



Bushfire Management Plan

Local Structure Plan

Lot 221 Lakes Road & part Lot 224 Paterson
Road, Nambellup

Shire of Murray



Prepared For:
CLE Town Planning and Design
7 July 2023
Version 4.0

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I hereby declare that I am a BPAD accredited bushfire practitioner.	
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Date	07/07/2023



Document Control

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Front cover photo: Local Structure Plan

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EXECUTIVE SUMMARY

This Bushfire Management Plan (BMP) has been prepared to support a proposed Local Structure Plan (LSP) for Lot 221 Lakes Road, and a portion of Lot 224 Patterson Road, in Nambeelup (the 'site'). The LSP area is 182 hectares in size, and is serviced by Lakes Road on the northern boundary and Paterson Road on the west. The LSP proposes Light Industrial, Industry commercial uses and general industrial development and associated infrastructure, with areas of Public Open Space (POS) varying in size and containing remnant native vegetation and wetland area, predominately in the centre of the site running north-south, but also small areas along the southern and eastern boundary and towards the south-west. Drainage reserves in the south of the site will also contain vegetation consistent with this land use drainage including sedges and shrubs. A POS Management Plan prepared for future subdivision stages will accurately inform the final vegetation classifications in these areas.

Land immediately to the north and south of the site consists of existing rural residential development and existing industrial lots.

The LSP provides a guide for industrial development within the site. Following development, all classified vegetation within the site will be removed or modified into managed POS areas. The POS areas will be landscaped and be classified as low threat vegetation and contain irrigated and maintained turf and garden beds.

All areas within 150 metres of the site boundary have been assessed for vegetation classification and BAL contours. It has been determined that all proposed future industrial units arising from the LSP will be exposed to BAL-29 or lower and will fall within the acceptable level of risk. There is good vehicular access both within and surrounding the site. A reticulated water supply will be provided and fire hydrants will be installed by the developer/s to meet the specifications of Water Corporation (Design Standard 63) and DFES.

The objective of this BMP is to address bushfire management issues within the LSP. If there is a bushfire within or near the site, implementing this BMP will reduce the threat to industrial unit owners, property and emergency response personnel. This document sets out the roles and responsibilities of the developer, future residents and the Shire of Murray, and responds to the performance criteria in the *Guidelines for Planning in Bushfire Prone Areas V1.4* (WAPC *et.al.* 2021). It is important that the measures and procedures outlined in this BMP are adopted across the various stages of the land use planning and industrial unit construction approvals processes. At future stages of subdivision, the BMP will be updated to confirm compliance with SPP 3.7 and BAL ratings will be confirmed to support building license applications.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ii
1 PROPOSAL DETAILS.....	1
1.1 Policy and Guidelines.....	4
1.1.1 Application of SPP 3.7.....	4
1.1.2 Guidelines for Planning in Bushfire Prone Areas V1.3 (2017).....	4
2 ENVIRONMENTAL CONSIDERATIONS	6
2.1 Native Vegetation – Modification and Clearing	6
2.2 Revegetation/Landscape Plans.....	6
3 BUSHFIRE ASSESSMENT RESULTS.....	6
3.1 Assessment Inputs.....	6
3.1.1 Vegetation Classification.....	6
3.1.2 Effective Slope	14
3.2 Assessment Outputs.....	16
4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES	18
5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA.....	18
5.1 Compliance Table	18
5.2 Additional Management Strategies	21
6 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES.....	23
7 CONCLUSION	24
REFERENCES.....	25

TABLE OF TABLES

Table 1: Policy measures.....	4
Table 2: Summary of vegetation type and effective slope	14
Table 3: Summary of assessment outputs	16
Table 4: Compliance table.....	19
Table 5: Responsibility for bushfire measures	22

TABLE OF FIGURES

Figure 1: LOCAL STRUCTURE PLAN	2
Figure 2: SITE LOCATION	3
Figure 3: BUSHFIRE PRONE AREAS.....	6
Figure 4: VEGETATION CLASSIFICATION MAP (BAL CONTOUR MAP).....	15
Figure 5: BAL CONTOUR MAP	17
Figure 6: SPATIAL REPRESENTATION OF BUSHFIRE MANAGEMENT STRATEGIES.....	21

TABLE OF APPENDICES

Appendix 1: Asset Protection Zone Standards
Appendix 2: Vehicular Access Technical Requirements
Appendix 3: Shire of Murray’s Fire Break Notice 2021 – 22

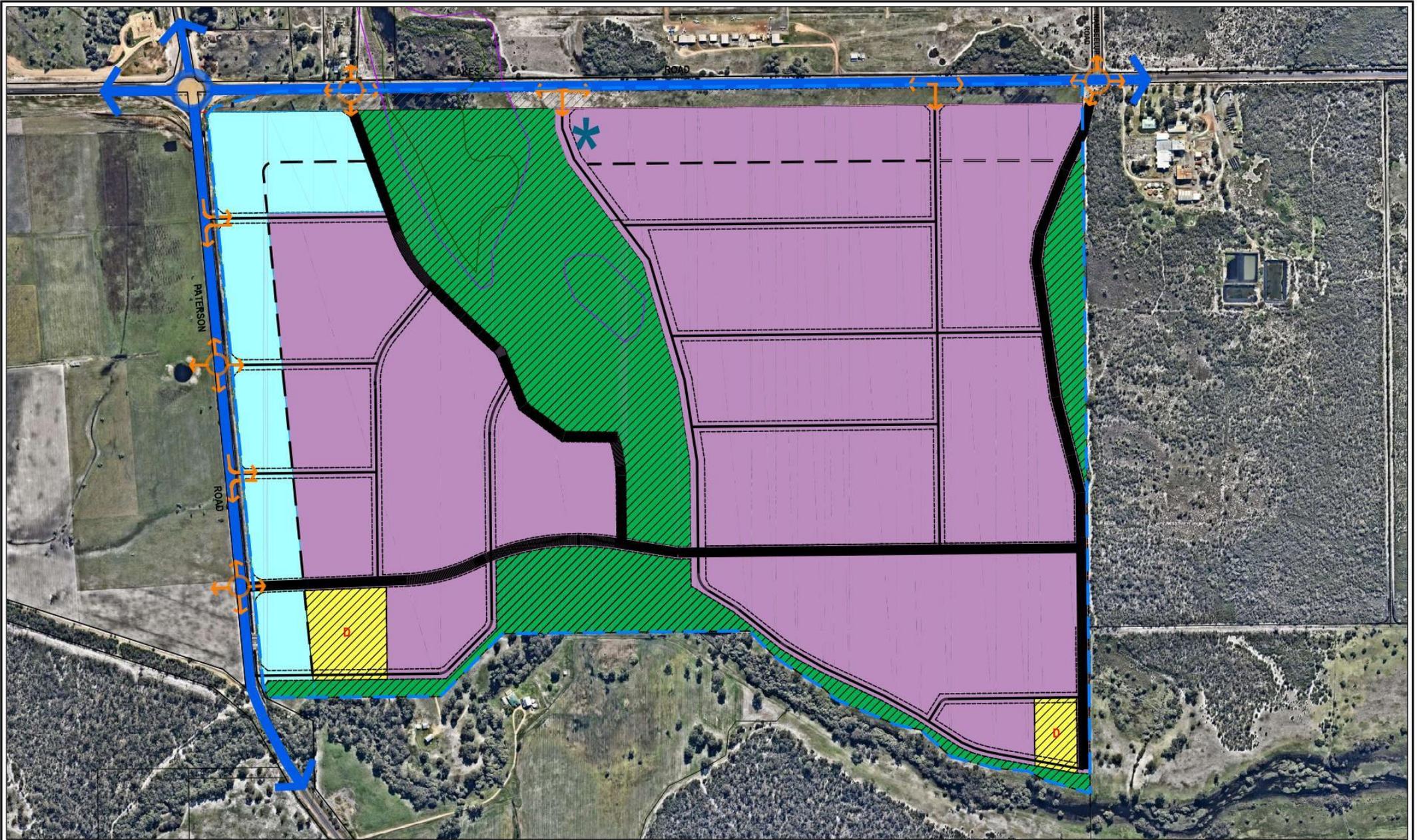
1 PROPOSAL DETAILS

This Bushfire Management Plan (BMP) has been prepared to support a Local Structure Plan (LSP) for Lot 221 Lakes Road, and a portion of Lot 224 Patterson Road, in Nambeelup (**Figure 1**). This area is herein referred to as “the site” and its location is shown in **Figure 2**. The site is 182 hectares in size and is located within the Shire of Murray, approximately 63 km south of the Perth Central Business District (CBD) and 10 kilometres east-north-east of the Mandurah City Centre. The site is located within the Peel Region Scheme (PRS) and Shire of Murray Town Planning Scheme (TPS).

The LSP proposes a range of industrial land uses, including light, service and general industrial uses, as well as highway and industry related commercial development. Approximately 17 public roads are proposed to access lots at the site, as well as the upgrading and widening of adjacent Lakes Road and Patterson Road reserves. A large area of Public Open Space (POS) is proposed running north-south through the centre of the site for conservation and contains wetlands and associated native vegetation, as well as Nambeelup Brook to the south. A small POS to the south-west is present for drainage, as well as a small strip of conservation POS containing native vegetation along the eastern boundary.

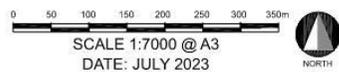
The site has been largely previously cleared for agricultural purposes, however areas of degraded native vegetation remains, particularly in the centre where the proposed POS is located. Remnant native vegetation consists predominately of Eucalypt and Melaleuca woodlands and forests, scrub, shrubland and grassland. Land to the west of the proposed LSP site is similarly zoned ‘Industrial Development’ and currently contains mostly cleared agricultural grassland. To the north of the site and Lakes Road is the Murrayfield Aerodrome which consists of an airstrip and cleared grassland surrounded by areas of degraded and intact native vegetation. An inoperative abattoir surrounded by native vegetation is present to the east of the site, while a mixture of cleared agricultural grassland and remnant vegetation exists to the south.

All proposed industrial lots will have direct entrance onto one of the newly created internal public roads. Egress from the site is supplied by Patterson Road along the western boundary which provides access to the north and south, as well as Lakes Road on the northern boundary which provides access to the east and west.



Location details: Lakes Road & Patterson Road
 Nambeelup
 Assessment date: August, 2021
 Prepared by: Bushfire Safety Consulting
 Accreditation level: Level 3 BPAD Practitioner
 Accreditation number: BPAD 23160
 Accreditation expiry date: 31st January, 2024
 Date aerial photo: August 2021

FIGURE 1 LOCAL STRUCTURE PLAN

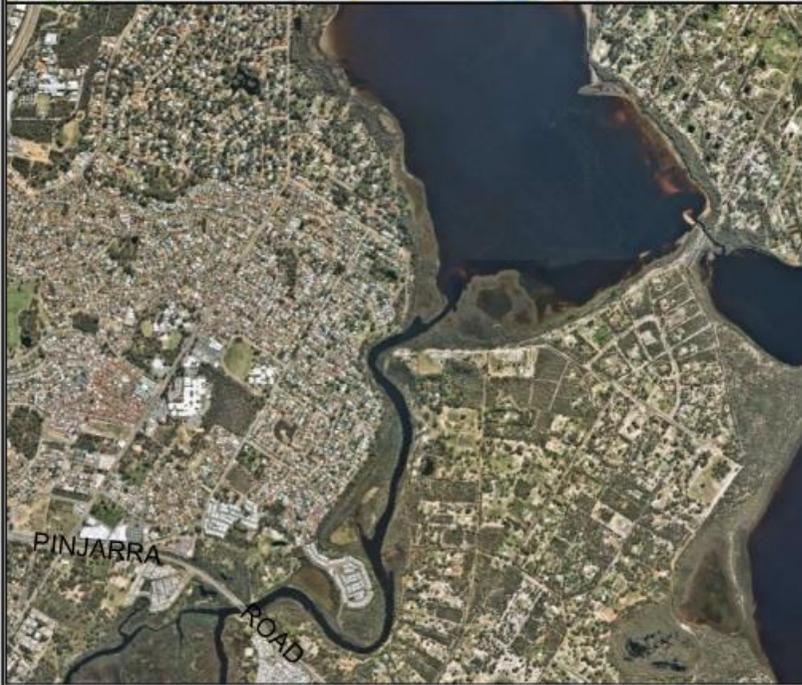
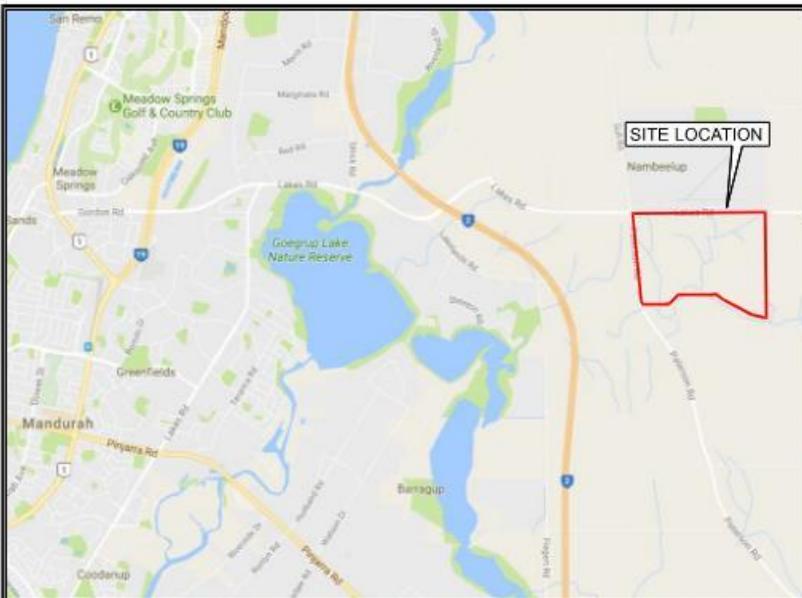


LEGEND:
 SUBJECT LAND

- LOCAL SCHEME ZONES
- NAMBEELUP INDUSTRIAL
 - SERVICE COMMERCIAL
- LOCAL SCHEME RESERVES
- PUBLIC PURPOSE DRAIN
 - PUBLIC RECREATION / CONSERVATION
- TRANSPORT
- DISTRICT DISTRIBUTOR A
 - NEIGHBOURHOOD CONNECTOR
 - INDICATIVE ACCESS STREET
(Subject to change and refinement)
 - INDICATIVE REAR ACCESS LANE
(Subject to change and refinement)
 - INDICATIVE ROAD WIDENING AREA
 - POSSIBLE INTERIM WATER SUPPLY OPTION

SOURCE OF PHOTOGRAPHY: NEARMAP

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Location details: Lakes Road & Patterson Road
Nambelup

Assessment date: August, 2021

Prepared by: Bushfire Safety Consulting

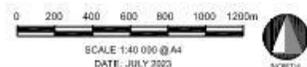
Accreditation level: Level 3 BPAD Practitioner

Accreditation number: BPAD 23160

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Date aerial photo: September 2021

FIGURE 2
SITE LOCATION PLAN



LEGEND
 SUBJECT LAND

Base mapping supplied by Nearmap & Google Maps

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1.1 Policy and Guidelines

1.1.1 Application of SPP 3.7

The *State Planning Policy No. 3.7: Planning in Bushfire Prone Areas (SPP 3.7)* provides the foundation for land use planning to address bushfire risk management in Western Australia. It is used to inform and guide decision makers, referral agencies and land owners/ proponents to help achieve acceptable bushfire protection outcomes.

The policy contains objectives and policy measures as well as reference to the bushfire protection criteria as outlined in the Guidelines for Planning in Bushfire Prone Areas (WAPC 2021 V1.4; the ‘Guidelines’). The policy applies to this Local Structure Plan (LSP) proposal because the site is located in a designated bushfire prone area on the WA Map of Bushfire Prone Areas (**Figure 3**).

The SPP3.7 policy measures that will need to be complied with are shown in **Table 1**.

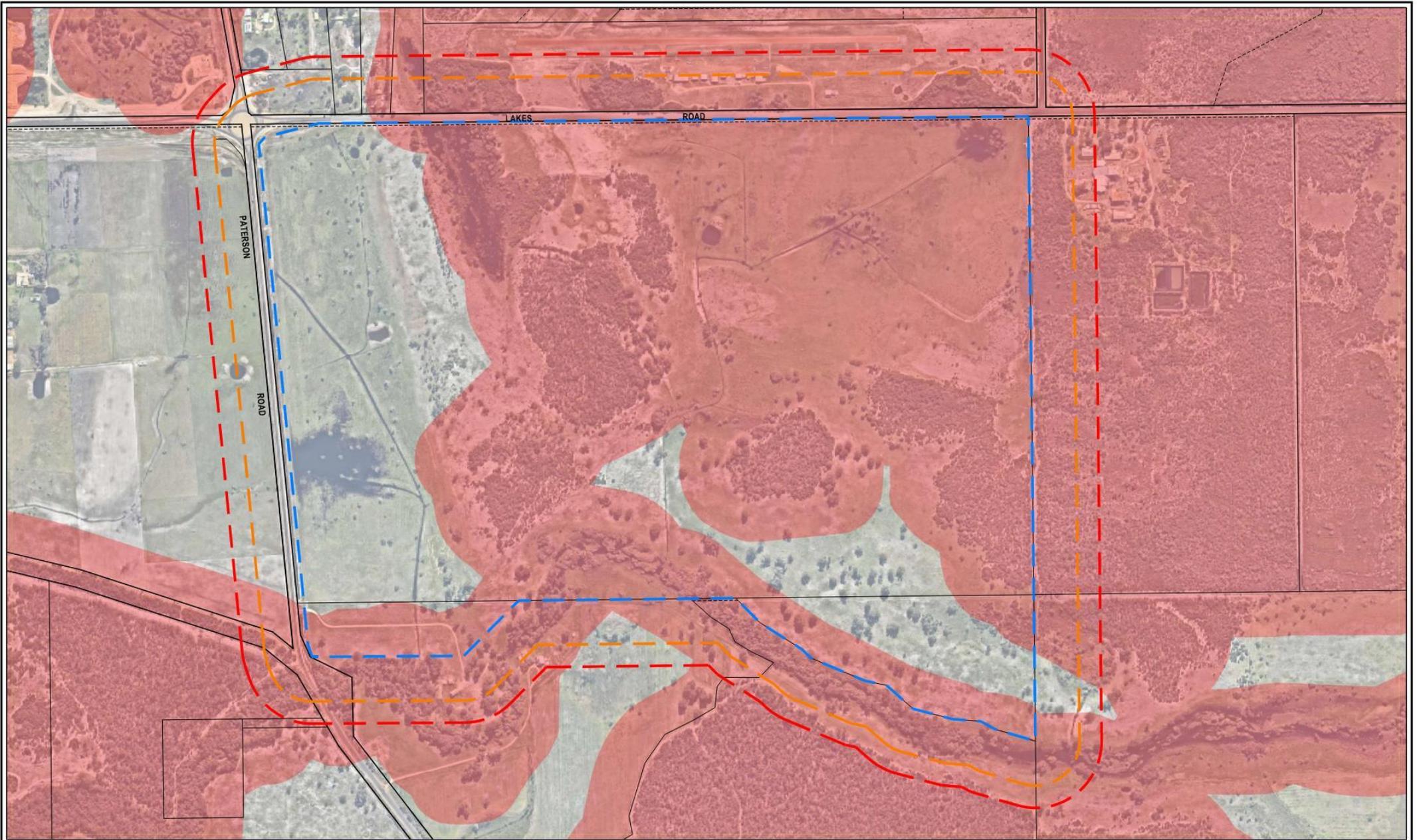
Table 1. Policy measures

Policy Measure 6.2	The site is located within a designated bushfire prone area (Figure 3) and will have a Bushfire Hazard Level above low and a Bushfire Attack Level rating above BAL-LOW.
Policy Measure 6.4	Policy 6.4 applies meaning the LSP application will be accompanied by: <ul style="list-style-type: none"> - BAL Contour Plan; - BAL ratings; - Identification of relevant issues; and - Demonstration of compliance with the guidelines.

The Local Structure Plan proposal does not specifically propose a vulnerable or high-risk land use, however there is potential for a future development to be proposed that will trigger these additional responses under *SPP 3.7*.

1.1.2 Guidelines for Planning in Bushfire Prone Areas V1.4 (2021)

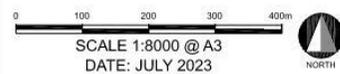
The *Guidelines for Planning in Bushfire Prone Areas V 1.4 (2021)* is intended to inform and guide decision makers, referral authorities and proponents to achieve acceptable bushfire protection outcomes, including expectations at the different stages of planning. The requirements of this document are accommodated within this BMP.



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FIGURE 3
BUSHFIRE PRONE AREAS



- LEGEND:**
-  SUBJECT LAND
 -  ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
 -  ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
 -  BUSHFIRE PRONE AREAS

SOURCE OF PHOTOGRAPHY: NEARMAP



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2 ENVIRONMENTAL CONSIDERATIONS

2.1 Native Vegetation – Modification and Clearing

Areas proposed for industrial lots and road development sites proposed are generally sited on previously cleared and degraded native vegetation and grazed agricultural paddocks. The development impact is concentrated in this degraded area, with the more intact areas of undisturbed native vegetation contained in the POS Conservation Reserves where the vegetation is protected in perpetuity.

There are no environmental restrictions to limit a future development on the site.

2.2 Revegetation/Landscape Plans

Areas of Public Open Space (POS) varying in size and containing remnant native vegetation and wetland area, predominately in the centre of the site running north-south, but also small areas along the southern and eastern boundary and towards the south-west.

A POS Management Plan will be developed for future subdivision stages. In this assessment, existing vegetation has been assessed in POS areas, however Class D Scrub vegetation has been mapped in drainage reserves consistent with expected sedge and shrub plantings that usually go into drainage basins. A POS Management Plan prepared for future subdivision stages will accurately inform the final vegetation classifications in these areas and supporting Bushfire Management Plans will inform these changes and implications.

3 BUSHFIRE ASSESSMENT RESULTS

Bushfires are common in the Shire of Murray and local brigades respond to numerous bushfires in the district annually. This BMP plays a critical role in ensuring that the proposed LSP, and the inherent possibility of an increase in usage and intensity of the land, appropriately mitigates the risk from bushfire.

3.1 Assessment Inputs

The methodology used to assess the site is outlined in the *Guidelines for Planning in Bushfire Prone Areas V1.4 (2021)*. The broad lot layout is known, and a strategic level bushfire hazard assessment is not required. A post development vegetation classification plan is provided, and a BAL Contour plan is provided in accordance with Appendix 3 of the guidelines.

Assessing bushfire threat at the site-specific level requires evaluating the predominant class of vegetation on the site and surrounding area for a minimum of 150 m, as shown in the Vegetation Classification Map (Figure 4).

3.1.1 Vegetation Classification

The vegetation that will be retained within the site, on the eastern and southern interface areas contains a variety of classified vegetation types. Class A Forest occurs in the Nambelup Brook south of the site, it is also found within the internal POS area and on the western boundary. Most forest areas are dominated by a eucalypt over-storey and middle-storey shrub vegetation. Canopy cover exceeds 30% in these areas.

Where eucalypt canopy is more open with a grassy understorey occurs, woodland class vegetation is mapped. Scrub vegetation occurs where shrubs 2-6 m in height are dominant and this occurs particularly north of Lakes Road and east of the site. Pasture grasses occur in all rural paddocks and in the aerodrome land north of Lakes Road. In this assessment, existing vegetation has been assessed in POS areas, however Class D Scrub vegetation has been mapped in drainage reserves consistent with expected sedge and shrub plantings that usually go into drainage basins. This BMP will be updated at subdivision stages to inform changes when further clarity is available regarding plantings in PSO and drainage basins.

The vegetation plots on and surrounding the site and within 150 metres of the site boundary are found in Figure 4 with plot descriptions below.

<p>Photo ID: 1</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Eucalypts and Banksias with isolated Casuarina trees that exceed 6m in height, 30-70% foliage cover and have a distinct middlestorey fuel layer of shrubs, weeds and grasses.</p>	
<p>Photo ID: 2</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Eucalypts and Banksias with isolated Casuarina trees that exceed 6m in height, 30-70% foliage cover and have a distinct middlestorey fuel layer of shrubs.</p>	
<p>Photo ID: 3</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Large eucalypts exceed 6m in height, 30-70% foliage cover and have a distinct middlestorey fuel layer of shrubs and regrowth trees.</p>	<p style="text-align: center;">South Elevation</p> 
<p>Photo ID: 4</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Large eucalypts that exceed 6m in height with foliage cover 30-70% and have a distinct middlestorey fuel layer of shrubs and grasses.</p>	<p style="text-align: center;">North Elevation</p> 

<p>Photo ID: 5</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Eucalypts and Banksias with isolated Casuarina trees that exceed 6m in height, 30-70% foliage cover and have a distinct middlestorey fuel layer of shrubs and regrowth trees.</p>	 <p>West Elevation 90°E (T) • 32°30'40.48", 115°50'33.31" 44 m ▲ 7 m</p>
<p>Photo ID: 6</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Eucalypts and Banksias with isolated Casuarina trees that exceed 6m in height and have a middlestorey fuel layer of shrubs.</p>	 <p>North West Elevation 151°SE (T) • 32°31'0.04", 115°50'33.51" 46 m ▲ 2 m</p>
<p>Photo ID: 7</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Large paperbark trees with foliage cover 30-70% and exceed 6m in height and have a distinct middlestorey fuel layer of shrubs.</p>	 <p>North Elevation 148°SE (T) • 32°31'2.04", 115°50'33.38" 44 m ▲ 11 m</p>
<p>Photo ID: 8</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Mixture of species of trees that exceed 6m in height, 30 -70% foliage cover and have a distinct middlestorey fuel layer of shrubs.</p>	 <p>South Elevation 26°N (T) • 32°31'14.58", 115°50'33.38" 44 m ▲ 1 m</p>
<p>Photo ID: 9</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Eucalypts and Banksias with isolated Casuarina trees that exceed 6m in height and have a distinct middlestorey fuel layer of shrubs.</p>	 <p>NE 60 E 90 SE 120 150 100°E (T) • 32°31'18.44", 115°49'30.95" 48 m ▲ 13 m</p>
<p>Photo ID: 10</p> <p>Plot Number: 2</p> <p>Description/justification of classification: Class A Forest</p> <p>Description/justification of classification: Large eucalypt trees with canopies 30-70% foliage cover and low shrubs and grassland understorey.</p>	 <p>East Elevation 274°W (T) • 32°31'17.65", 115°49'37.45" 4128 m ▲ 27 m</p>

<p>Photo ID: 11</p> <p>Plot Number: 2</p> <p>Description/justification of classification: Class A Forest</p> <p>Description/justification of classification: Mixture of species, majority eucalypts with foliage cover 30-70% and low shrubs, weeds and grassland understorey.</p>	
<p>Photo ID: 12</p> <p>Plot Number: 1</p> <p>Description/justification of classification: Class A Forest</p> <p>Description/justification of classification: Mixed species with varying heights over 6m and foliage cover 30-70%, shrubs in the middlestorey and grass understorey.</p>	
<p>Photo ID: 13</p> <p>Plot Number: 2</p> <p>Description/justification of classification: Class A Forest</p> <p>Description/justification of classification: Mixed species of trees with varying heights over 6m; 30-70% foliage cover with ladder fuels.</p>	
<p>Photo ID: 14</p> <p>Plot Number: 2</p> <p>Description/justification of classification: Class A Forest</p> <p>Description/justification of classification: Mixed species of trees with varying heights over 6m; 30-70% foliage cover with ladder fuels.</p>	
<p>Photo ID: 15</p> <p>Plot Number: 2</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Mixed species with varying heights; 10-30% foliage cover and grass/weeds in the understorey.</p>	
<p>Photo ID: 16</p> <p>Plot Number: 3</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Mixed species with varying heights; 10-30% foliage cover and grass/weeds in the understorey.</p>	

<p>Photo ID: 17</p> <p>Plot Number: 4</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Large eucalypt trees with foliage cover 10-30% with prominent grass understorey.</p>	 <p>East Elevation 280°W (T) • 32°31'20.84", 115°49'44.89" 12 m ▲ 20 m</p>
<p>Photo ID: 18</p> <p>Plot Number: 4</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Large eucalypt trees with foliage cover 10-30% with prominent grass understorey.</p>	 <p>North Elevation 198°S (T) • 32°31'11.81", 115°49'51.23" 18 m ▲ 8 m</p>
<p>Photo ID: 19</p> <p>Plot Number: 4</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: : Large eucalypt trees with foliage cover 10-30%, xanthorrhoea and prominent grass understorey.</p>	 <p>222°SW (T) • 32°30'55.36", 115°50'1.92" 18 m ▲ 11 m</p>
<p>Photo ID: 20</p> <p>Plot Number: 4</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Large eucalypts; canopy 10-30% foliage cover, re-growth eucalypts and prominent grass understorey.</p>	 <p>North East Elevation 214°SW (T) • 32°30'52.23", 115°49'59.05" 14 m ▲ 14 m</p>
<p>Photo ID: 21</p> <p>Plot Number: 4</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Large eucalypts; canopy 10-30% foliage cover and prominent grass understorey.</p>	 <p>357°N (T) • 32°30'40.69", 115°49'48.09" 14 m ▲ 23 m</p>
<p>Photo ID: 22</p> <p>Plot Number: 4</p> <p>Description/justification of classification: Class B Woodland</p> <p>Description/justification of classification: Mixed species including large eucalypts with 10-30% foliage cover and grass understorey.</p>	 <p>218°SW (T) • 32°30'45.61", 115°49'40.57" 14 m ▲ 8 m</p>

<p>Photo ID: 23</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Mixed species of shrubs greater than 2m with grass understorey.</p>	
<p>Photo ID: 24</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Degraded and unvegetated area but likely to revegetate over time into scrub vegetation.</p>	
<p>Photo ID: 25</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Mixed species of shrubs greater than 2m.</p>	
<p>Photo ID: 26</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Mixed species of shrubs greater than 2m with some grass understorey.</p>	
<p>Photo ID: 27</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Mixed species of shrubs greater than 2m and less than 6m, with grass understorey.</p>	
<p>Photo ID: 28</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Mixed species of shrubs greater than 2m and less than 6m, with some grass understorey.</p>	

<p>Photo ID: 29</p> <p>Plot Number: 5</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Mixed species of shrubs greater than 2m and less than 6m, 10-30% foliage cover, with grass understorey.</p>	 <p>North Elevation 188°S (T) • 32°31'6.14", 115°50'33.34" 44 m ▲ 9 m</p>
<p>Photo ID: 30</p> <p>Plot Number: 7</p> <p>Description/justification of classification: Class C Shrubland</p> <p>Description/justification of classification: Low shrubs less than 2m high in open woodland area.</p>	 <p>South Elevation 21°N (T) • 32°30'54.70", 115°50'33.63" 44 m ▲ 0 m</p>
<p>Photo ID: 31</p> <p>Plot Number: 6</p> <p>Description/justification of classification: Class D Scrub</p> <p>Description/justification of classification: Degraded and unvegetated area but likely to revegetate over time into scrub vegetation.</p>	 <p>SW 210 230 W 250 NW 270 N 290 270°W (T) • 32°30'50.91", 115°49'42.24" 46 m ▲ 1 m</p>
<p>Photo ID: 32</p> <p>Plot Number: 8</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Pasture paddock</p>	 <p>SW 210 230 W 250 NW 270 N 290 273°W (T) • 32°30'47.50", 115°49'26.11" 43 m ▲ 24 m</p>
<p>Photo ID: 33</p> <p>Plot Number: 8</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Low grasses and degraded land.</p>	 <p>West Elevation 89°E (T) • 32°30'59.57", 115°50'0.35" 48 m ▲ 5 m</p>
<p>Photo ID: 34</p> <p>Plot Number: 9</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Grasses and low shrubs.</p>	 <p>S 180 210 SW 230 W 270 NW 290 N 330 260°W (T) • 32°30'40.74", 115°49'56.97" 46 m ▲ 1 m</p>

<p>Photo ID: 35</p> <p>Plot Number: 8</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Paddocks in the Nambeelup aerodrome.</p>	
<p>Photo ID: 36</p> <p>Plot Number: 8</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Grasses with open woodland.</p>	
<p>Photo ID: 37</p> <p>Plot Number: 9</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Pasture paddocks</p>	
<p>Photo ID: 38</p> <p>Plot Number: 9</p> <p>Description/justification of classification: Class G Grassland</p> <p>Description/justification of classification: Pasture paddocks</p>	
<p>Photo ID: 39</p> <p>Plot Number: 10</p> <p>Description/justification of classification: Exclusion Clause 2.2.3.2 (f)</p> <p>Description/justification of classification: Bush in future lots to be cleared</p>	
<p>Photo ID: 40</p> <p>Plot Number: 10</p> <p>Description/justification of classification: Exclusion Clause 2.2.3.2 (f)</p> <p>Description/justification of classification: Pasture grasses in future lots in the development.</p>	

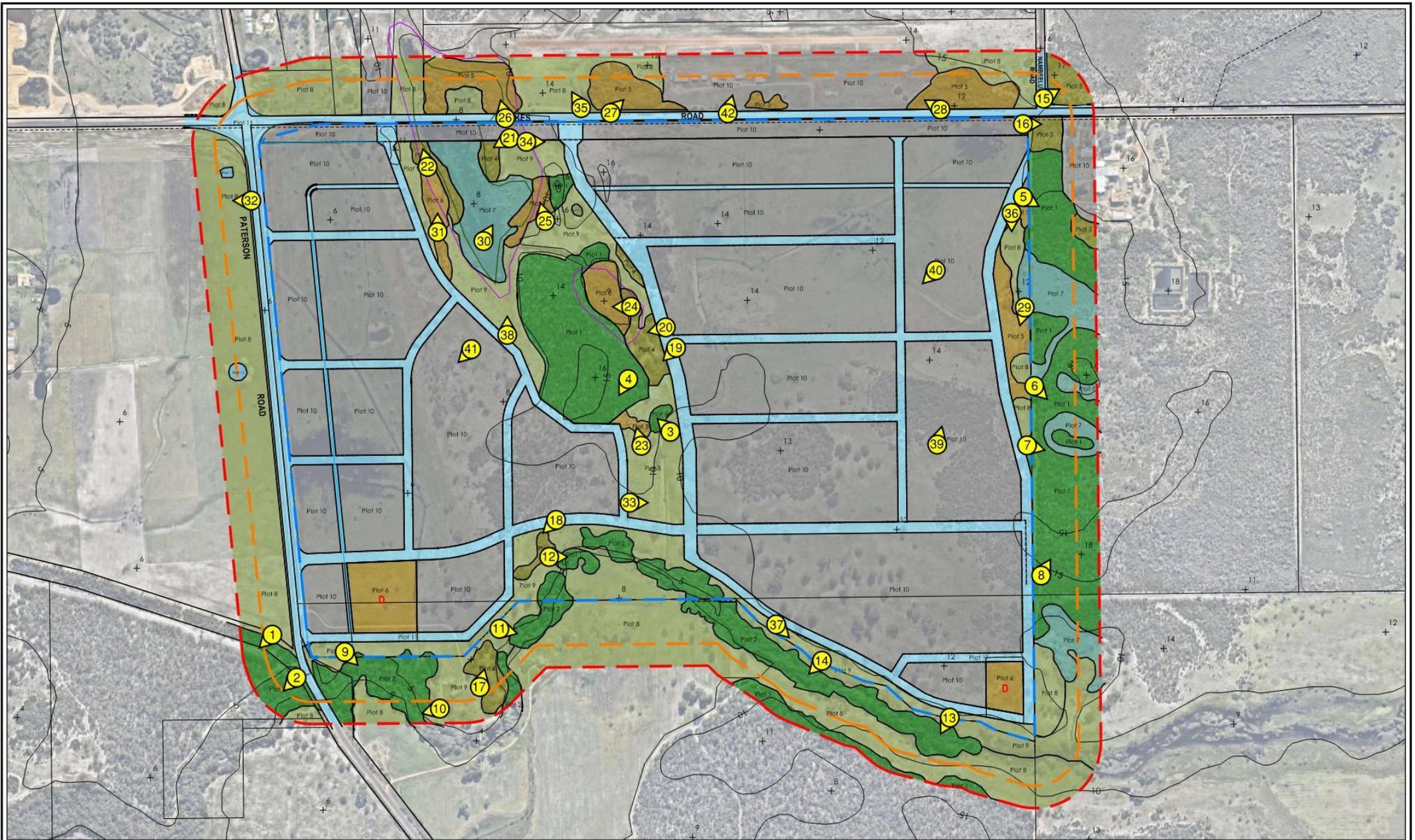
<p>Photo ID: 41</p> <p>Plot Number: 10</p> <p>Description/justification of classification: Exclusion Clause 2.2.3.2 (f)</p> <p>Description/justification of classification: Pasture grasses in future lots in the development.</p>	
<p>Photo ID: 42</p> <p>Plot Number: 10</p> <p>Description/justification of classification: Exclusion Clause 2.2.3.2 (f)</p> <p>Description/justification of classification: Pasture grasses in Nambelup aerodrome.</p>	

3.1.2 Effective Slope

The effective slope of the landscape surrounding the site is the slope that will affect the behaviour of an approaching bushfire. The effective slope under the Class A Forest and Class B Woodland south and east of the site is downslope 0-5 degrees. There is also a gentle downslope of 0-5 degrees west. Slopes to the north and west of the site are generally flat adjacent to development lots. There are no extreme effective slopes, none exceed 5°.

Table 2. Summary of vegetation type and effective slope

Vegetation Area/ Plot	Applied Vegetation Classification	Effective Slope under the Classified Vegetation (degrees)
1	Class A Forest	Flat/upslope
2	Class A Forest	Downslope 0-5°
3	Class B Woodland	Flat/Upslope
4	Class B Woodland	Downslope 0-5°
5	Class D Scrub	Flat/upslope
6	Class D Scrub	Downslope 0-5°
7	Class C Shrubland	Flat / upslope
8	Class G Grassland	Flat / upslope
9	Class G Grassland	Downslope 0-5°
10	Exclusion Clause 2.2.3.2 (f)	N/A
11	Exclusion Clause 2.2.3.2 (e)	N/A



Location details: Lakes Road & Patterson Road
 Nambeelup
 Assessment date: August, 2021
 Prepared by: Bushfire Safety Consulting
 Accreditation level: Level 3 BPAD Practitioner
 Accreditation number: BPAD 23160
 Accreditation expiry date: 31st January, 2024
 Date aerial photo: August 2021

FIGURE 4 - VEGETATION CLASSIFICATION MAP (BAL CONTOUR MAP)



- LEGEND:**
- SUBJECT LAND
 - ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
 - ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

- PLOT 1 - CLASS A FOREST - FLAT / UPSLOPE
- PLOT 2 - CLASS A FOREST - DOWNSLOPE 0-5
- PLOT 3 - CLASS B WOODLAND - FLAT / UPSLOPE
- PLOT 4 - CLASS B WOODLAND - DOWNSLOPE 0 - 5
- PLOT 5 - CLASS D SCRUB - FLAT / UPSLOPE
- PLOT 6 - CLASS D SCRUB - DOWNSLOPE 0 - 5
- PLOT 7 - CLASS C SHRUBLAND - FLAT / UPSLOPE
- PLOT 8 - CLASS G GRASSLAND - FLAT / UPSLOPE
- PLOT 9 - CLASS G GRASSLAND - DOWNSLOPE 0 - 5
- PLOT 10 - EXCLUSION CLAUSE 2.2.3.2(i)
- PLOT 11 - EXCLUSION CLAUSE 2.2.3.2(ii)

SOURCE OF PHOTOGRAPHY: NEARMAP

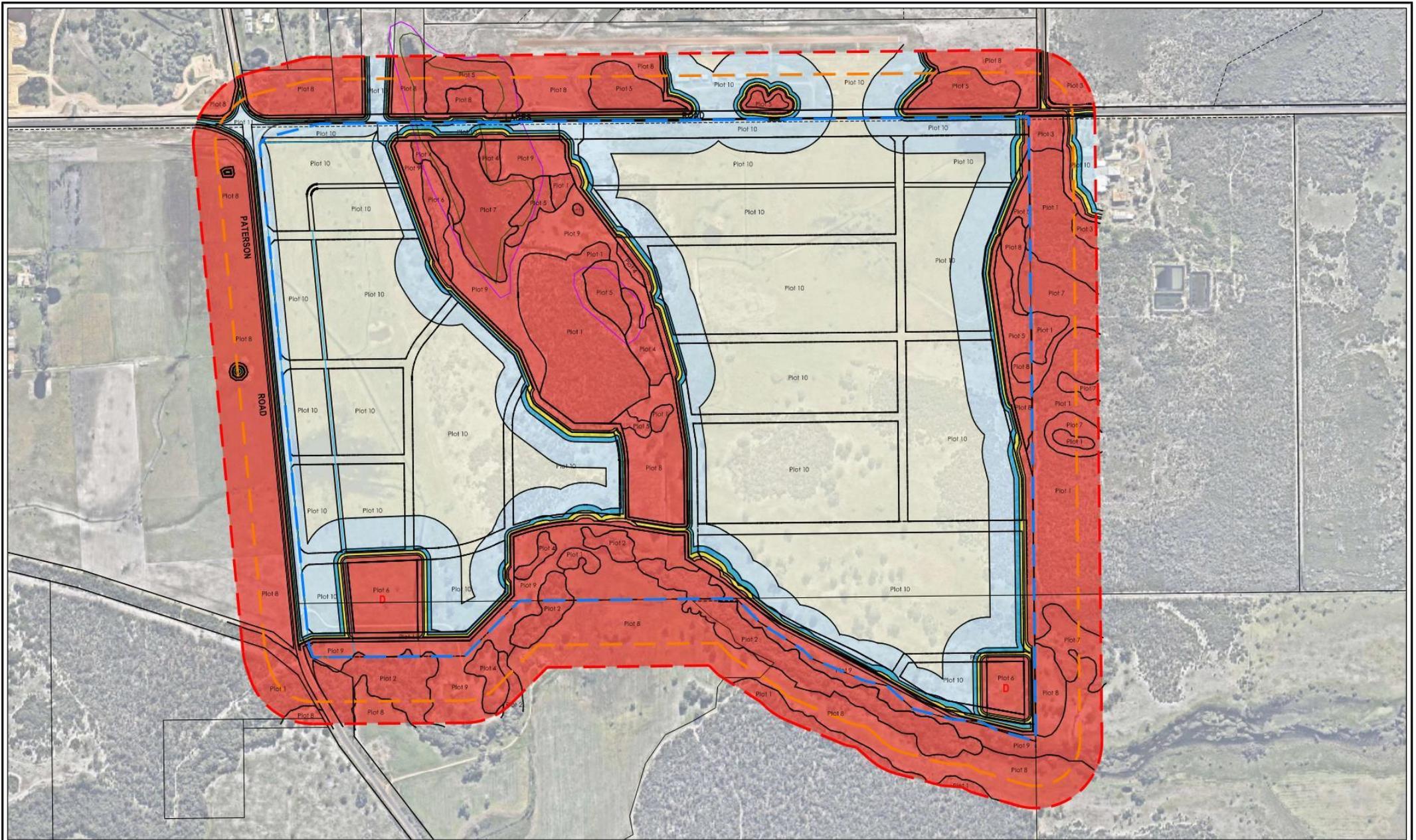
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3.2 Assessment Outputs

A post-development BAL contour assessment was undertaken according to Appendix 3 of the Guidelines and the results are found in Figure 6. A method 1 BAL Assessment was undertaken to determine the BAL contours impacting the site and the outputs are provided in Table 3.

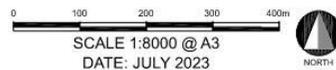
Table 3. Summary of assessment outputs

LSP Interface	Plot No	Applied Vegetation Classification	Effective slope	Minimum Separation Distance	Highest BAL Contour On Lots
North	5	Class D Scrub	Flat / upslope	60 m	BAL – 12.5
	8	Class G Grassland	Flat / upslope	60 m	BAL – 12.5
East	1	Class A Forest	Flat / upslope	21 m internal lot	BAL - 29
	3	Class B Woodland	Flat / upslope	14 m internal lot	BAL - 29
	5	Class D Scrub	Flat / upslope	35 m	BAL – 12.5
	7	Class C Shrubland	Flat / upslope	35 m	BAL – 12.5
	8	Class G Grassland	Flat / upslope	35 m	BAL – 12.5
South	2	Class A Forest	Downslope 0-5°	30 m	BAL - 29
	4	Class B Woodland	Downslope 0-5°	20 m	BAL - 29
	9	Class G Grassland	Downslope 0-5°	20 m	BAL – 12.5
East	8	Class G Grassland	Flat / upslope	35 m	BAL-12.5
Central POS	1	Class A Forest	Flat / upslope	21 m	BAL-29
	4	Class B Woodland	Downslope 0-5°	20 m	BAL-29
	5	Class D Scrub	Flat / upslope	20 m	BAL - 19
	6	Class D Scrub	Downslope 0-5°	20 m	BAL-29
	9	Class G Grassland	Downslope 0-5°	20 m	BAL -12.5



Location details: Lakes Road & Patterson Road
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 Date aerial photo: August 2021

FIGURE 5
BAL CONTOUR MAP



- LEGEND:**
- SUBJECT LAND
 - ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
 - ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

INDICATIVE BUSHFIRE ATTACK LEVELS

- BAL LOW
- BAL 12.5
- BAL 19
- BAL 29
- BAL 40
- BAL FLAME ZONE

SOURCE OF PHOTOGRAPHY: NEARMAP

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4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

Classified vegetation in the POS conservation reserves in the centre and to the east of the site will pose a long term hazard to the adjacent industrial land uses. Vegetation south of the site is similarly a long term hazard. The grassland vegetation west of the site contains lower quantities of fine fuels and is a temporary hazard until removed permanently for future industrial development.

This bushfire threat to the proposed development will comply with SPP 3.7 and the *Guidelines for Planning in Bushfire Prone Areas V1.4 (2021)* based on the establishment of a perimeter Asset Protection Zone where required in the perimeter road reserves.

5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA

The Local Structure Plan illustrated in Figure 1 provides details about the nature of any future proposed industrial land use. This BMP outlines strategies for compliance with the bushfire protection criteria based on the LSP.

This report adopts an acceptable solution and performance-based system of control for each bushfire protection criteria. This methodology is consistent with Appendix 4 of the *Guidelines for Planning in Bushfire Prone Areas, Version 1.4 (2021)*. The management issues are:

- Location of the development
- Siting and Design of Development
- Vehicular access.
- Water

5.1 Compliance Table

Acceptable solutions are proposed for all of the bushfire protection criteria and each illustrates a means of satisfactorily meeting the corresponding performance criteria. Land use planning bushfire risk mitigation strategies are comprehensively detailed in the following sections by providing responses to the performance criteria that fulfil the intent of the bushfire hazard management issues outlined in the *Guidelines for Planning in Bushfire Prone Areas V1.4 (2021)*. The compliance checklist is provided in Table 4 and spatial representation of the bushfire management strategies are illustrated in Figure 6.

Table 4: Compliance Table

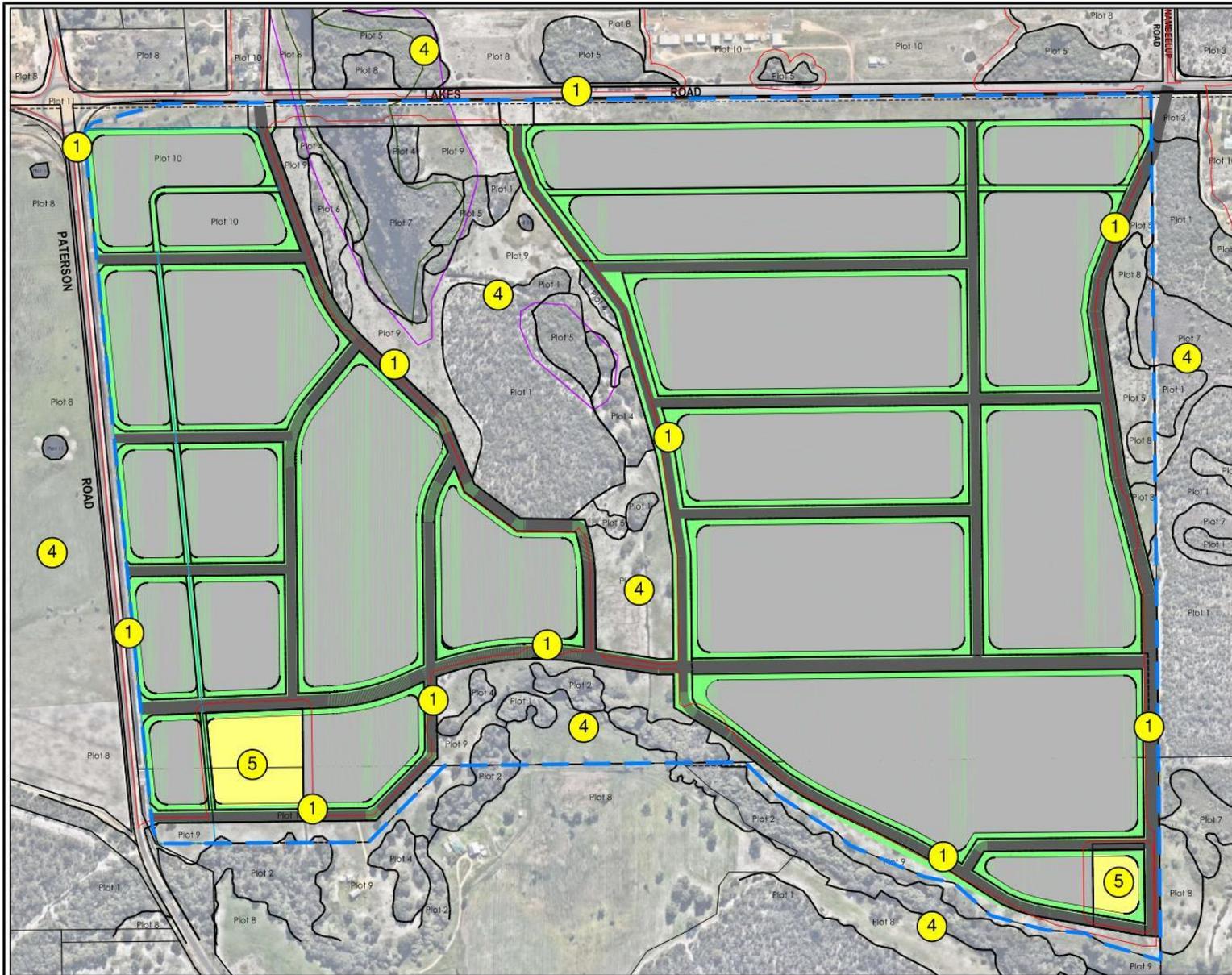
Bushfire Protection Criteria	Method of compliance	Proposed bushfire management strategies
	Acceptable Solutions	
Element 1: Location	A1.1 Development Location	The Method 1 BAL Assessment in this report demonstrates the classified vegetation in Plots 1-4 surrounding the site impacts the perimeter on three sides. A number of perimeter lots are exposed to BAL-29. BAL-29 is not exceeded. Two small interface areas are adjacent to the drainage reserves which will contain classified vegetation. The future subdivision design will ensure BAL-FZ and BAL-40 does not impact development of these large industrial lots.
Element 2: Siting and Design	A2.1 Asset Protection Zone (APZ)	The Asset Protection Zones (APZ) is incorporated into the perimeter roads on all interfaces adjacent to classified vegetation. Where a perimeter road is not provided, lots are adjacent to landscaped parklands or future drainage reserve design detail that will be worked out at subdivision stages. All lots achieve less than BAL-29 exposure. The APZ is managed in accordance with the requirements of Schedule 1 Standards for Asset Protection Zones outlined in Appendix 2.
Element 3: Vehicular Access	A3.1 Public roads	All proposed public roads within and surrounding the site comply with minimum public road standards outlined in Appendix 2.
	A3.2a Multiple access way	All lots have direct access onto one of many internal public roads which provide a number of ways to Paterson Road in the west and Lakes Road to the north. Paterson Road provides good egress to the north and south, while Lakes Road provides good access to the east and west. All subdivision stages will require two access ways.
	A3.2b Emergency access way	There are no Emergency Access Ways proposed, although if required during subdivision stages they will need to comply with minimum standards outlined in Appendix 2.
	A3.3 Through roads	There are no cul-de-sacs or dead ends proposed. All roads are through roads.
	A3.4a Perimeter roads	Perimeter roads occur around the entire site. Every area of bushland has a public road interface between it and developable areas.
	A3.4b Fire services access route	There are no Fire Service Access Routes proposed.
	A3.5 Battle-axe access legs	There are no battle axe access ways proposed or required.
	A3.6 Private driveways	Not applicable
Element 4: Water	A4.1 Identification of future water supply	Reticulated water will be provided to the entire development. Fire hydrants will be spaced according to Water Corporation and DFES standards and provide emergency services with access to an adequate water supply.
	A4.2 Provision of water for firefighting purposes	Not applicable

	A4.3 Individual lots within non-reticulated areas	Not applicable
Element 5: Vulnerable Tourism Land Uses	A5.1a Siting and Design	Not applicable
	A5.2a Vehicular access	Not applicable
	A 5.2b Signage	Not applicable
	A5.3 Provision of water	Not applicable

5.2 **Additional Management Strategies**

A perimeter APZ will be established and maintained in the road reserve along the interface with the internal POS areas and site boundaries. This will ensure that all future lots will be exposed to BAL-29 or lower. Development will occur in stages, with each stage and surrounding 100 metres to be established and maintained to APZ standards, as provided in Appendix 1. A reticulated water supply will service the entire site and hydrants will be provided according to Water Corporation and DFES standards.

A summary of management strategies is outlined in Figure 7.



REQUIREMENTS

1. A permanent perimeter APZ will be established over the road reserve on all bushland interfaces. This ensures that lots and future buildings on this interface are exposed to BAL-29 or less. The red line on the plan is the BAL-40/BAL-29 intersection.
2. Proposed internal and external roads provide excellent egress within and from the site. Lakes Road and Paterson Road are major transport routes and the site will be connected to adjacent industrial areas to the north and west.
3. The area is provided with a reticulated water supply. The provision of scheme water together with fire hydrants will meet the specifications of Water Corporation Design Standard DS63 and DFES requirements. The Water Corporation is responsible for all hydrant repairs.
4. Bushland and pasture in rural paddocks surrounds the site, however the development lots are separated from all areas of classified vegetation by significant perimeter public roads that provide both good vehicular access but a separation from radiant heat and flames for an approaching bushfire.
5. The vegetation in the drainage reserves is currently class as Scrub, however as POS and landscape plans are developed to support subdivision stages, this will be updated in future BMP reports to more closely reflect those plans and intentions.

LEGEND:

- SUBJECT LAND
- INDUSTRIAL DEVELOPMENT LOTS
- PUBLIC ROAD NETWORK
- LAKES AND PATTERSON ROAD UPGRADE AND WIDENING LAND ACQUISITION

- MANAGED GRASS FUELS IN ROAD RESERVE
- DRAINAGE RESERVES ARE ASSESSED AS CLASS D SCRUB AND TO BE REFINED AS PLANS ARE DEVELOPED
- INTERSECTION OF BAL-40 AND BAL-29

- PLOT 1 - CLASS A FOREST - FLAT / UPSLOPE
- PLOT 2 - CLASS A FOREST - DOWNSLOPE 0-5
- PLOT 3 - CLASS B WOODLAND - FLAT / UPSLOPE
- PLOT 4 - CLASS B WOODLAND - DOWNSLOPE 0 - 5
- PLOT 5 - CLASS D SCRUB - FLAT / UPSLOPE
- PLOT 6 - CLASS D SCRUB - DOWNSLOPE 0 - 5
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0 50 100 150 200 250 300 350m
 SCALE 1:7000 @ A3
 DATE: JULY 2023

Location details:	Lakes Road & Patterson Road Nambeelup
Assessment date:	August, 2021
Prepared by:	Bushfire Safety Consulting
Accreditation level:	Level 3 BPAD Practitioner
Accreditation number:	BPAD 23160
Accreditation expiry date:	31st January, 2024
Date aerial photo:	August 2021

FIGURE 6 - SPATIAL REPRESENTATION OF BUSHFIRE MANAGEMENT STRATEGIES

6 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

Table 5 outlines the broad ongoing responsibilities, actions and associated works that need to be undertaken by the future Developer / Proponent or Land Owner and the Shire of Murray. An accredited Bushfire Planning Practitioner will need to be engaged at Subdivision Application stage to update the BMP and assess the development against all of the bushfire protection criteria and SPP 3.7.

Table 5. Responsibility for bushfire measures

DEVELOPER / PROPONENT / LANDOWNER	
LSP, SUBDIVISION STAGE AND ONGOING MANAGEMENT	
1	Ensure each subdivision stage has surrounding vegetation outside of POS reserves within the site is removed and managed in a low threat condition within 100 metres of the subdivision boundary. Confirm BAL ratings for individual lots prior to the creation of titles.
2	At subdivision stage update the BMP with new POS and Drainage Reserve landscape details and ensure compliance with SPP 3.7 and the guidelines.
3	Install the public roads to standards outlined in Appendix 2.
4	Ensure the site complies with the Shire of Murray's Fire Break Notice as published.
5	Ensure any future construction of buildings comply with the Building Code of Australia.
6	Update the Bushfire Management Plan as requested by the Shire of Murray if it has reason to believe site conditions have substantially changed, or new methodologies or practice are adopted as identified in future revisions of the "Guidelines".
SHIRE OF MURRAY – ONGOING MANAGEMENT	
7	Maintain public roads to appropriate standards and ensure compliance with the Shire of Murray's Fire Break Notice.
8	Provide fire prevention and preparedness advice to landowners upon request, including the <i>Homeowners Bush Fire Survival Manual</i> , (or similar suitable documentation) and the Shire of Murray's Fire Break Notice.

7 CONCLUSION

This Plan provides acceptable solutions and responses to the performance criteria that fulfil the intent of the bushfire hazard management issues outlined in the Guidelines for Planning in Bushfire Prone Areas (WAPC 2021 V1.4). However, community bushfire safety is a shared responsibility between governments, fire agencies, communities and individuals.

The proposed LSP is located in the bushfire prone area (i.e. within 100 m of classified vegetation) and risk is reduced via compliance with SPP 3.7 and the Guidelines.

Future lots will be exposed to < 29 kW/m². A minimum of two vehicular access options is achieved, and fire hydrant requirements for fire-fighting are met. The proposed development will fall within the acceptable level of risk.

REFERENCES

DFES. (2017). *PREPARE. ACT. SURVIVE.*

[http://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DE
S_Bushfire-Prepare_Act_Survive_Booklet.pdf](http://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DE
S_Bushfire-Prepare_Act_Survive_Booklet.pdf)

Standards Australia. 2018. Construction of buildings in bushfire-prone areas (Amendment 1), AS 3959-2018, Standards Australia International Ltd, Sydney

Western Australian Planning Commission (WAPC). 2021. Guidelines for Planning in Bushfire Prone Areas. December 2021, V1.4. Western Australian Planning Commission and Department of Planning WA, Government of Western Australia.

Western Australian Planning Commission (WAPC). 2015b. State Planning Policy No. 3.7: planning in Bushfire Prone Areas (SPP3.7). December 2015. Western Australian Planning Commission and Department of Planning WA, Government of Western Australia.



APPENDICES

- Appendix 1: Asset Protection Zone Standards
- Appendix 2: Vehicular Access Technical Requirements
- Appendix 3: Shire of Murray's Fire Break Notice

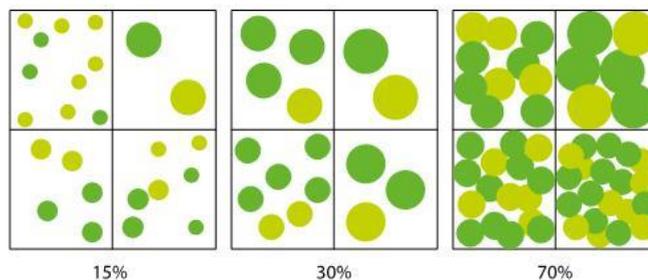
Appendix 1: Asset Protection Zone Standards

ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

- **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity

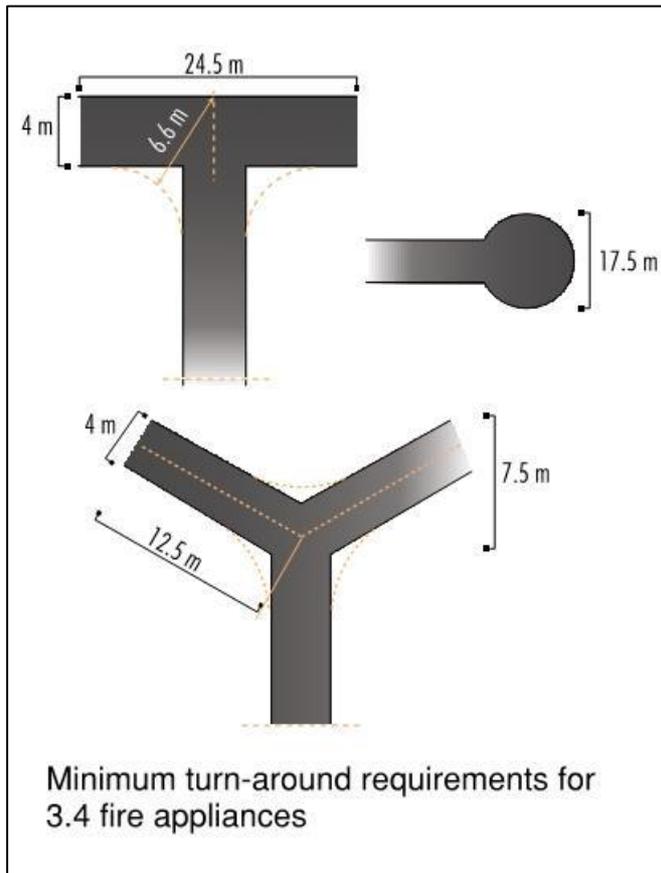


- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Appendix 2: Vehicle Access Technical Requirements

TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5

*Refer to E3.2 Public roads: Trafficable surface



Appendix 3: Shire of Murray’s Fire Break Notice 2021-22



Shire of Murray



**Firebreak Notice and
Bushfire Information**
2020 - 2021

Report All Fires: Phone 000

Important Dates
Camping/Cooking/Garden Refuse

Permit to Burn
Stay Informed

Fire Danger Ratings
Total Fire/Harvest and Vehicle Movement Bans

Preparing for the Fire Season

Firebreak Notice

Important Dates

Restricted Burning Time One

Permits Required

1 October – 30 November (inclusive)

Permits: Permit Issuing Officer – details page five

Fire Prevention Work Due

Installed on or before 30 November

Maintained up to and including 30 April

Prohibited Burning Time

Burning Prohibited

1 December – 31 March (inclusive)

Restricted Burning Time Two

Permits Required

1 April – 15 May (inclusive)

Permits: Permit Issuing Officer – details page five

Note

- Unseasonal weather conditions may necessitate a variation to the dates above.
- Burning is prohibited on days where the Fire Danger Rating is Very High or above and if either a Total Fire Ban/Harvest and Vehicle Movement Ban is declared.
- Prior to any burning, please advise the Department of Fire and Emergency Services' Communication Centre on 08 9395 9209 as well as a Permit Issuing Officer (page five).
- Please monitor the Shire's website murray.wa.gov.au or contact the Shire's Ranger and Emergency Services on 08 9531 7777.

Page 2

Camping/Cooking/ Garden Refuse

Outdoor Cooking

Gas and Electric Barbeques

Permitted at any time.

Solid Fuel Barbecues, Spit Roasts, Webers, Pizza Ovens and Other Cooking Fires

Prohibited Burning Time:

- ✗ Prohibited at all times.

Restricted Burning Times:

- ✗ Prohibited when the Fire Danger Rating is Very High or above, or when a Total Fire Ban has been declared.
- ✓ Permitted at all other times, if constructed in a way which prevents the escape of sparks or burning material and is within a three (3) metre fuel free zone.
- ✓ Somebody must be in attendance at all times and a means of extinguishing the fire must be on hand.

Burning of Garden Refuse or Rubbish

Includes incinerators and on the ground.

Prohibited Burning Time:

- ✗ Prohibited at all times.

Restricted Burning Times:

- ✗ Prohibited on land < 4,000m².
- ✗ Prohibited when the Fire Danger Rating is Very High or above or if a Total Fire Ban has been declared.
- ✓ Permitted at all other times on land ≥ 4,000m²: One small heap (up to one (1) cubic metre) may be burnt on the ground, without a 'Permit to Set Fire to the Bush', between 6:00pm and 11:00pm but only if it is completely extinguished before midnight on the same day, a five (5) metre firebreak has been cleared and at least one able bodied person remains in attendance.

The Shire of Murray Health Local Law prohibits the burning of the following materials which cause the generation of smoke or odour in such quantities as to cause a nuisance to other persons:

- ✗ Plastic
- ✗ Rubber
- ✗ Food scraps
- ✗ Green garden materials



Smoke Management

Considerations prior to burning:

- Weather conditions – Always check with the Bureau of Meteorology for haze alerts and weather conditions in your area.
- Tell your neighbours – Give sufficient notice of your intention to burn to ensure adequate preparation time especially for relocating any persons with respiratory issues.
- Condition of refuse – Only burn dry dead material to minimise the amount of smoke produced.
- Control the load – Do not burn more than you can manage, commence with a smaller fire and gradually add more material.

Residents are encouraged to remove and dispose of potential flammable material – bush, garden rubbish or refuse, from their properties before the onset of summer.



Example of Dry Burn



Permit to Burn

During Restricted Burning Times, a Permit to Burn is required and is obtainable free of charge from:

- Local Bush Fire Brigade Fire Control Officers
- Locality Permit Issuing Officer

Note:

- No permits are issued during the Prohibited Burning Time.
- Permits to Burn **will not** be issued in relation to properties < 4,000m².
- Permit holders are required to adhere to all conditions on the permit.
- Special conditions may apply.

Even when a Permit to Burn has been issued, **no fire is to be lit when the fire danger rating is Very High or above.**

Permit Issuing Officer Contact Details



- Zone 1** Jim Camplin | 0409 909 063
- Zone 2** Robert Wilson | 0417 916 468
Christine Thompson | 0429 447 341
Brian Bird | 0417 081 781
- Zone 3** Peter Thurkle | 0427 882 201
Michael Webster | 0439 920 882
Brendan Webster | 0418 930 986
Lorraine Webster | 0448 135 671
- Zone 4** Kevin Jones | 0417 996 806
- Zone 5** Ben Armstrong | 0429 777 500
David Turner | 0427 775 914
- Zone 6** Lance Pitter | 0438 246 500
- Zone 7** Douglas McLarty | 0407 728 446
- Zone 8** Chris Sattler | 0428 625 066

Stay Informed



EmergencyWA

emergency.wa.gov.au

Total Fire Bans

- Total Fire Ban Information Line 1800 709 355
- dfes.wa.gov.au
- emergency.wa.gov.au
- ABC720AM Local Radio



Harvest and Vehicle Movement Bans

- Shire of Murray 08 9531 7777
- ABC720AM Local Radio
- Local Fire Control Officer

SMS Alerts

Broadcast of local Harvest and Vehicle Movement Bans, Total Fire Bans and other information:

Email: mailbag@murray.wa.gov.au

Please note:

SMS alerts do not include alerts about fires or other emergencies.



Fire Danger Ratings

The Fire Danger Rating (FDR) is based on forecast weather conditions and offers advice about the level of bushfire threat on a particular day. When the rating is High, the threat of a bushfire increases.

If the FDR is Extreme or Catastrophic, residents should leave the day or hours before a fire might threaten, as this is the best option for survival.

Shire of Murray Fire Weather District

- Lower West Coast
- Lower West Inland



Daily Fire Danger Rating (FDR)

- dfes.wa.gov.au
- bom.gov.au/wa
- emergency.wa.gov.au

Understanding Fire Danger Ratings



CATASTROPHIC

100+

Total Fire Bans will be declared. Some fires will be unpredictable, difficult to control and fast moving. A well prepared, well constructed and actively defended home may not survive a fire.

EXTREME

75-99

Total Fire Bans will be declared. Some fires will be unpredictable, difficult to control and fast moving. A well prepared, well constructed and actively defended home may not survive a fire.

SEVERE

50-74

Total Fire Bans are likely. Some fires will be unpredictable, difficult to control and fast moving.

VERY HIGH

32-49

Total Fire Bans are likely. Some fires will be unpredictable, difficult to control and may be fast moving.

HIGH

12-31

Fires can be controlled but there is still a potential threat.

LOW-MODERATE

0-11

Fires can be easily controlled and are slow moving.

Bans



Total Fire Ban

A Total Fire Ban (TFB) is declared by the Department of Fire and Emergency Services (DFES) following consultation with local governments because of extreme weather conditions or when widespread fires are seriously stretching firefighting resources.

During a TFB the lighting of any fires in the open air and any other activities that may start a fire, are prohibited, this includes:

- × All open air fires for the purpose of cooking or camping (i.e. wood fuel barbeques, candles and pizza ovens).
- × Incinerators, welding, grinding, soldering or gas cutting, angle grinders and lawnmowers.

Penalty: Up to \$25,000 fine and/or a 12 month jail term.

Exemptions may be granted by DFES and must be requested in writing.



Harvest and Vehicle Movement Ban

Harvest and Vehicle Movement Bans (HVMB) are imposed by local government under the *Bush Fires Regulations 1954* Section 38A, and/or Section 24C, when prevailing and/or anticipated weather conditions and/or when availability and/or response capacity of the local firefighting resources are reduced.

A HVMB may be imposed for any length of time but is generally imposed for 'heat of the day' periods and may be extended or revoked as weather conditions change.

During a HVMB the use of the following items is prohibited, in order to mitigate the associated risk of causing or contributing to the spread of a bushfire:

- × Engines, vehicles, plant and machinery.

Page 9

Preparing Your Property

Preparing for fires is essential to living in our fire prone landscape. Having a **plan** is the primary step to ensuring the survivability of your property and the welfare of you and your family, including pets and livestock.

In a bushfire, every minute counts especially the next five. Visit firechat.wa.gov.au to prepare a plan, by having a five minute fire chat with your family.

It will be too late to prepare your property when a serious fire is threatening. **Fuel loads** influence bushfire intensity.

If you are planning to build or to undertake any building work, you are advised to comply with Australian Standard AS 3959 Building in Bush Fire Prone Areas.

Public utilities such as telephone, power and water supplies are often damaged during major bushfires and may not be available to you when you need them.

If you are well prepared, your property has a greater chance of surviving a bushfire. Having an Asset Protection Zone is one way to ensure this.



Page 10

Asset Protection Zone

Asset Protection Zone (APZ) is the area within 20 metres, measured from any external wall, of any habitable building. The zone is within the boundaries of the lot on which the habitable building is situated.

Where an APZ is required as part of an approved Bushfire Attack Level (BAL) assessment, it must be maintained in accordance with the BAL report. A BAL report is required as part of all new planning and/or building license approvals for habitable buildings constructed in bushfire prone areas.

Shire of Murray planning approval is not required for the purpose of implementing an APZ.

Note: Building Protection Zone and Asset Protection Zone are synonymous.

Within the APZ, ensure:

- Tree crowns are a minimum of 10 metres apart.
- Low trees are pruned to a height of two (2) metres.
- The fuel load (flammable material) is reduced and maintained to a height of less than five (5) centimetres or less than two (2) tonnes per hectare.
- No tall shrubs or trees are located within two (2) metres of a building (including windows).
- Fences and sheds are constructed using non-combustible materials (e.g. colorbond iron, brick, limestone).
- Sheds or other outbuildings do not contain flammable materials.
- Tall shrubs are not planted in clumps within three (3) metres of a habitable building.
- Tree crowns do not overhang a dwelling and shrubs and trees do not have dead material within the plant.
- Lawns are kept short and green where possible.

Page 11

Alternatives to Burning

There are a range of alternatives to burning waste which will not harm the environment or cause health problems for you or your neighbours.

- Grass can be slashed, grazed or reduced with herbicide to decrease fuel loads. This may be a practical alternative particularly if erosion is a concern or in areas which are difficult to access.
- Ratepayers and residents are encouraged to dispose of green waste and garden refuse via the two annual Green Waste Verge Collections.
- Shire of Murray ratepayers and residents are also able to dispose of their green waste and garden refuse at the Corio Road and Dwellingup Waste Transfer Stations.
- Garden refuse (particularly grass clippings, leaves and twigs) can also be used as a mulch or compost in the garden to improve soils and the growth of plants.

If you have large quantities of green waste (branches, tree trunks) you can arrange for mobile mulching services for the material on-site.

Mulching and composting at home avoids the need to burn off and is an environmentally friendly way to deal with green waste. For information regarding composting, please contact the Shire of Murray Environmental Services on 08 9531 7777.

Mulch piles should be no larger than five (5) cubic metres to reduce the risk of spontaneous combustion and piles should have a three (3) metre firebreak surrounding the pile.

Advice is Available

Further advice on when and how to burn off is available from your local Fire Control Officer, the Shire of Murray Community Emergency Services Coordinator or Ranger Services on 08 9531 7777.

Page 12

Can We Access Your Property?

Did You Know?

In order for fire appliances to access your property safely, firebreaks are required to be no less than three (3) metres wide and have no less than four and a half (4.5) metres vertical clearance. Fire appliances must be able to fit through gates on your property.

The average fire appliance is nine (9) metres long.



Page 13

Firebreak Notice

Bush Fires Act 1954

Notice is hereby given to all owners and/or occupiers of land within the Shire of Murray that Council pursuant to the powers conferred in Section 33(1), 25(1a) and 24G(2) of the *Bush Fires Act 1954*, approved the following requirements at its Ordinary Council Meeting on 25 June, 2020 to prevent the outbreak, spread or extension of a bush fire within the district and deal with other fire related preparedness and prevention matters.

Pursuant to Section 33 of the *Bush Fires Act 1954*, all owners and/or occupiers of land are required to carry out fire prevention work in accordance with the requisitions of this notice on or before 30 November each calendar year or within 14 days of the date of becoming the owner or occupier of the land, should this be after 30 November. All work specified in this notice is to be maintained up to and including 30 April the following calendar year.

Definitions

For the purpose of this notice the following definitions apply:

Authorised Officer – an employee of the Shire of Murray appointed as a Bush Fire Control Officer.

Bushfire Management Plan – a plan that has been developed and approved by the Shire of Murray to reduce and mitigate fire hazards within a particular subdivision, lot or other area of land anywhere in the district.

Driveway – the point of access (driveway) to a habitable building that is accessible for both conventional two wheel drive vehicles and firefighting appliances that is totally clear of all vegetation, trees, bushes, shrubs and other objects or things encroaching into the vertical axis of the driveway. If a driveway to a habitable building is longer than 50 metres in length from a public road, a clear turn around area with a 10 metre radius is to be provided.

Firebreak – an area of ground, of a prescribed width, constructed to a trafficable surface that is kept and maintained totally clear of all flammable material and includes the pruning and removal of any living or dead

Page 14

trees, scrub or any other material encroaching into the vertical axis of the firebreak area.

Fire Management Plan – the same as Bushfire Management Plan.

Fuel Depot/Storage Area – an area of land, a building or structure where fuel (i.e. petrol, diesel, kerosene, liquid gas or any other fossil fuel) is kept in any container or other manner.

Flammable Material – any plant, tree, grass, vegetable, substance, object, thing or material (except living flora including live standing trees) that may or is likely to catch fire and burn or any other thing deemed by an Authorised Officer to be capable of combustion.

Habitable Building – a dwelling, work place, place of gathering or assembly and includes a building used for storage or display of goods or produce for sale by wholesale in accordance with classes 1 – 9 of the Building Code of Australia.

The term habitable building includes attached and adjacent structures like garages, carports, verandahs or similar roofed structure(s) that are attached to, or within six (6) metres of the dwelling or primary building.

Haystack – any collection of hay including fodder rolls placed or stacked that exceeds 100m³ in size (e.g. five (5) metres x five (5) metres x four (4) metres), whether in a shed, other structure or in the open air.

Hills Landscape Protection Land – land zoned or defined in the Local Planning Scheme or Shire of Murray property rate database as Hills Landscape Protection Land.

Plantations – any area of planted pines, eucalypt, hardwood or softwood trees exceeding three (3) hectares in area.

Size – the size of an individual parcel or lot of land as recorded in the Shire of Murray property rate database.

- 1 hectare = 10,000m² = 2.47 acres
- 1 acre = 4,046.86m² = 0.4046 hectare

Trafficable – to be able to travel from one point to another in a four wheel drive fire appliance on a clear surface, unhindered without any obstruction that may endanger resources. A firebreak is not to terminate in a dead end without provision for egress to a safe place or a cleared turn around area of 17.5 metre radius.

Vertical Axis – a continuous vertical uninterrupted line at a right angle to the horizontal line of the firebreak to a minimum height of four and a half (4.5) metres from the ground.

Zoning – the land zoning description as recorded in the Shire of Murray property rate database.

Fire Prevention Requirements

1. Rural Zoned Land – 10 Hectares or Greater

- a. A three (3) metre wide firebreak is to be constructed and maintained as close as practicable, but within 50 metres of the boundaries of the land, where the land abuts all made roads or railway reserves, Crown land which is the responsibility of a state agency, held in leasehold by a third party or otherwise unmanaged or a plantation.
- b. If the rural zoned land abuts or adjoins any other type of zoned land a three (3) metre wide firebreak is to be constructed and maintained along that portion of the rural land that abuts the other zoned land and the firebreak(s) is to be located immediately, where practical inside the boundary of the rural land where it abuts the above mentioned land.
- c. A three (3) metre wide firebreak is to be constructed and maintained immediately surrounding all outbuildings, sheds, haystacks, groups of buildings and fuel depots/storage areas situated on the land.
- d. All flammable material within 20 metres of a habitable building is to be reduced and maintained to a height of less than five (5) centimetres.
- e. A three (3) metre wide driveway to be installed and maintained.

2. Special Rural, Special Residential, All Special Use, Farnlet, Hills Landscape Protection Land, Rural Townsite and Rural Zoned Land Less than 10 Hectares

- a. Where the area of land in this zoning category is 10,000m² or less in size, all flammable material on the entire property is to be reduced and maintained to a height of less than five (5) centimetres.
- b. Where the area of land in this zoning category is between 10,001m² and 25,000m² in size all flammable material on the entire property is to be reduced and maintained to a height of less than five (5) centimetres. Alternatively, a firebreak is to be installed and maintained in accordance with clause 2(c).
- c. Where the area of land in this zoning category is 25,001m² or more in size, a three (3) metre wide firebreak is to be installed and maintained immediately:
 - i. Inside all external boundaries of the land.
 - ii. Around all outbuildings, sheds, haystacks, groups of buildings and fuel depots/storage areas situated on the land.
 - iii. All flammable material within 20 metres of a habitable building is to be reduced and maintained to a height of less than five (5) centimetres.
- d. If land within this zoning category adjoins any of the land described in Clause 3, all flammable material shall be reduced and maintained to a height of less than five (5) centimetres, for a distance of 20 metres, immediately inside the installed and maintained firebreak.
- e. All land within this zoning category, irrespective of size, requires a three (3) metre wide driveway to be installed and maintained.

Exception: Where there is green maintained and reticulated lawn, inclusive of any living trees, shrubs or plants immediately adjacent to an external boundary of any land within this zoning category, a firebreak is not required to be installed or maintained, immediately inside that particular land boundary.

Page 17

3. Residential, Residential Development, Special Development, Industry and all Other Zoned Land Not Specified

- a. Where the area of land in this zoning category is 4,000m² or less, all flammable material on the entire property shall be reduced and maintained to a height of less than five (5) centimetres.
- b. Where the area of land in this zoning category is more than 4,001m² in size, a three (3) metre wide firebreak shall be installed and maintained immediately inside all external boundaries of the land and also immediately surrounding all buildings situated on the land.
- c. A three (3) metre wide driveway to be installed and maintained.

4. Plantations

- a. **Boundary Firebreaks** – all property boundaries must have a 15 metre firebreak installed. The outer 10 metres will be cleared of all flammable material while the inner five (5) metres (i.e. that portion closest to the trees) may be kept in a reduced fuel state by slashing or grazing grass to a height of less than five (5) centimetres. This includes the trimming back of all overhanging limbs, bushes, shrubs and any other object encroaching into the vertical axis above the outer 10 metres of the firebreak area.
- b. **Internal Firebreaks** – plantation area must be subdivided into areas not greater than 30 hectares, separated by six (6) metre wide firebreaks. This includes the trimming back of all overhanging limbs, bushes, shrubs and any other object encroaching into the vertical axis of the firebreak area.
- c. **Special Risks** –
 - i. Public road and railway reserve firebreaks 15 metres wide shall be maintained where the planted area adjoins public roads and railway reserves. The specification will be as for boundary firebreaks on planted areas.
 - ii. Firebreaks shall be provided along power lines where they pass through or lie adjacent to planted areas. The specification of the width and

Page 18

height of clearing shall be in accordance with Western Power specifications.

d. Furthermore, all plantations shall comply with requirements contained in the Department of Fire and Emergency Services (DFES) guidelines or standards for Plantation Fire Protection.

5. Storage of Cut or Stockpiled Timber Products

On all land in the district except land specified as industrial, non-rateable or reserve land, the owner or occupier of the land shall not keep or permit to be kept any cut, stockpiled or windrowed timber products (manufactured or natural), unless the material is in piles of less than 15 metres long, five (5) metres wide and three (3) metres high. Every pile of cut, stockpiled or windrowed timber product larger than 12m³ is to be completely surrounded by a 10 metre wide firebreak.

6. Variations

If it is considered to be impractical for any reason to clear firebreaks or establish other arrangements as required by this notice, the owner and/or occupier of land in the district may apply for a variation by contacting the appropriate area Fire Control Officer prior to 14 November each calendar year to arrange an onsite inspection to discuss alternate methods of fire prevention. Variations may be approved by the Shire of Murray for a one, three or five year period, subject to the owner and/or occupier of the land remaining the same. If a request to vary this notice is not approved, the requirements of this notice apply.

7. Bushfire Management Plans

Where a Bushfire Management Plan (BMP) exists for a specified area or property as required by the Local Planning Scheme or subdivision approval or for an individual or group of properties, compliance with all requirements of the BMP are required in addition to any further requirements within this notice.

8. Special Works Order

The requirements of this notice are considered to be the minimum requirement for fire prevention work, not only to protect individual properties but the district generally.

Page 19

A separate Special Works Order may be issued to individual landowners pursuant to Section 33 of the *Bush Fires Act 1954* to carry out further hazard removal and/or reduction work with respect to anything upon the land, where in the opinion of an Authorised Officer, it is likely to be conducive to the outbreak and/or the extension of a bushfire.

9. Dates to Remember

Restricted Burning Time:

1 October to 30 November each year (inclusive) and 1 April to 15 May each year (inclusive and as varied pursuant to Section 18 of the *Bush Fires Act 1954*).

Prohibited Burning Time:

1 December to 31 March each year (inclusive and as varied pursuant to Section 17 of the *Bush Fires Act 1954*).

The above dates are subject to variation and any alterations will be published in a local newspaper circulating within the district.

10. Camp or Cooking Fires (s.25(1a) *Bush Fires Act 1954*)

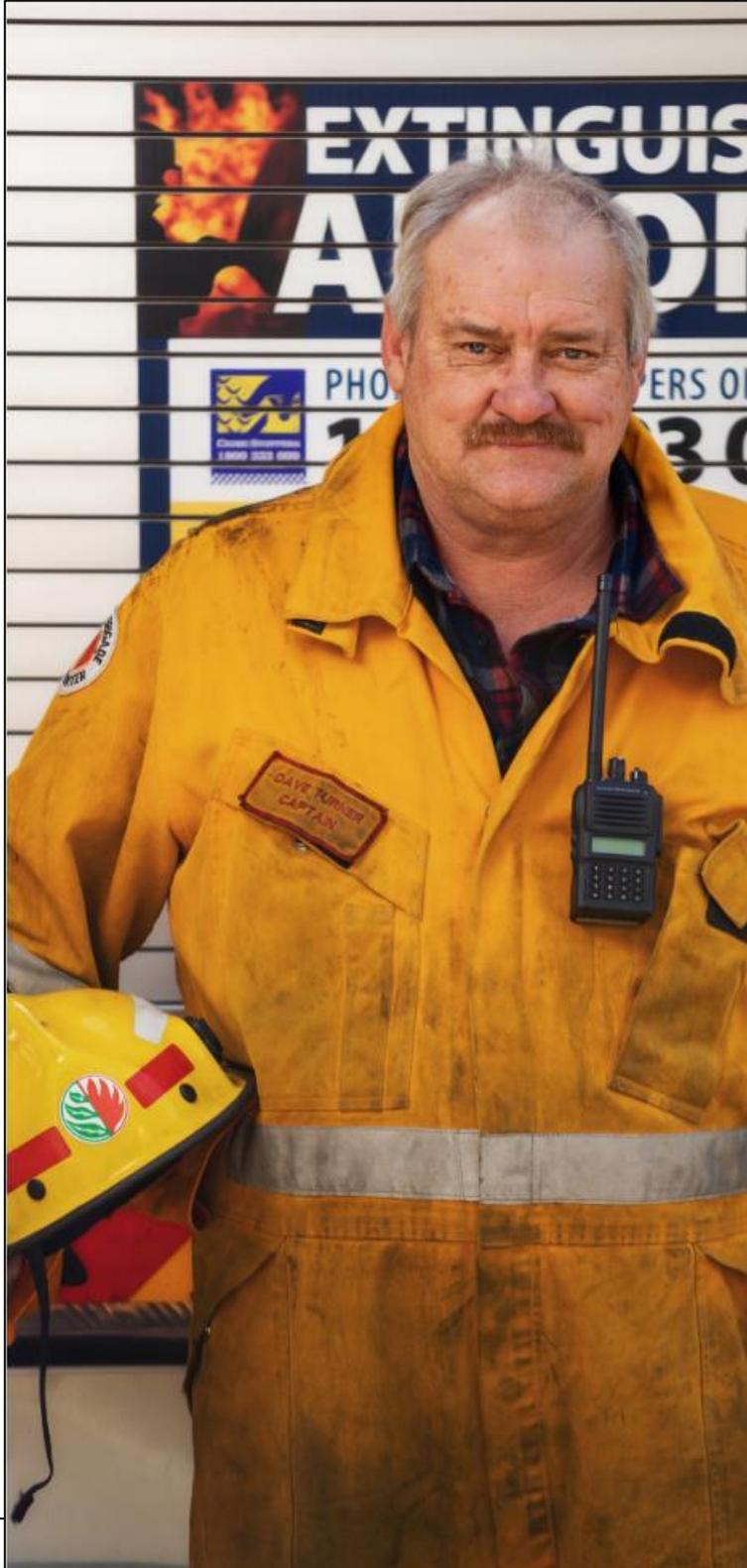
The lighting of camp or cooking fires is prohibited on all land within the Shire of Murray during the Prohibited Burning Time. This prohibition does not apply to a gas appliance that does not consume solid fuel comprising of a fire, the flame of which is encapsulated by the appliance.

11. Burning of Garden Refuse and Rubbish (s.24G *Bush Fires Act 1954*)

The burning of garden refuse or rubbish is prohibited on all land under 4,000m² in size during the Limited Burning Time that would otherwise be permitted under Section 24F.

For the purposes of this clause, Limited Burning Time means 1 October each calendar year through until 15 May the following calendar year (inclusive and as varied pursuant to Sections 17 and 18 of the *Bush Fires Act 1954*).

Page 20



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Report All Fires: Phone 000

Department of Fire and Emergency Services

General Enquiries 08 9395 9300
Emergency Information 133 337 (13DFES)
Register your Controlled Burn 08 9395 9209

Department of Biodiversity, Conservation and Attractions

General Enquiries 08 9290 6100

Shire of Murray Ranger and Emergency Services

08 9531 7709

Chief Bush Fire Control Officer

Robert Wilson 0417 916 468

Deputy Chief Bush Fire Control Officer

Ben Armstrong 0429 777 500

Pinjarra Volunteer Fire and Rescue

Ken Jones—Brigade Captain 0409 205 071

www.emergency.wa.gov.au

