matters of national environmental significance. National environment law does not generally regulate fire prevention measures taken by state and territory governments, but no specific exemptions are provided.

In accordance with the Department of Planning Lands and Heritage template a review of the listed databases (Landgate) has been undertaken to identify whether restrictions or other specific considerations may apply that would affect the implementation of any bushfire protection initiatives that would involve the removal or modification of regulated native vegetation (flora) and the habitat (fauna) it supports.

Table 1 – Landgate SLIP viewed 16 October 2024

Is the land affected by:	Yes/No	Comment	
Conservation Wetland or buffer (DBCA-013 DBCA-019)	No	The site is not identified south of a Conservation Category Wetland	
RAMSAR Wetland (DBCA-010)	No	The site is not identified as RAMSAR Wetland.	
Threatened and Priority Flora (DBCA-036)	No	The site has been cleared and will not affect adjoining land.	
Threatened and Priority Fauna (DBCA-037)	Yes	Black cockatoo habitat.	
Threatened Ecological Communities (DBCA-038)	No	No threatened ecological communities are identified within the site	
Bush Forever (DPLH -019)	No	The site does not occupy an area identified as Bush Forever.	
Environmentally Sensitive Area (DWER-046)	No	The site is not identified as an Environmentally Sensitive Area (ESA)	
Regionally Significant Natural Areas (DWER-070)	NA	The site is not within the Swan Bioplan	
Conservation Covenant	No	No existing covenant is displayed.	
Does the proposal require the removal of restricted vegetation?		YES	~~**NO**~~

The site has been historically identified for an urban development that would displace vegetation from the site.

The removal of vegetation, to realise the expectation of the present landuse, is unavoidable.

The development of the site will remove the vegetation within the site, but no modification is proposed outside the site other than the construction of the road in the existing road alignment.

Other approvals

The site is within an area identified as black cockatoo habitat

Separate authorisations may be required under the Environment Protection Act 1986.

This BMP does not pre-empt its finding or provide any priority.

Re-Vegetation/Landscape Plans

No revegetation plans are proposed. Each lot is to be developed for residential purposes and the expectation is that gardens will comply with AS 3959:2018 s.2.2.3.2(f) (by a directed covenant upon subdivision).

3. BUSHFIRE ASSESSMENT

3.1 Bushfire Hazard Level Assessment (Inputs)

The following assessment has applied the methodologies described in AS 3959:2018, the Guidelines, and has used the Fire Protection Association Australia accredited practitioner methodology for the preparation of Bushfire Attack Level (BAL) assessments.

All vegetation within 150 m (context) of the site has been classified following Clause 2.2.3 (AS 3959:2018) to determine the predominant vegetation affecting the behaviour at the locality. The Bushfire Attack Level is determined by the **predominant** vegetation within 100 m of the site boundary (for subdivision), or around the development site (building envelope) or the external face from a habitable building.

The classifications of vegetation used in AS 3959:2018 are based on foliage cover, measured as a percentage of a hectare and by the fuel (vegetation) height.

> ***Foliage cover**: The portion of the ground that would be shaded by foliage when the sun is shining directly overhead, expressed as a percentage for each stratum or identifiable layer of vegetation*

AS 3959:2018

Layer/ Stratum	Description	Hazard
Bark	Tight/fine or course/ribbon	Spotting and ember attack potential (the potential increases course/ribbon barks)
Canopy	Trees taller than 6 m	Influences the flame height
Elevated fuel	Trees and Shrubs up to 6 m	Influences the flame height
Near surface	Grasses and shrubs taller than 100 mm and up to 2 m	Influences the rate of spread (the further cured, looser and potential aerated, the easier to ignite and the faster the spread).
Surface	On ground material, leaves, twigs, bark	Influences the rate of spread (the looser and potential aerated the easier to ignite and the faster the spread).

From CFA (Vic) Overall fuel assessment guide 2010

AS 3959:2018 prescribes six categories of Bushfire Attack Level (BAL): BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40, and BAL-FZ. In addition, BAL-FZ describes only performance solutions where the separation from classified vegetation (on completion) is less than 10 m. The BAL level is used for determining the siting of development (to be less than BAL-40) and in turn the construction standard that is equivalent to the BAL at the proposed building location.

This assessment has followed the guidance of AS 3959:2018. This includes:

- A recognition of excluded vegetation types described at cl.2.2.3.2 (e) and (f), but the underlying vegetation should still be classed e.g., an orchard may be excluded but not the grassland within it.
- A separate plot is applied if there is a variation in the slope greater than 5.0^0
- For various vegetation classes a representation that is less than 10%, does not constitute the predominant class. Foliage cover referred to in AS 3959:2018 for various classes is based on the foliage cover for that class as a percentage of a ha. (shadow cast is not representative of foliage cover).
- The measurement point and the most influential vegetation class (presenting the highest BAL at the building) is used for the determination of the BAL at the building (Figure 2.2 AS 3959:2018).
- Consideration of the predominant vegetation is to consider the likelihood of regeneration.

- Orchards, and single tree rows (planted in a row less than 10 m wide) is determined by underlying the near surface fuel.

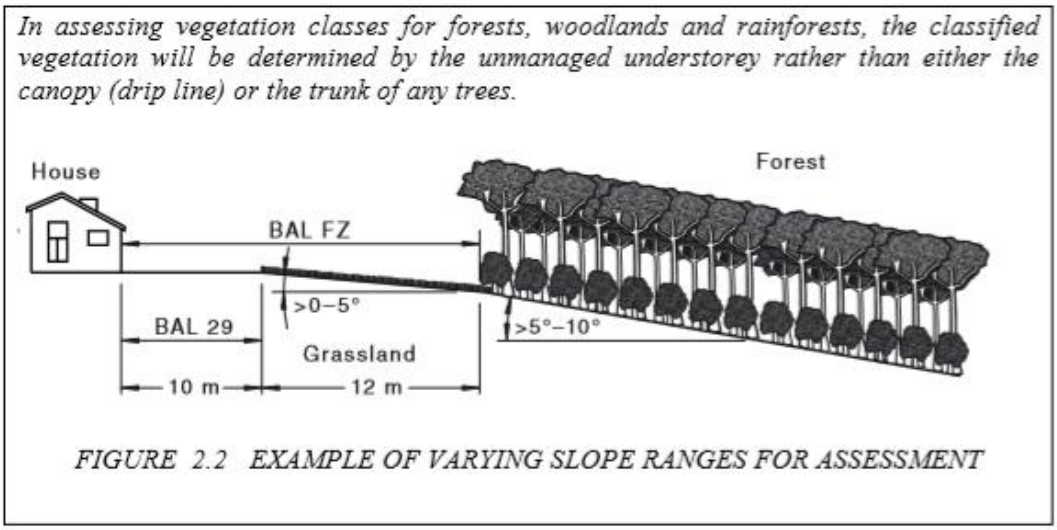
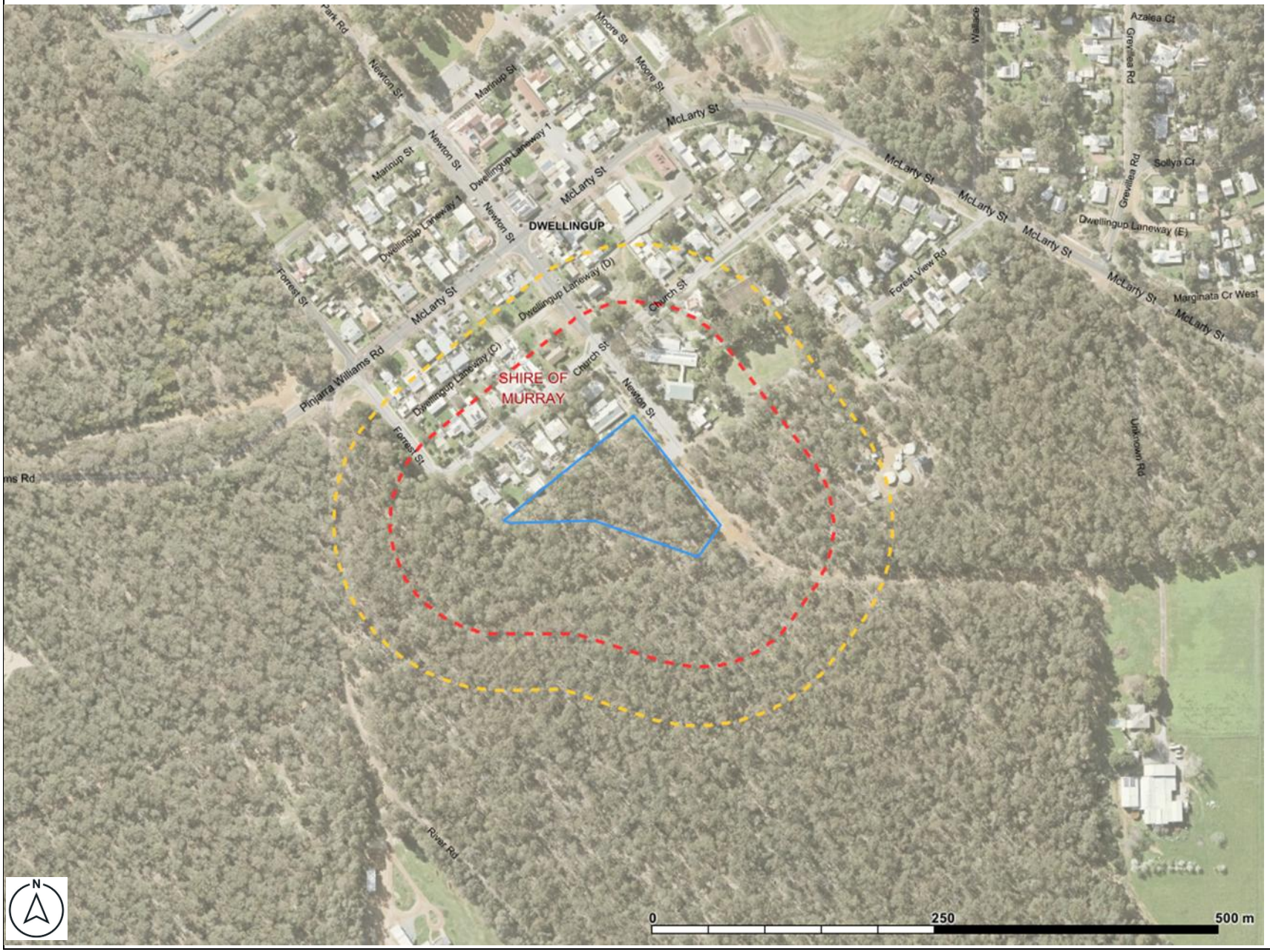


Plate 5**:** Effective Slope and measurement taken from AS 3959:2018

Effective slope under each vegetation plot was assessed in accordance with the methodology detailed in AS 3959:2018 Construction of buildings in bushfire prone areas (AS 3959) (Standards Australia, 2018 Bushfire Fuels). Slope data was measured on site and cross referenced with Landgate elevation data.

Figure 1: Location Plan



Legend

- Site Boundary
- 150 m Assessment area
- 100 m Assessment area

Assessment Date: 19/11/2024
BAL Prepared: Anthony Rowe
Accreditation Level: BPAD L3
Accreditation Number: 36690
Accreditation Expiry: Dec 2025
FPAA FIRE MAP 2025
GDA 1994 MGA Zone 50

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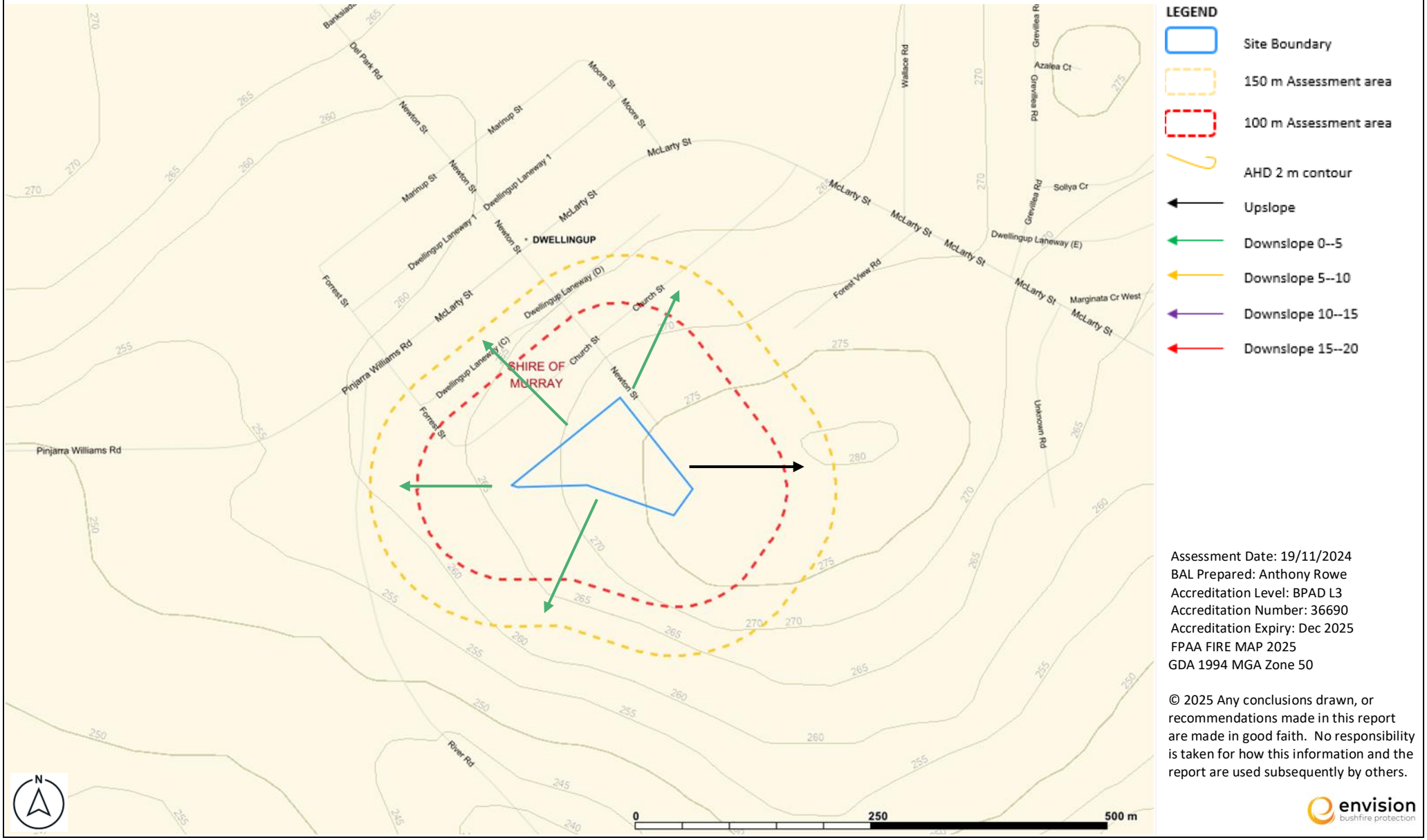
Figure 2: Topography



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FPAA FIRE MAP 2025
GDA 1994 MGA Zone 50

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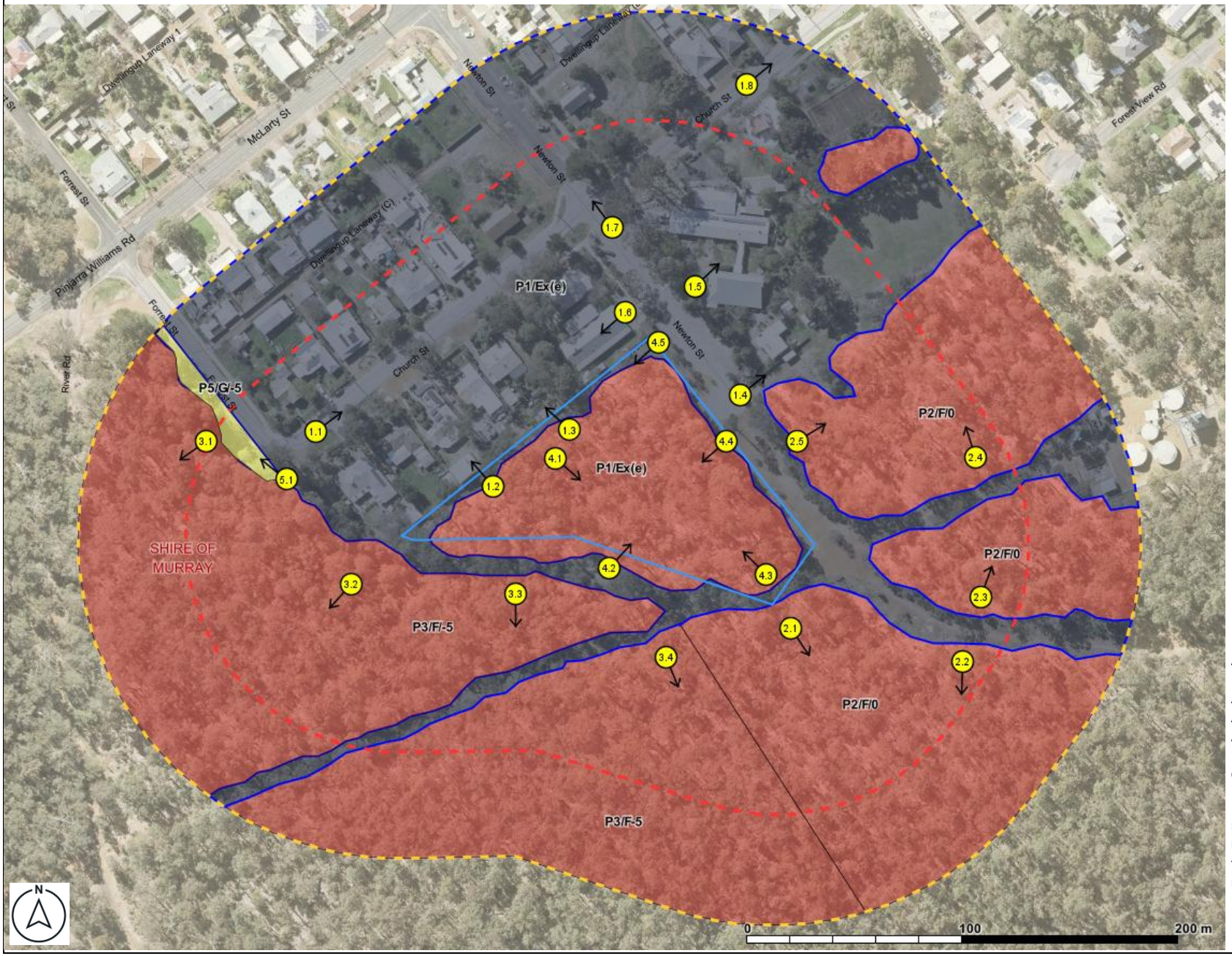
Figure 3: Vegetation Classification and photo locations



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FPAA FIRE MAP 2025
GDA 1994 MGA Zone 50

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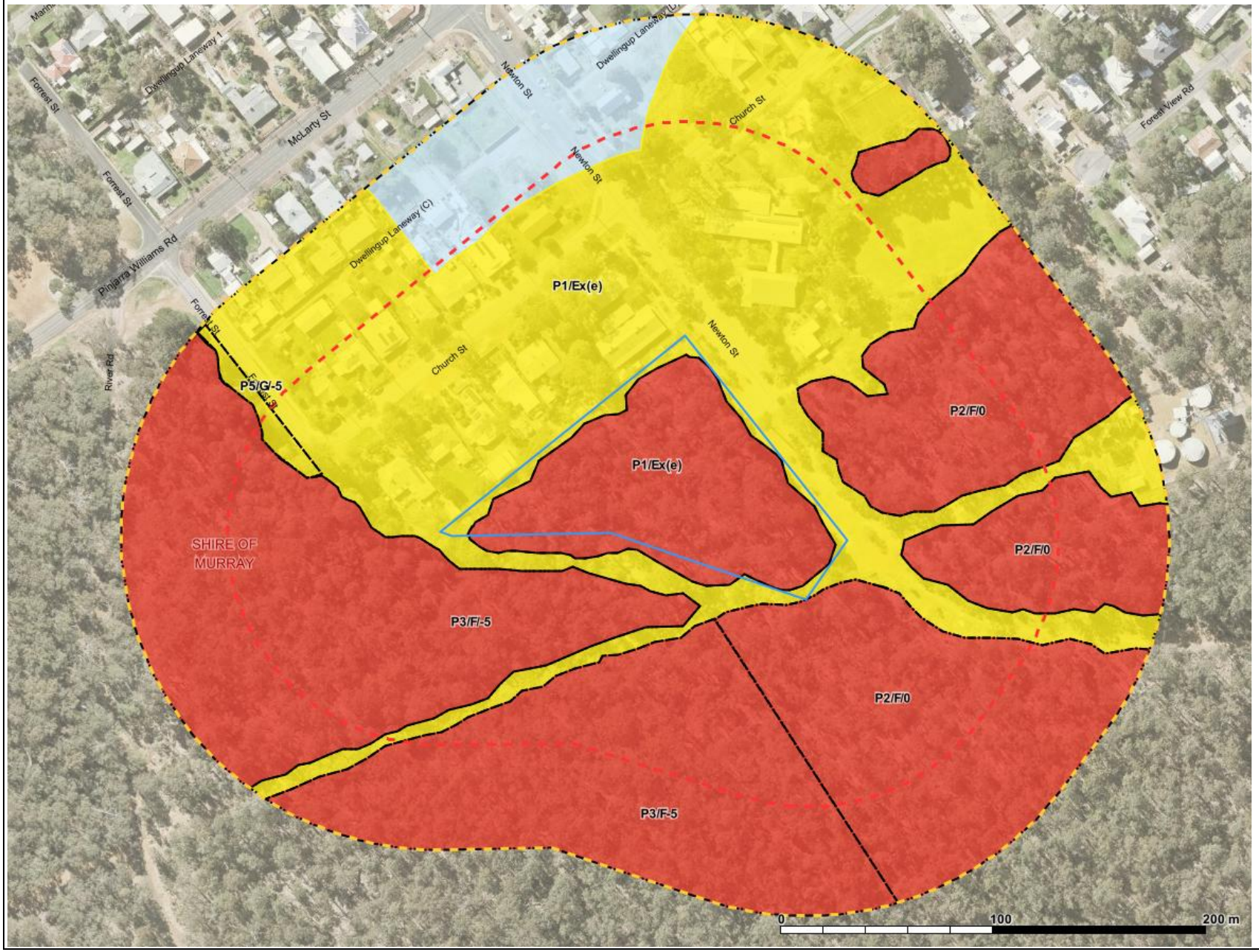
Figure 4: Bushfire Hazard Level



Assessment Date: 19/11/2024
BAL Prepared: Anthony Rowe
Accreditation Level: BPAD L3
Accreditation Number: 36690
Accreditation Expiry: Dec 2025
FPAA FIRE MAP 2025
GDA 1994 MGA Zone 50

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Plot 1				
Vegetation Classification			**Slope**	
Excludable - 2.2.3.2(e) Non Vegetated Areas			Flat	
Excludable - 2.2.3.2(f) Low Threat Vegetation				
Observation/Justification for classification (Overall Fuel Hazard Assessment Guide-Hines)				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓	✓	✓	✓
Moderate				
High				
Very High				
Extreme				
Vegetation Description (AS 3959)				
e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops. f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, vineyards, orchards, banana plantations, market gardens (and other non-curing crops) cultivated gardens, commercial nurseries, nature strips and windbreaks.				
Post development				
Low threat				

Photo 1.1

Photo 1.2

Photo 1.3

Photo 1.4

Plot 1				
Vegetation Classification			**Slope**	
Excludable - 2.2.3.2(e) Non Vegetated Areas			Flat	
Excludable - 2.2.3.2(f) Low Threat Vegetation				
Observation/Justification for classification (Overall Fuel Hazard Assessment Guide-Hines)				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓	✓	✓	✓
Moderate				
High				
Very High				
Extreme				
Vegetation Description (AS 3959)				
g) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops. h) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, vineyards, orchards, banana plantations, market gardens (and other non-curing crops) cultivated gardens, commercial nurseries, nature strips and windbreaks.				
Post development				
Low threat				

Photo 1.5

Photo 1.6

Photo 1.7

Photo 1.8

Plot 1 ACCESS				
Vegetation Classification			**Slope**	
Excludable - 2.2.3.2(e) Non Vegetated Areas			Flat	
Excludable - 2.2.3.2(f) Low Threat Vegetation				
Observation/Justification for classification (Overall Fuel Hazard Assessment Guide-Hines)				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓	✓	✓	✓
Moderate				
High				
Very High				
Extreme				
Vegetation Description (AS 3959)				
i) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops. j) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, vineyards, orchards, banana plantations, market gardens (and other non-curing crops) cultivated gardens, commercial nurseries, nature strips and windbreaks.				
Post development				
Low threat				

Photo A.1

Photo A.2

Photo A.3

Photo A.4

PLOT:2				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Flat		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓			
Moderate		✓		✓
High			✓	
Very High				
Extreme				
Vegetation Description (AS 3959)				
Trees up to 30 m high; 30%-70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.				
Post development				
Forest retained.				

Photo 2.1 Forest west of site

Photo 2.2 Forest north west of site.

Photo 2.3 Forest east of site.

Photo 2.4 Forest east of site.

PLOT:2				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Flat		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓			
Moderate		✓		✓
High			✓	
Very High				
Extreme				
Vegetation Description (AS 3959)				
Trees up to 30 m high; 30%-70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.				
Post development				
Forest removed.				
				
Photo 2.5				

PLOT:3				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Downslope 0-5		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓			
Moderate		✓		✓
High			✓	
Very High				
Extreme				
Vegetation Description (AS 3959)				
Trees up to 30 m high; 30%-70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.				
Post development				
Forest retained.				

Photo 3.1 Forest west of site

Photo 3.2 Forest west of site.

Photo 3.3 Forest west of site.

Photo 3.4 Forest west of site.

PLOT:4				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Flat		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓			
Moderate		✓		✓
High			✓	
Very High				
Extreme				
Vegetation Description (AS 3959)				
Trees up to 30 m high; 30%-70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.				
Post development				
Forest removed.				

Photo 4.1

Photo 4.2

Photo 4.3

Photo 4.4

PLOT:4				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Flat		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓			
Moderate		✓		✓
High			✓	
Very High				
Extreme				
Vegetation Description (AS 3959)				
Trees up to 30 m high; 30%-70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.				
Post development				
Forest removed.				

Photo 4.5

PLOT: 5				
Vegetation Classification		**Slope**		
Class G Grassland – Spare open tussock G-24		Downslope 0-5		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low		✓	✓	✓
Moderate				
High	✓			
Very High				
Extreme				
Vegetation Description (AS 3959)				
All forms (except tussock moorlands) including situations with shrubs and trees if the overstorey foliage cover is less than 10%. Includes pasture and cropland. NOTE: Grassland managed in a minimal fuel condition and non-curing cropland is regarded as low threat vegetation for the purposes of Clause 2.2.3.2.				
Post development				
Remains				
				
Photo 5.1 grassland left in road verge, foreground to forest				

Figure 5: Vegetation Classification Post Development

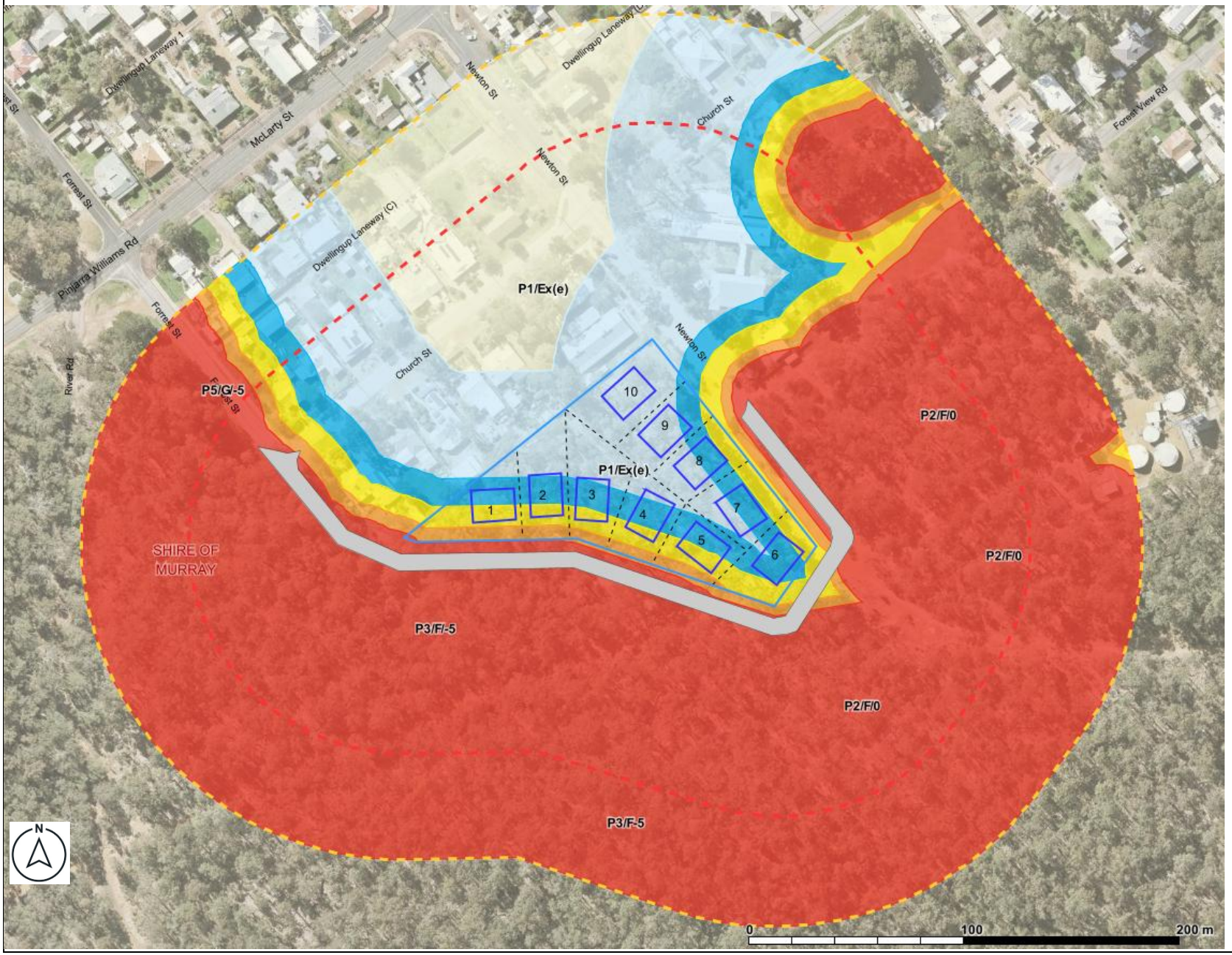
LEGEND

- Site Boundary
- 150 m Assessment area
- 100 m Assessment area
- Proposed dwelling
- PX/X/X — Plot / Veg Class/Slope
- Class A Forest
- Class B Woodland
- Class C Shrubland
- Class D Scrub
- Class G Grassland
- Excluded Clause 2.2.3.2 (e & f)
- Excluded Clause 2.2.3.2 (e) non-vegetated

Assessment Date: 19/11/2024
BAL Prepared: Anthony Rowe
Accreditation Level: BPAD L3
Accreditation Number: 36690
Accreditation Expiry: Dec 2025
FPAA FIRE MAP 2025
GDA 1994 MGA Zone 50

envision bushfire protection

Figure 6: BAL Contour – At completion



LEGEND

- Site Boundary
- 150 m Assessment area
- 100 m Assessment area
- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-Low
- PX/X/O — Plot / Veg Class Slope

Assessment Date: 19/11/2024
BAL Prepared: Anthony Rowe
Accreditation Level: BPAD L3
Accreditation Number: 36690
Accreditation Expiry: Dec 2025
FPAA FIRE MAP 2025
GDA 1994 MGA Zone 50

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4. IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

Broader Landscape Assessment

The Broader Landscape Assessment (BLA) examines the area external to the planning proposal, extending for a distance of approximately two kilometres. The assessment includes an understanding of the bushfire hazards (vegetation extent), the broader road network, proximity to townsites, urban areas and suitable destinations.

Proximity to Suitable destination and routes

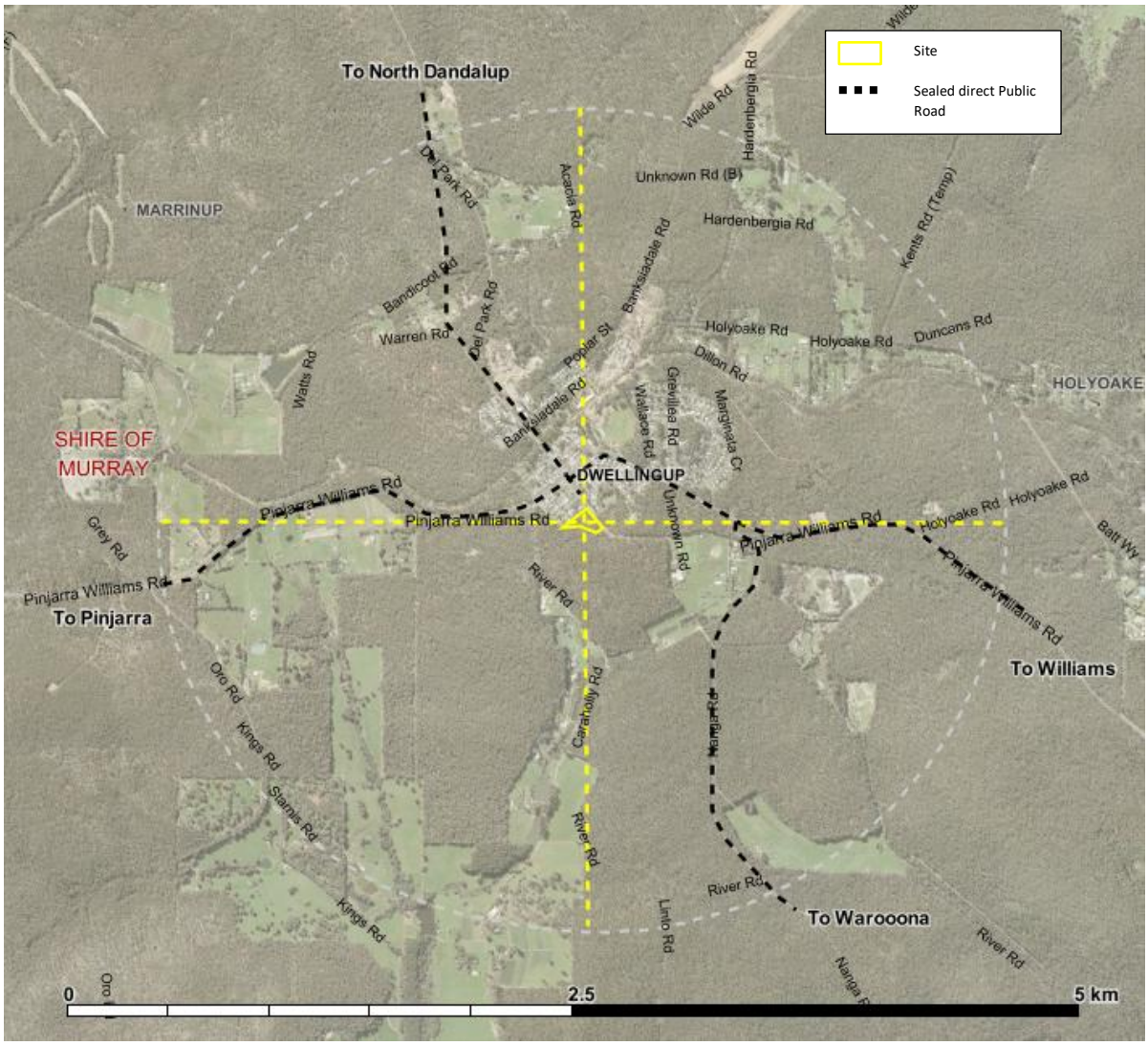

Plate 6: Illustrates the extent of the landscape 2 km from the site (Broader Landscape Assessment) and the road network of regional distributor roads. North Dandalup also provides access to Pinjarra and the nomination of the evacuation Centre. The other suitable destination ids to the township of Waroona and its nominated evacuation centre. An access west is available to Williams, but it is deeper into forest.

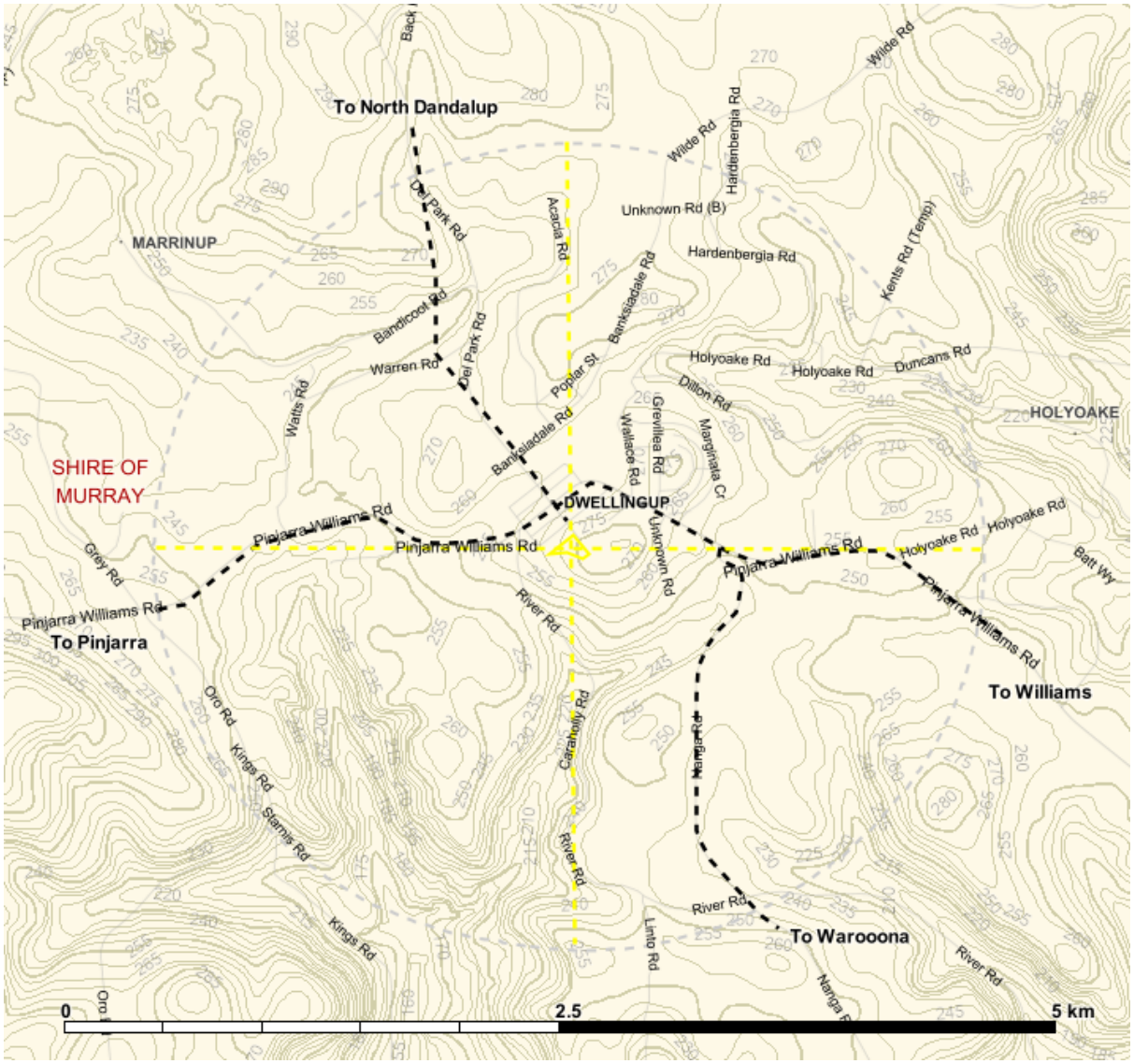

Plate 7: Topography 2 km from the site (Broader Landscape Assessment). The site is near the top of a broad hill. The town water supply is northeast of the site.

Vegetation and Map Aspects

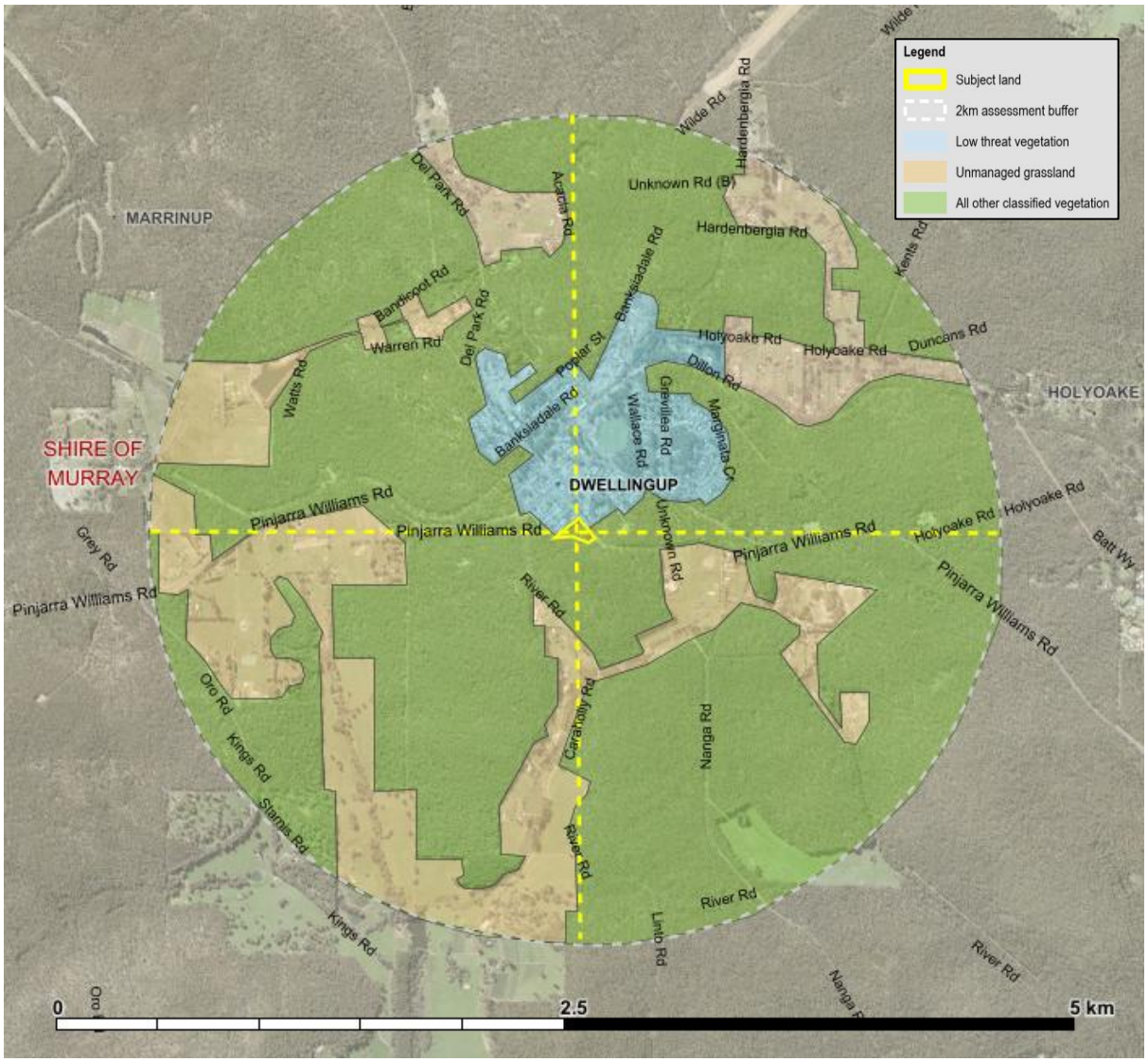

Plate 8: Illustrates the surrounding vegetation within 2 km. Classified vegetation is from 4 aspects within 2km-

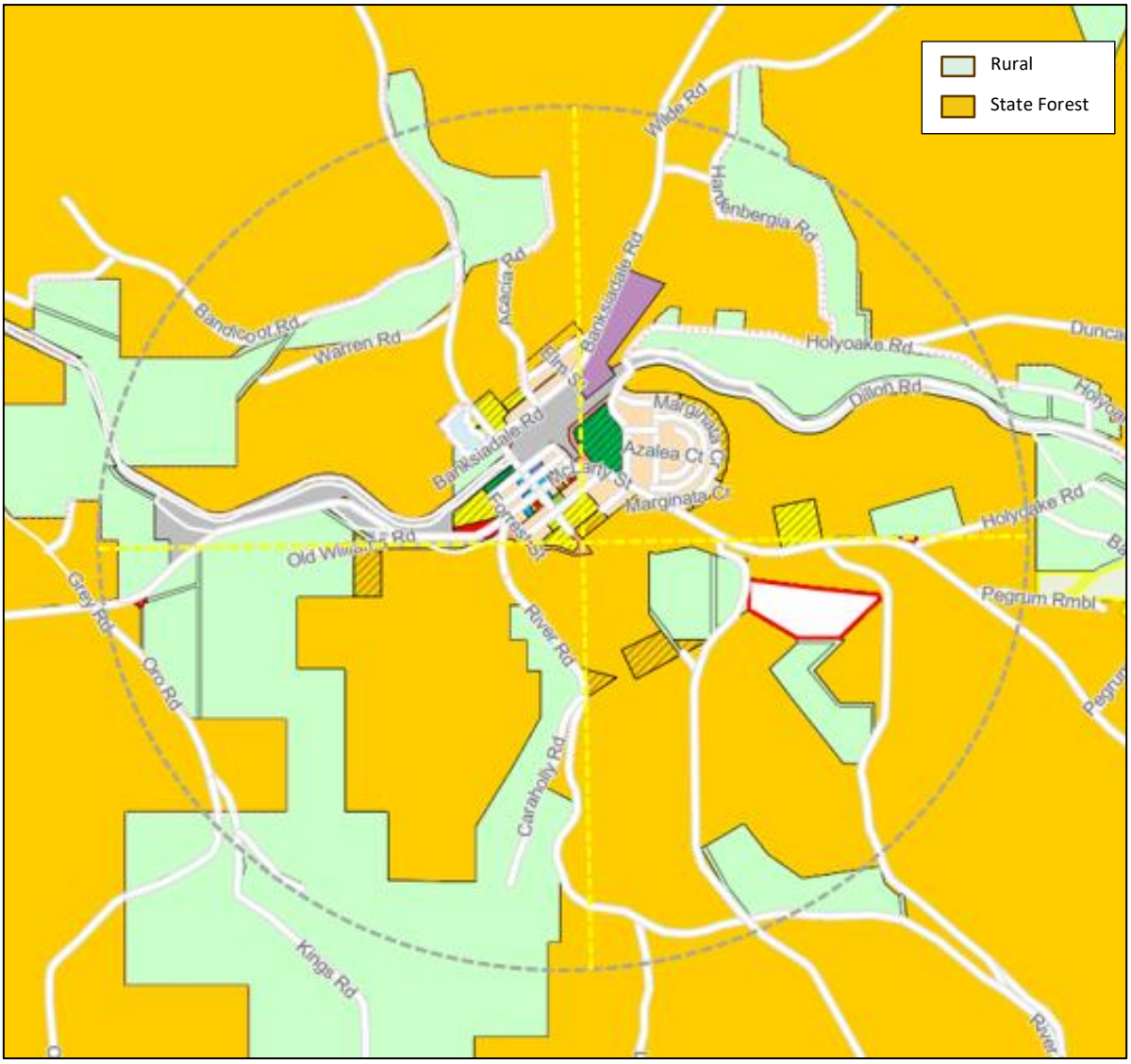

Plate 9: Zone Map illustrating the extent of State Forest and the rural areas, primarily rural living.

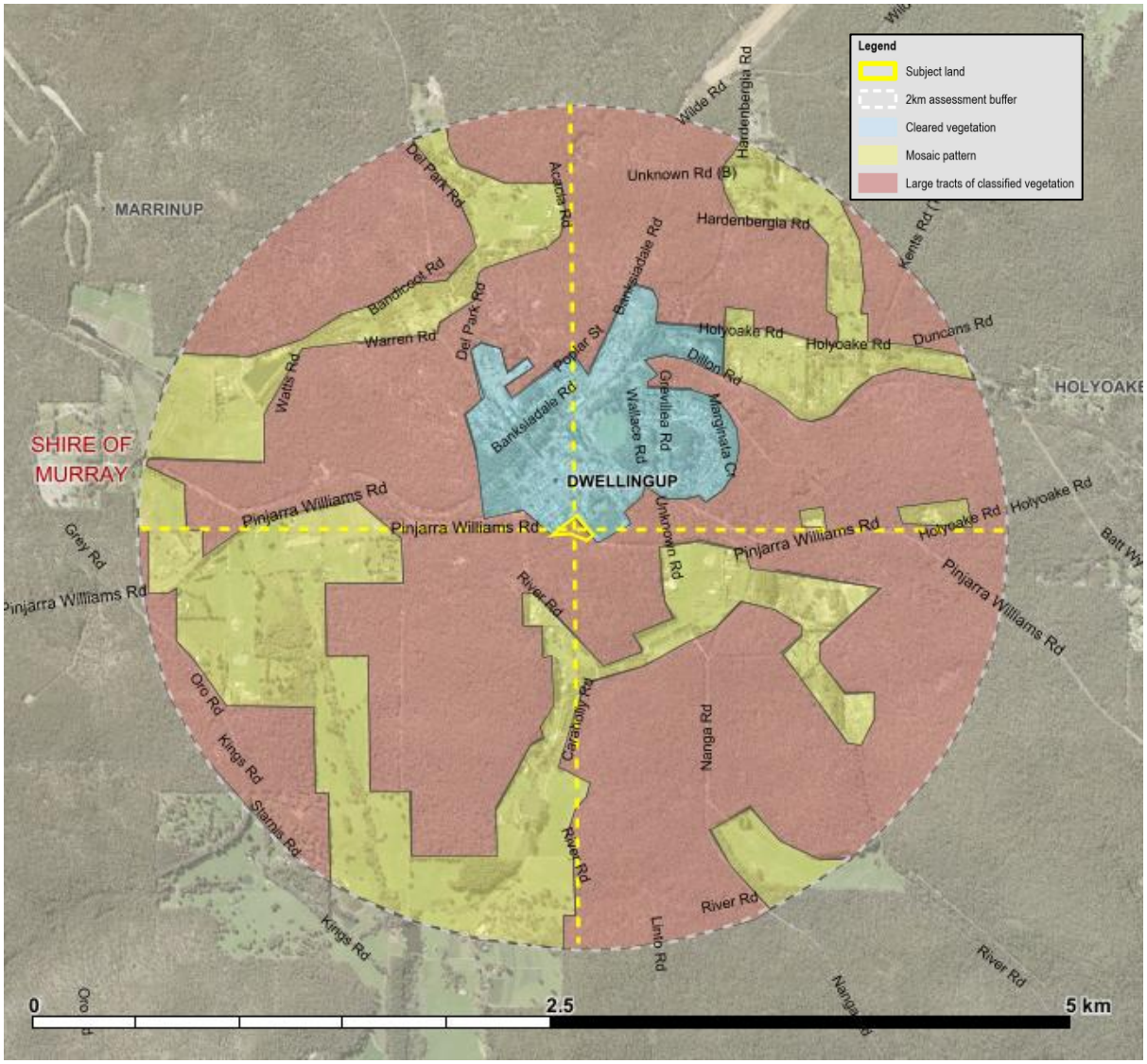

Plate 10: Illustrates the site exposure. Mosaic pattern includes grassland and rural zoned land used for rural living. The Cleared vegetation is urban/residential zones and cleared areas.

Bushfire Landscape Assessment

A point score, following Table 3 Appendix A Planning for Bushfire Guidelines, is used following plates 8-9 to determine the Bushfire Landscape Assessment type. Type A is acceptable, and type B is unacceptable.

- Proximity to a suitable destination; the site is within 1 km (within the township of Dwellingup (1 point).
- The road pattern provides accessible roads (Regional distributer) to nominated destinations at Waroona and Pinjarra (two routes). They are sealed simple and direct > 5km from the site (reliable)and outside of a fireground. (1 point)
- The predominant vegetation is large tracts of contiguous vegetation (5 points).
- Exposure directions to and external bushfire hazard, four aspects, around the township of Dwellingup. (5 points)

The Bushfire Landscape Assessment, point score is 12 points and is a type B – (Unacceptable requiring an outcomes solution in addressing Element 1 in the Bushfire Protection Criteria).

UNDERTAKING AN OUTCOMES BASED APPROACH FOR ELEMENT 1

Element 1 provides:

> *Where the practitioner considers that further analysis could demonstrate to the decision-maker that the risks can be appropriately managed, and/or mitigated, an outcomes-based approach should be prepared, in accordance with policy measure 7.5 of SPP 3.7. Further explanatory notes are provided in Appendix B.1 of the Guidelines.*

Notwithstanding the longstanding intent for development at the site the Guidelines at s.1.3.1 requires its assessment for compliance with the Guidelines.

Appendix B, B.1.2 provides guidance on the methodology to be used and provides: *The methodology for an outcomes based approach will be up to the bushfire practitioner.*

Preliminary consultation with DFES has not been undertaken and it is at the discretion of the Decision Maker to seek the advice of DFES for an outcome based solution (Guidelines 9.4.1).

Applied methodology

In this instance the context is development within the identified are of the township for urban (a low threat) development.

The applied methodology follows B.1.2, and an adaption of NERAG for the vulnerability assessment and Additional Mitigation Measures from NFPA 550, both aligned to social and economic consideration to follow the SPP3.7 policy intent preserve life (social) and mitigate the risk to property (economic).

The following is based upon the National Emergency Risk Assessment Guidelines 2020 (NERAG) consistent with the Australian Standard *AS/NZS ISO 31000:2018 Risk management – principles and guidelines.* NERAG is designed for assessing sudden onset hazards such as bushfire.

Table 2 The NERAG framework is scalable and has been applied as follows:

NERAG	Scale response
Scope and Objective	SPP 3.7 Policy Intent
Risk identification	Bushfire
Risk Analysis	AS 3959:2018 Bushfire Behaviour Existing mitigations relied upon Site risk

Risk Evaluation	**Likelihood** (risk of ignition): Inherit fuels, history, external activities. **Consequence**: Social (human harm - minimising exposure evacuate or shelter) Economic (Asset threat – managing the fire, sources and building resistance)
Risk Treatments	Bushfire Protection Criteria Voluntary As Low as reasonably practical measures (ALARP) – Additional measures Bushfire Emergency Evacuation Plan, seasonal preparation and event response /instruction
Communication	Bushfire Management Plan Bushfire Emergency Evacuation Plan

Table 3 Risk Evaluation values Note: Community scale risk measures as used in NERAG 2020, are not applicable for site specific consequence, or operator duty of care and liability, the following objectives have been applied.

Consequence	Social	Economic
Catastrophic	Fatality.	Extensive loss, extended closure until facility is rebuilt.
Major	Major or Multiple injuries resulting in temporary disability or ill health, Extended lost time for recovery.	Partial loss, partial closure until isolated items are rebuilt.
Moderate	Injury or illness requiring medical or psychological treatment, lost injury time.	Disruption only for evaluation, repairs required to a primary building but not closure.
Minor	Minor injury, first aid treatment required. No lasting impact.	Disruption only for evaluation, damage to incidental structures.
Insignificant	No treatment.	Disruption only during the period of the fire event.

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Table 4 The risk treatments following the Policy Intent have been categorised as preserving life and reducing the impact on property and assets.

This is in turn divided following the NFPA 550 (2012)[1] treatment methods

SPP 3.7	NFPA	Impact Mitigation
Preserving life	Minimising Exposure	Evacuation
		Shelter
Property and assets	Managing the fire	Vegetation management (APZ)
		Building construction
		Fire suppression

Risk vulnerability assessment incorporation B1.2.2

BUSHFIRE RISK

Human exposure to extreme heat from a bushfire can be fatal, smoke and particle injuries (eyes) can be harmful.

Buildings and assets may be damaged or lost to a bushfire where they are exposed to direct flame contact (flame front and secondary fires or the penetration of embers igniting flammable materials) and extreme radiant heat, or accumulated heat (embers) defeating the fire resistance level of the external materials.

RISK ANALYSIS Bushfire Behaviour

Sustainable fire combustion depends upon the availability of fuel, oxygen, and heat. Removal of any one of the three aspects will extinguish or not sustain a fire. Fuel management, the management of vegetation, is the most practical means of control.

Bushfire behaviour, as it increases in intensity and speed of travel, can exceed human control measures and when this occurs the risk increases to humans and property. Bushfire behaviour is a result of climate, topography, and the availability of bushfire fuel (vegetation).

- Climate (drought and season) & weather (temperature, humidity, wind, atmospheric instability).

  Fire Danger Index FDI

  FDI is an indicator of potential fire intensity and behaviour based upon weather conditions; temperature, humidity, and wind speed, together with climate measures, drought factor representing the dryness of the ground fuels.

  The FDI is an indicator of the potential for house loss and fatalities.

- Topography (slope of the ground, aspect) – fire travels faster uphill, and in some conditions may determine the direction of the fire. The landform can also channel and increase the windspeed at a locality and create turbulence. It is measured as 0.0^0 or in downslope increments of 5.0^0.
- Vegetation (horizontal and vertical structure, flammability, mass, and availability). Measured as a vegetation classification, or an exclusion, in AS 3959 (Method 1). The arrangement of fuel has a greater effect upon the intensity of a fire than just its mass; its exposure to oxygen is referred to as its availability in a bushfire.

[1] Guide to the fire safety concepts tree. Quincy: National Fire Protection Association, 2012.

It is assumed that a bushfire will achieve a steady-state and be fully developed to maximum intensity over a 100 m (minimum) fire run. Grass fires travel faster (GFDI) than a forest canopy fire, but a forest canopy fire can eject a higher level of embers and also eject them over a greater distance, up to 5 km.

The Guidelines (2024) provide as a general guide contiguous vegetation of one km and more than 100 m wide (min 10 ha regular shape) has the potential to result in a landscape scale bushfire.

Crown fires occur when the ground fire is intense.

Fuel reduction initiatives such as slashing and controlled burns are intended to reduce the fuel availability to a level where the intensity of the fire remains controllable.

Climate

The nearest weather station to the site is at Dwellingup. The site is within an area described as having a Mediterranean climate of dry summers and mild, wet winters. The majority of rainfall is between May and September. The prohibited burning period is from mid-December to mid-March.

The Bushfire Danger Season has traditionally been between November and April each year, but recent climatic conditions have caused fire danger conditions to be present either side of this period.

Severe bushfire conditions FDI 50+, occur mostly between January and March. Prevailing winds are easterly in the morning and mostly from the southern hemisphere in the afternoon (BoM Dwellingup). A bushfire can however come from any direction, but flareups, under prevailing winds, are a significant risk that requires vigilance often for many days after the initial fire.

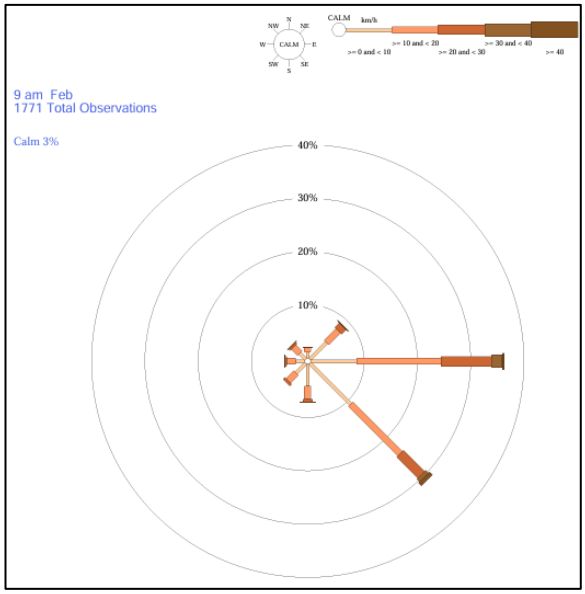


Plate 11a: prevailing wind directions as at 9 am

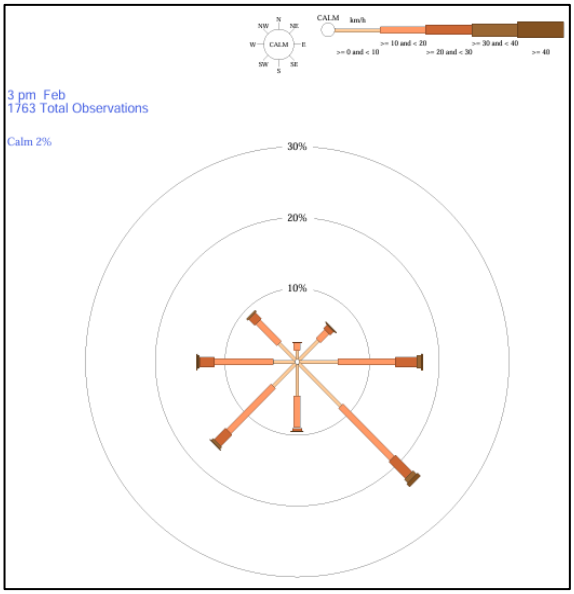


Plate 11b: prevailing wind directions as at 3 pm

Existing controls

Existing controls are features and activities that presently reduce the harm to humans and assets.

Communication

- The site is within a 4-5G network, mobile phones are automatically alerted to fires in the area, supporting an early and safe evacuation.

Access

- The public roads provide an easy-to-follow, sealed and in good condition.

Ignition and suppression

- The Shire and WAPOL provide enforcement of total fire ban days (to reduce the potential for ignition) and the Shire has a statutory responsibility for the enforcement of its issued, annual notice *Bush Fires Act 1954*, placing responsibility upon the landowner to reduce the ignition spread of bushfires.

Scenarios – risk affecting this site

A scenario analysis encompassing the dot points listed under B1.2.2 has been provided for each direction from the site, for a fire arriving through the adjacent fuels.

It is assumed the site will be cleared as unavoidable (following the expectation of urban development), but the adjoining vegetation will remain as forest and unmanaged (notwithstanding DBCA fuel reduction initiatives taken around the township of Dwellingup).

North

A fire arriving from the north will be separated from the site by the urban area of Dwellingup. The site may be affected by a broad ember attack across the town. Evacuation is expected to remain available into the township and BAL Low by Newton Street. Embers may ignite the adjacent forest, the fire continuing north, exposing the site to radiant heat, but it will be reduced due to the fire startup and progression south. Unburnt fuels may pose a risk of flareup and return under prevailing southerly or westerly wind. Secondary fires from ignited sites at the north boundary may affect the northern most lots. Construction standards, and land management are expected to minimise the risk of secondary fires within the new lots.

East

A fire arriving from the east will be separated from the site by the urban area of Dwellingup. The site may be affected by a broad ember attack across the town. Evacuation is expected to remain available into the township and BAL Low by Newton Street, but Forrest Street may also be available. Embers may ignite the adjacent forest, the fire continuing west to the site, exposing the site to radiant heat, but it will be reduced due to the fire startup and progression west. Unburnt fuels may pose a risk of flareup and return under prevailing southerly or westerly wind. Construction standards, and land management are expected to minimise the risk of secondary fires within the new lots.

South

A fire arriving from the south will be from contiguous forest separated by Forrest Street. The facing lots will be set back from flame length but will be affected by extreme radiant heat, concentrated ember attack and cyclonic localised winds and dense smoke at the fire front. Evacuation is expected to remain available into the township and BAL Low by Newton Street, where access is not facing Forrest Street. Forrest Street will be immersed in the flame front and will be unsafe when the fire front arrives. The access into Newton Street is short the fire intensity will depend upon the ignition position and run length to the site, affecting the Available Safe Evacuation Time and the intensity.

West

A fire arriving from the west will be from contiguous forest separated Forrest Street. The facing lots will be set back from flame length but will be affected by extreme radiant heat, concentrated ember attack and cyclonic localised winds at the fire front and dense smoke. Evacuation is expected to remain available into the township and BAL Low by Newton Street, where access is not facing Forrest Street. Forrest Street will be immersed in the flame front and will be unsafe when the fire front arrives. The access into Newton Street is short the fire intensity will depend upon the ignition position and run length to the site, affecting the Available Safe Evacuation Time and the intensity.

RISK EVALUATION Vulnerability assessment

Likelihood

The likelihood of a bushfire affecting the site is considered 'likely'. Rather than a historic frequency alone, this is based upon the presence of bushfire fuels south of the residential area and near the site.

Consequence (no treatment)

Preserving life

The site is exposed to Extreme bushfire behaviour from the south and west, human exposure on Forrest Street – consequence level - catastrophic.

Protecting Assets

The site is exposed to Extreme bushfire behaviour flame immersion, concentrated embers, destructive winds from the south and west, potential for urban penetration – do nothing consequence level - catastrophic.

RISK TREATMENTS (Additional Mitigation Measures)

Minimising Exposure

The site is at the edge of the Dwellingup township which is sufficiently large to provide BAL Low for shelter or for accessing a safe evacuation route.

Existing risk treatments that assist safety is the public notification of a bushfire nearby to support early evacuation if required.

Telecommunication, available at site, alerts all mobile phones of a nearby bushfire threat, maximising response time (to evacuate).

The site provides a road network that enables evacuation into BAL Low from an approaching fire.

The ability to evacuate (accessibility to BAL Low, the confidence the habitable building dwelling will survive), the residual consequence is Minor.

Managing the fire

The road layout provides a perimeter road, enabling a developable area at each lot that is outside of flame length (BAL 29) for siting of habitable buildings. A setback to BAL 29 is required at lots facing to the forest.

The development on the lots facing Forrest Street, will face the most intense bushfire attack and their presence in part armours the perimeter of the town to penetration from the existing vegetation on the site. Together with managing lots in low threat condition the risk of urban penetration can be minimised.

The future development at the site will remain exposed to fatal radiant heat but within the performance level of routinely used building materials (section 3 and 7 AS 3959:2018 - BAL 29), commensurate to the setback to be provided to BAL 29.

A passive building resistance avoids the need for active defence and potential exposure to fatal levels of radiant heat. Passive building resistance supports the evacuation of residents because there is no benefit in remaining at the building, to be exposed to heat and smoke.

Evacuation if safe is preferenced, but for lots facing Forrest Street, shelter within the building should be taken if present at the time of the fire front arrival.

The above treatments are expedient, do not require modification of vegetation beyond the site, and utilise routine affordable methods.

Bushfire resilience depends upon the initial design, constructing as designed, maintaining as designed and operating as designed. There is in turn an ongoing vigilance that is required in part assisted by Shire promotion of bushfire awareness, being bushfire prepared.

Landowner insurance is also expected to play a role, in incentivising bushfire resilience and the maintaining of property to its design standard.

The residual consequence is minor..

5. BUSHFIRE PROTECTION MEASURES

5.1 Bushfire Protection Criteria

The Guidelines apply to development applications located within designated bushfire prone areas. The Guidelines provide supporting information for implementation of SPP 3.7. Specifically, they provide the Bushfire Protection Criteria to be addressed for all applications.

The purpose of the BMP for subdivision is to demonstrate the achievement of a developable area at each resulting lot (able to accommodate a dwelling, of a typical size in the locality, at BAL 29).

Bushfire Protection Criteria 5: Structure plans and subdivision applications (compliance assessment and check list).

Table 5

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
Element 1: location **O1 -** Avoid broader landscapes that present an unacceptable bushfire risk to life, property and infrastructure		
	A1.1a Broader Landscape Type A The subject site is located in an area that is a Broader Landscape Type A. This location satisfies the policy outcome for Element 1: Location and no additional consideration is required.	
	A1.1b Broader Landscape Type B The subject site is located in an area that is a Broader Landscape Type B which presents an unacceptable bushfire risk of a landscape-scale bushfire resulting in impacts to people, property and infrastructure. This location does not satisfy the acceptable solution for Element 1: Location. Where the practitioner considers that further analysis could demonstrate to the decision-maker that the risks can be appropriately managed, and/or mitigated, an outcomes-based approach should be prepared, in accordance with policy measure 7.5 of SPP 3.7. Further explanatory notes are provided in Appendix B.1 of the Guidelines.	
	ASSESSMENT Element 1 The site at section 4 in this BMP has been assessed following the A.1.4 Broader Landscape Methodology by the *Points Based system for determining a broader landscape type*. The site Broader Landscape point score is 12, type B - Unacceptable. An outcomes assessment has been provided section 4 in this BMP following the approach described in B.1.2. In this instance the context is important. The site is part of the township and being contiguous to the urban area and on the edge; it establishes a new interface at the site (south western most portion). The township of Dwellingup is historic, and the site long established for urban development. The edge of the township is always an interface to a bushfire threat. The site is therefore no different to the interface areas of the township, much of which is a built form that predates bushfire construction standards. For its part the site will be developed with a perimeter road Forrest Street joining to Newton Road, as part of the site continuity with the Dwellingup urban area. All dwellings will be constructed to a bushfire standard and be required (by a directed covenant upon subdivision) to be maintain as low threat (AS 3959:2018 (e) and (f))	**Outcome solution** The site is within Broader Landscape Type B. The site can satisfy the acceptable solution for Element 1: Location, it can achieve the Policy Intent to preserve life, by access (evacuation) to the town BAL Low and protection of property through a perimeter road separation, land management, and building construction.

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
Element 2: Siting and Design **O2 -** Ensure siting and design solutions: • manage or mitigate the bushfire risk to people, property and infrastructure; **and** • avoid, or where unavoidable, minimises the clearing of native vegetation.	**A2.1 Siting and design** Ensure that each proposed and existing lot(s) contains a sufficient development site(s) that can achieve a radiant heat impact not exceeding 29 kW/m² (BAL-29). **A2.2 Asset Protection Zone (APZ)** Where a development site cannot be wholly located within an area with a radiant heat impact not exceeding 29 kW/m² (BAL-29) in its pre-development state, an indicative APZ is to be provided and meet the following requirements: **Width** – the APZ is to be measured from the development site, and of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29 kW/m² (BAL-29) in all circumstances. **Location** – the APZ is to be contained solely within the boundaries of the lot, except in instances where: – the vegetation on the adjoining lot(s) is, and will continue to be, low threat as per Clause 2.2.3.2 of AS 3959 or the requirements of Appendix B.2, Table 9 – APZ technical requirements, or an alternative standard in a local planning scheme, on an ongoing basis in perpetuity as agreed upon via a substantiated management agreement between the applicable landowners and the local government; **or** – the adjoining land is, and will remain in perpetuity, non-vegetated such as a sealed or unsealed road, or a water body. **Management** – the APZ is managed in accordance with the requirements of Appendix B.2, Table 9 – APZ technical requirements, or an alternative standard in a gazetted local planning scheme. **A2.3 Clearing of native vegetation** The structure plan or subdivision avoids, or where unavoidable, minimises the clearing of native vegetation.	
	ASSESSMENT Element 2 This BMP is for a Structure plan, the lot arrangement is unknown. An indicative concept to create 10 lots has been provided. Figures 5 and 6 illustrate the developable area capable of achieving BAL 29, with a hypothetical building of 300 m2 shown for the concept lots. Adjoining vegetation is to be retained as forest and separated by Forrest Street as a perimeter road. The facing lots will require a setback from Forrest Street to achieve BAL 29. All lots will be required to be maintained as low threat, to support the BAL at their neighbour and reduce the potential to penetrate the urban area from outside.	Direction - Each lot is to be provided with a restrictive covenant restricting the location of habitable buildings onsite to BAL 29

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
Element 3: Vehicular Access **O3 -** Ensure the design and capacity of vehicular access and egress provide: • for efficient and effective evacuation to a suitable destination(s) and/or • as a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option.	**A3.1 Public roads** Public roads are to meet the technical requirements in Appendix B.3, Table 10.	
	ASSESSMENT A3.1 The proposed road is to be ceded as public road and constructed compliant with the IPWEA subdivision guidelines (Note 5 Appendix B.3, Table 10).	The road is to be ceded as public road and constructed compliant with the IPWEA subdivision guidelines (Note 5 Appendix B.3, Table 10
	A3.2 Public Access routes **Area 1 (Urban)**: Public road access is to be provided to at least one suitable destination. **Area 2**: Public road access should be provided in two different directions to two different suitable destinations, with an all-weather surface.	
	ASSESSMENT A3.2 The proposal is able to provide public road access in two different directions to two different **suitable destinations** **A suitable destination is now defined in the Guidelines as** *"Suitable destination: an area that is not designated as bushfire prone on the Map of Bush Fire Prone Areas or is greater than 100 metres from classified vegetation, or 50 metres from Class G Grassland, as per AS 3959 and can provide protection during and after a bushfire event. A suitable destination is located within an urban area, townsite or similar. This also includes any evacuation centre, dedicated by the local government, for use during a bushfire event."* The site will be accessed from the north at its east side from Newton Street, presently a terminating road at the site, but the layout proposes a road connection to Forrest Street, at the west of the site, which extends as a perimeter road from the north and (currently) terminates at the site. The proposal will create a through connection. Newton Street provides access into the urban area of the township of Dwellingup, and its nominated evacuation to the Hancock Pavillion, through BAL Low. The township of Dwellingup is at the nexus of regional distributer (sealed) roads to the township of Pinjarra (west and the preferred route) to the township of North Dandalup (north) to the township of Williams (west but deeper into forest - not preferred) and to the township of Waroona (south). The townships of Pinjarra and Waroona have nominated evacuation centres (suitable destinations).	Compliant with Acceptable Solution

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
	A3.3a Area 1: No limitation on no-through road lengths. **Area 2:** If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the public road access is to be a maximum of 200 metres from the proposed lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: – the no-through road travels towards a suitable destination; **and** – the balance of the no-through road that is greater than 200 metres from the subject site is wholly within BAL-LOW, or is within a residential built-out area, or is within Area 1 (Figure 29).	
	ASSESSMENT A3.3a The proposal will join Newton Street and Forrest Street to create a through road.	Not applicable
	A3.3b No-through road requirements A no-through road is to meet all the following requirements: – requirements of a public road (Appendix B.3, Table 10, Column 2); **and** – turn-around area/head (Figure 30).	
	ASSESSMENT A3.3b The proposed structure plan does not envisage the need for a no through road.	Not applicable
	A3.4 Emergency access way *Where it is demonstrated that A3.2 and A3.3 cannot be achieved due to site constraints or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution*. An emergency access way is to meet the following requirements: – the requirements of Appendix B.3, Table 10, Column 3; – provides a through connection to a public road; – is no more than 500 metres in length; – connects to a public road network (note: an emergency access way onto the State Road Network requires access approval from Main Roads WA); – he proponent obtaining consent from the local government, that it will accept care, control and management for the access way; and	

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
	– is signposted and, if gated, gates must open for the whole carriageway width and remain unlocked.	
	ASSESSMENT 3.4 The proposed structure plan does not envisage the need for an Emergency access way.	Not applicable
	A3.5a Perimeter roads A perimeter road is a public road and is to be provided for greenfield or infill development where 10 or more lots are proposed (including as part of a staged subdivision) with the aim of: – separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and – removing the need for battle-axe lots that back onto areas of classified vegetation. A perimeter road is to meet the requirements contained in Appendix B.3, Table 10, Column 1. **A perimeter road may not be required where:** – the adjoining classified vegetation is Class G Grassland; – the lots are zoned for rural living or equivalent; – it is demonstrated that it cannot be provided due to site constraints; or – all lots have frontage to an existing public road	
	ASSESSMENT A3.5a A perimeter road is provided at the south boundary as an extension of Forrest Street, a town perimeter road, which runs along the west boundary of the town (from the Pinjarra Williams Road south to the site) and will join with Newton Street to provide a public road separation from the Forest adjoining the township. The proposed perimeter roads are extensions of public roads to be provided as public roads and will be provided compliant with Appendix B.3, Table 10, Column 1. Whilst the lot arrangement is yet to be determined, it is necessary to support the development of the site for residential purposes, that the perimeter road is provided (identified) in the structure plan. (please note that if a perimeter road was not provided an FSAR would be required in its place).	Directed - the road is to be constructed in compliance with Appendix B.3, Table 10, Column 1 and ceded to the Shire.
	A3.5b Fire service access route *Where proposed lots adjoin classified vegetation under AS 3959 (excluding Class G Grassland), and a perimeter road is not required in accordance with A3.5a, a fire service access route is to be provided to provide firefighter access, where access is not available to the classified vegetation.* A fire service access route is to meet all the following requirements: – requirements of Appendix B.3, Table 10, Column 1.	Not applicable. A perimeter road is provided instead.

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
	– be through-routes with no dead-ends; – must be signposted; – no further than 500 metres from a public road; – the proponent obtaining consent from the local government that it will accept care, control and management; and if gated, gates must open the whole carriageway width and can be locked by the local government and/or the emergency services, if keys are provided for each gate.	
	A3.6 Battle-axe access legs *Where it is demonstrated that a battle-axe access leg cannot be avoided due to site or design constraints, it can be considered as an acceptable solution.* There are no battle-axe technical requirements where the point of the battle-axe access leg joins the effective area of the battle-axe lot, is less than 50 metres from a public road in a reticulated water area. In circumstances where the above acceptable solution is not met, or the battle-axe lot is in a non-reticulated water area, the battle-axe. – requirements of Appendix B.3, Table 10, Column 1. – passing bays every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of two metres (i.e. the combined carriageway width of the passing bay and constructed private driveway to be a minimum six metres); and – turn-around area/head (Figure 30).	Not applicable. - No battle axe legs are proposed.
Element 4: Water **O4 -** Ensure that sufficient water is available and accessible for emergency services, to enable people, property and	**A4.1 Water supply for structure plans** Evidence that a reticulated or sufficient and sustainable non-reticulated water supply for bushfire firefighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements in Appendix B.4: Water Supply dedicated for bushfire firefighting. Where the provision of a strategic water tank(s) is required, a suitable area should be identified as a Crown reserve on the structure plan, to the satisfaction of the WAPC on advice from the local government.	

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
infrastructure to be defended from bushfire.	**ASSESSMENT A4.1** Locate V5 (Landgate SLIP) illustrates the Watercorp network is provided in the township, and a hydrant is located 110m from the site in Church Street (north from site)  Plate 12: Watercorp reticulated network and neared hydrant positions. The nearest hydrants are located along Church Street (north). The nearest hydrant is 110 m from the site by Newton Street and 110 m by Forrest Street.	Acknowledged - The site has access to a reticulated water supply from Newton Street.

Bushfire Protection Criteria	ACCEPTABLE SOLUTIONS	Action
	A4.2 Water supply for subdivision applications Where a reticulated water supply is existing or proposed, a hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies: – the provision of a water tank(s) in accordance with the requirements of Appendix B.4, Table 11 – Water supply dedicated for bushfire firefighting; and Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: – land to be ceded free of cost to the Crown for the placement of the tank(s); – the proposed reserve where the tank is to be located is identified on the plan of subdivision; – tank capacity, construction and fittings, provided in accordance with the requirements of Appendix B.4; and – a strategic water tank is to be located no more than a 10-minute drive from the furthest development site (at legal road speeds).	
	ASSESSMENT A4.2 The site has access to a reticulated Watercorp supply, from Newton Street. Fire hydrants are located 110 m to the north of the site in Church Street, and the furthest lot is 214 m from the nearest hydrant in Church Street via Newton Street. The design detail and distribution in accordance with the Water Corporation Design Standard 63 is routinely provided as the road design detail as part of the Shire technical specifications. *"so that spacing (as measured by hose-run) between hydrants in residential areas with lots per dwelling <10,000m2 shall be maximized and no greater than 200m;"* (pag19 WC#63) A hydrant is required in compliance with the Water Corporation Standard #63: < 200 m from the furthest lot.	Direction- The subdivision is to comply with the Water Corporation Standard #63: no lot is to be greater than 200 m from a hydrant

5.2 Additional Bushfire Management Strategies

The site is within Type B Broader Landscape Area; this has been addressed in section 4 of the BMP and the appropriate risk treatments identified.

Those risk treatments align to the demonstrated compliance with the Bushfire Protection Criteria.

As such there are no additional requirements for the structure plan to those identified under Action in the table 5 above

The key features demonstrating compliance are represented spatially in the *Spatial representation of the bushfire management strategies*.

The Spatial representation of the bushfire management strategies is provided in Figure 7.

Ongoing controls

It is assumed that the Shire will continue to promote bushfire awareness in its area.

This BMP is not proposing any new initiatives for the Shire to adopt.

Bushfire Construction Standards

AS 3959:2018, establishes a minimum requirement that is cost effective at an industry scale. Additional measures can be applied by the owner to further improve the resistance of the building e.g. gutter guards, engineered sprinklers.

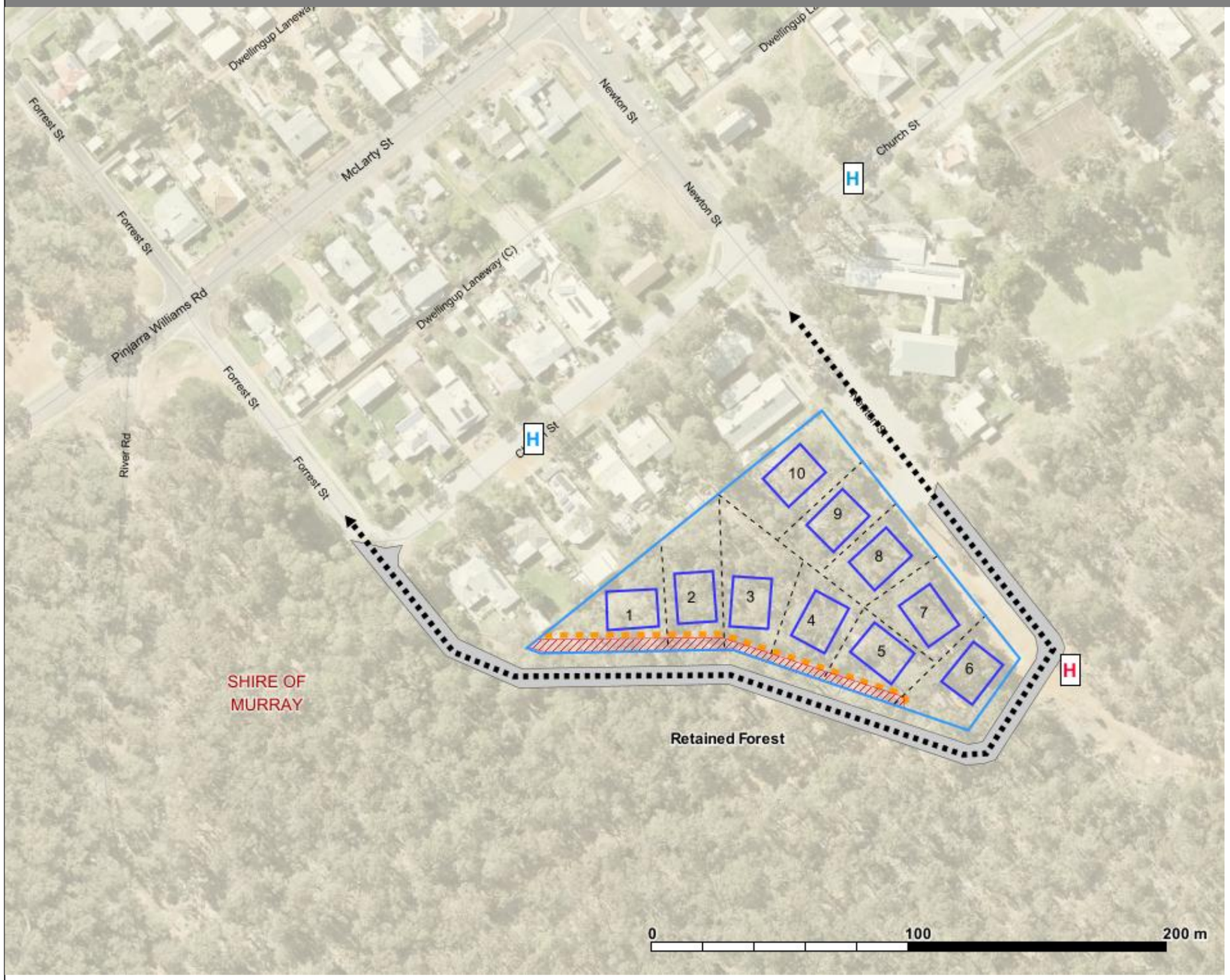
These are not matters to be imposed by a structure plan or development application, rather it is at the discretion of the building owner.

6. RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES AT SUBDIVISION

The purpose of a BMP is to broadly assess the suitability of the land for development and guidance (directions), for the subdivision and subsequent compliance with SPP 3.7s.

	Guidance for the subdivision
1.	The site is within a bushfire prone area A notification, pursuant to Section 165 of the *Planning and Development Act 2005,* is to be placed on the certificate(s) of title. *"This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan Additional planning and building requirements may apply to development on this land"*
2.	A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the Transfer of Land Act 1893, is to be placed on the certificate(s) of title of the proposed lot(s), restricting the construction or placement of habitable buildings within an area onsite identified as BAL 29.
3.	A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the Transfer of Land Act 1893, is to be placed on the certificate(s) of title of the proposed lot(s) requiring the lot is to be maintained in a low threat condition as prescribed by AS 3959:2018 (f) or the distribution of vegetation is to follow Appendix B.2, Table 9 – APZ technical requirements.
4.	The extensions and joining of Newton Street with Forrest Street are to be constructed in accordance with the technical requirements Appendix B.3, Table 10, Column 1.
5.	All lots are to be connected to the reticulated water supply available from Newton Street and street hydrants are to be provided in accordance with the Water Corporation Standard #63 *An additional hydrant is required along the Newton Street/Forrest Street road to ensure compliance with the Water Corporation Standard #63, that no lot is more than 200m from a hydrant.*

Figure Ex 1 - Spatial representation of the proposed risk management strategies - Lot 106 Newton Street Dwellingup



Subdivision Guidance Notes

Siting and Design

1. The site is within a bushfire prone area

   A notification, pursuant to Section 165 of the Planning and Development Act 2005, is to be placed on the certificate(s) of title.

   "This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan Additional planning and building requirements may apply to development on this land"

2. A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the Transfer of Land Act 1893, is to be placed on the certificate(s) of title of the proposed lot(s), restricting the construction or placement of habitable buildings within an area onsite identified as BAL-29.

3. A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the Transfer of Land Act 1893, is to be placed on the certificate(s) of title of the proposed lot(s) requiring the lot is to be maintained in a low threat condition as prescribed by AS3959:2018 (f) or the distribution of vegetation is to following Appendix B.2, Table 9 – APZ technical requirements.

Vehicle Access

4. The extensions and joining of Newton Street with Forrest Street are to be constructed in accordance with the technical requirements Appendix B.3, Table 10, Column 1.

Water

5. All lots are to be connected to the reticulated water supply available from Newton Street and street hydrants are to be provided in accordance with the Water Corporation Standard #63

   An additional hydrant is required along the Newton Street Forrest Street Road to ensure compliance with the Water Corporation Standard #63, that no lot is more than 200m from a hydrant.

LEGEND

- Site Boundary
- Public road access
- H — Indicative additional Hydrant
- H — Existing Hydrant
- Developable area boundary ,< BAL 40
- Restricted > BAL 29 area

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Attachment 1 - References

GENERAL REFERENCES

Francis Hines, Kevin G Tolhurst, Andrew AG Wilson and Gregory J McCarthy - Overall fuel hazard assessment guide 4th edition July 2010

Institute of Public Works Engineering Australasia Western Australia, Local Government Guidelines for Subdivisional Development November 2017

Standards Australia, *AS 3959:2018 Construction of buildings in bushfire-prone areas*, Sydney

Standards Australian and Standards New Zealand, *Australian Standard / New Zealand Standard ISO 31000:2018 Risk management – principles and guidelines*

WA Department of Planning Land and Heritage 2016*, Visual Guide for bushfire risk assessment in Western Australia*

Western Australian Planning Commission (WAPC) 2024, *State Planning Policy 3.7 Bushfires*, Western Australian Planning Commission, Perth, Perth

Western Australian Planning Commission (WAPC) 2024, *Planning in Bushfire Guidelines September 2024*, Western Australia.

Online references

Office of Bushfire Risk management (OBRM), Map of Bush Fire Prone Areas < https://maps.slip.wa.gov.au/landgate/bushfireprone/>