



WESTERN
ENVIRONMENTAL

Bushfire Management Plan

Local Planning Scheme Amendment: Lot 39
Lakes Road, North Dandalup

Western Environmental Pty Ltd

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Bushfire Management Plan

Local Planning Scheme Amendment: Lot 39
Lakes Road, North Dandalup

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1. Introduction

1.1 Proposal Details

Harley Dykstra is seeking to progress Local Planning Scheme (LPS) Amendment for Lot 39 Lakes Road, North Dandalup (hereafter referred to as the subject site, Figure 1). The proposed LPS Amendment will result in a re-zoning from 'Rural' to 'Special Rural', which is associated with an intensification of land use. The future development involves establishment of 14 Special Rural land cells, two drainage/Public Open Space (POS) areas, and a Foreshore Reserve (Figure 2).

Portions of the subject site are within designated bushfire prone areas (Area 2) as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES, 2024; Figure 3), which triggers bushfire planning requirements under *State Planning Policy 3.7 Bushfire* (SPP 3.7; WAPC, 2024a) and reporting to accompany submission of the LPS Amendment in accordance with the associated *Planning for Bushfire Guidelines* (the Guidelines; WAPC, 2024b).

Western Environmental Approvals Pty Ltd (WEPL) was commissioned to prepare a Bushfire Management Plan (BMP) to support the LPS Amendment. This BMP has been prepared by Environmental Consultant Julia Burr and Senior Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802).

1.1.1 Site context

The subject site is located within the Shire of Murray and is zoned Rural under both the Metropolitan Region Scheme (MRS) and the Shire of Murray (2024) Local Planning Scheme No. 4. The subject site contains a mixture of paddocks used for grazing cattle; unmanaged, classifiable vegetation which is mainly associated with the foreshore of North Dandalup River; as well as some rural residential dwellings and sheds. The subject site is bound by:

- Lakes Road rural residential development to the north.
- Paddocks and rural residential lots to the east.
- Shanns Road to the south, which, at the time of preparation of this BMP, is not yet fully developed but will be fully upgraded as a condition of subdivision approval for Lot 806 Shanns Road, located directly to the south of the subject site (currently being progressed).
- Paddocks to the west.

1.2 Purpose and Application of the BMP

This BMP has been prepared in accordance with SPP 3.7 and the Guidelines to support the assessment of the LPS Amendment for the subject site submitted to the Western Australian Planning Commission (WAPC).

In addition, this BMP provides strategies and guidance to reduce the level of bushfire risk exposure for the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

2. Environmental Considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

2.1 Native Vegetation - Modification and Clearing

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values. Biological surveys have been undertaken, and an Environmental Assessment Report (EAR) has been prepared by WEPL (2025a; 2025b). These reports have informed the findings presented in this section.

The subject site in its current state contains native vegetation, predominantly along North Dandalup River, associated with a proposed foreshore area and within the south-eastern portion of the subject site (Figure 2). A foreshore reserve has been delineated which is proposed for retention. The foreshore area contains two Conservation Category Wetlands (CCWs) as well as registered Aboriginal heritage site ID 27937, which is associated with North Dandalup River, its mythological narrative and values as water resource.

Vegetation in the south-eastern portion of the subject site provides black cockatoo habitat. Black cockatoos are listed as Threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) as well as under the *Western Australian Biodiversity Conservation Act 2016*. Majority of this vegetation is therefore planned to be retained to minimise environmental impacts (WEPL, 2025b).

Environmental approvals will be required if clearing occurs during future planning stages.

2.2 Revegetation/Landscape Plans

No revegetation or landscaping is proposed within the subject site at this stage of planning. It is possible that planting within the foreshore reserve will occur, and this will be appropriately considered in future BMPs supporting more detailed stages of planning as required.

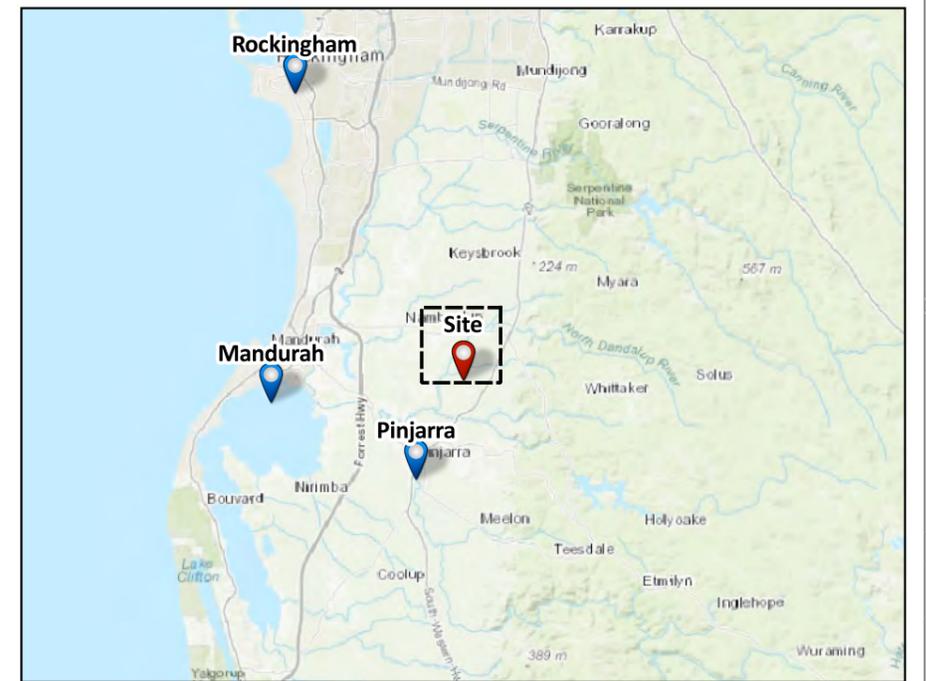
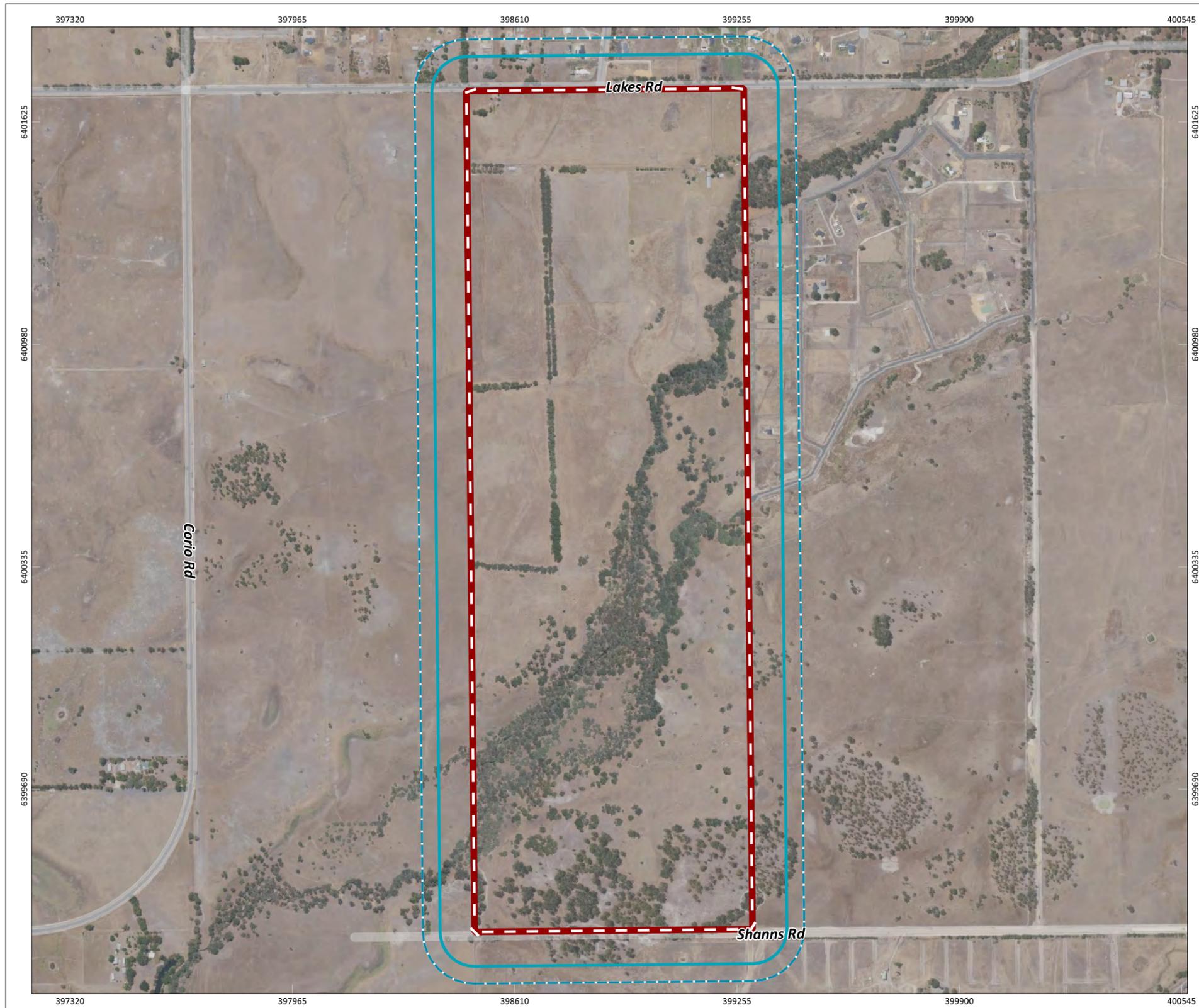
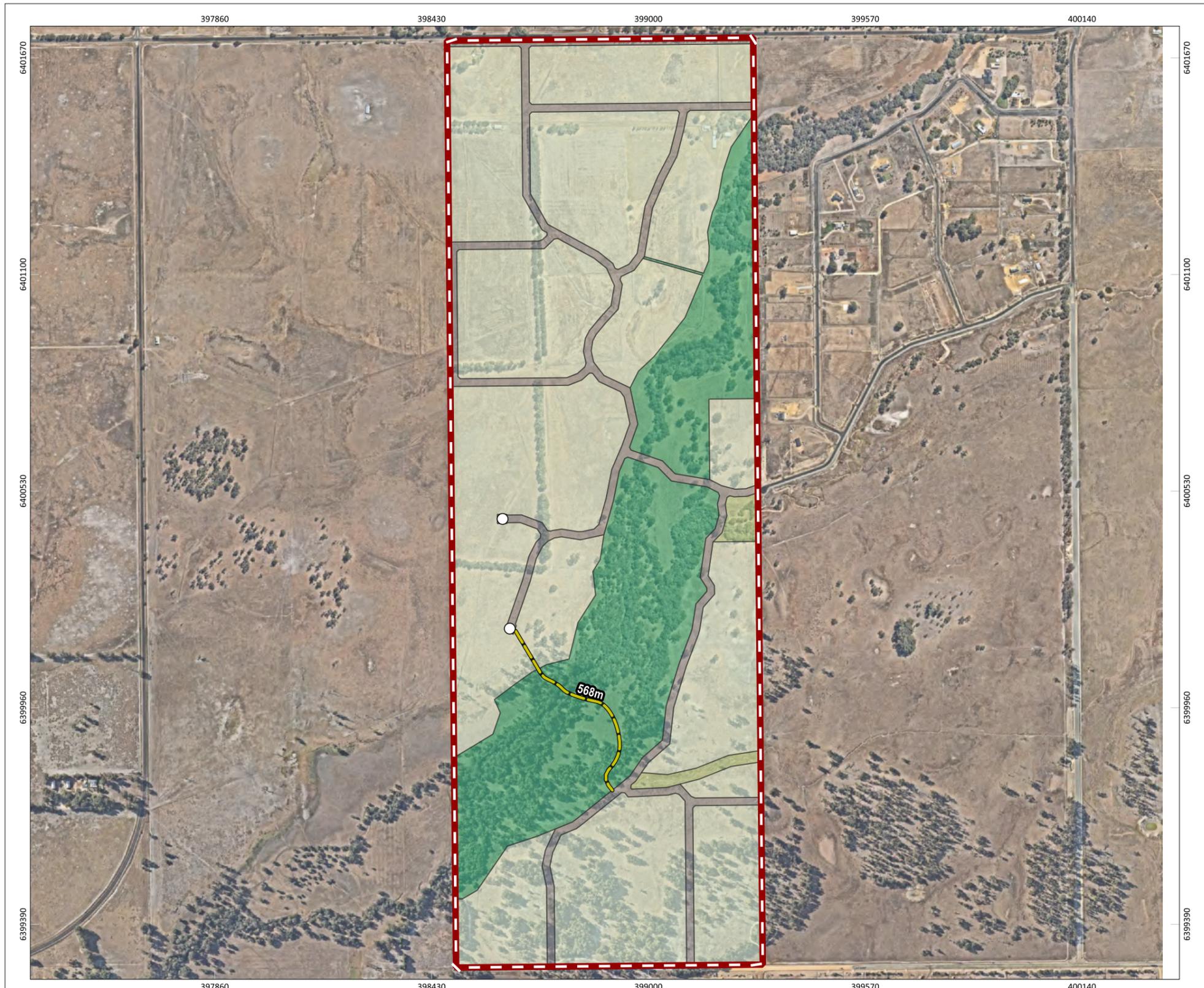


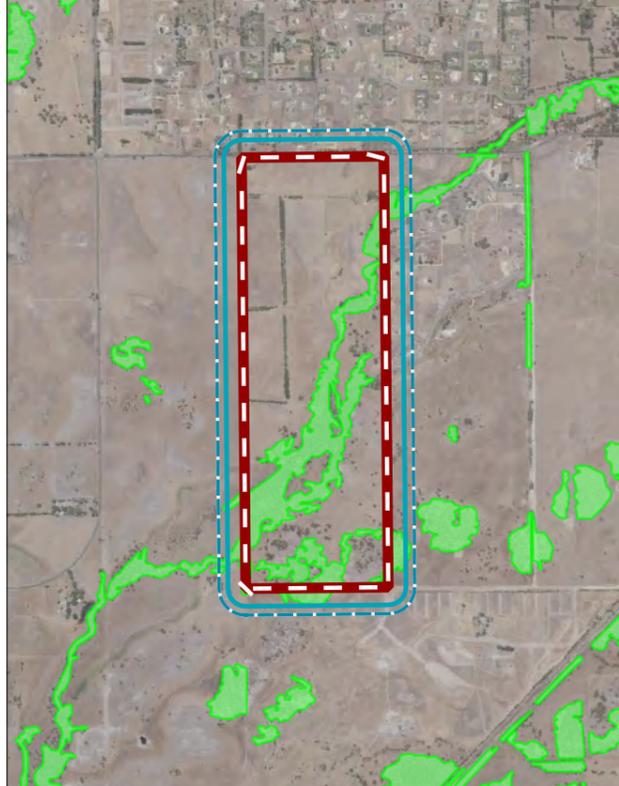
Figure 1: Site Overview

	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup		Legend Subject Site Buffer 100m Buffer 150m Buffer 200m	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025															
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DATA SOURCE Nearmap (31st March 2025)		NOTES: Cadastral boundary (LGATE-002), Base map ESRI Topo, Townsites (LGATE-248).																											

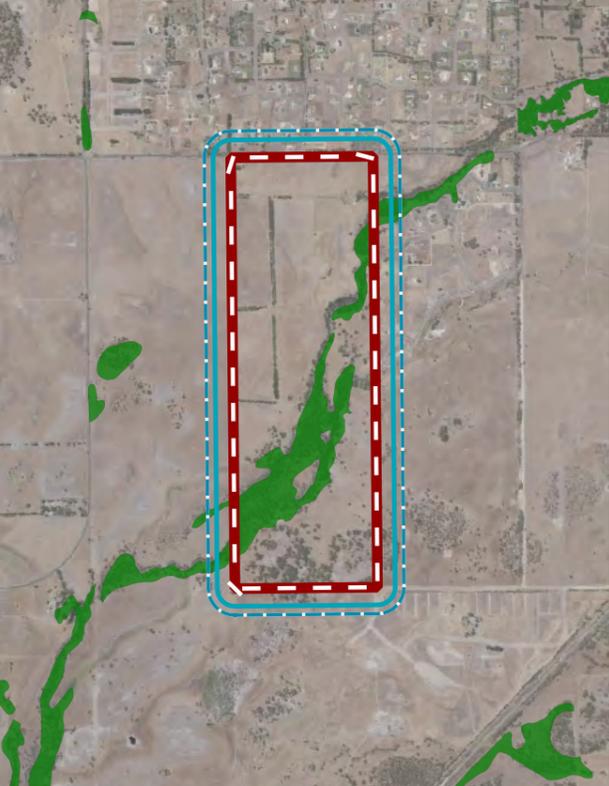




Native Vegetation Extent



Geomorphic Wetlands



Environmentally Sensitive Areas

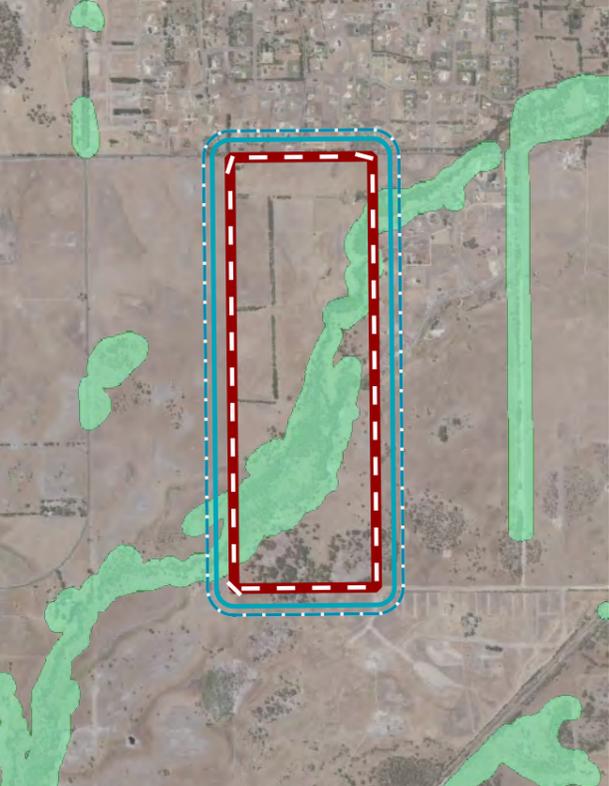


Figure 2: Site Plan

	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup		Legend <ul style="list-style-type: none"> Subject Site Proposed Special Rural Foreshore Reserve Public Open Space (POS) / Drainage Road Cul-de-sac Emergency Access Way (EAW) Native Vegetation Extent (DPIRD-005) Environmentally Sensitive Areas (DWER-046) Conservation Category Wetland (DBCA-019) 	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025															
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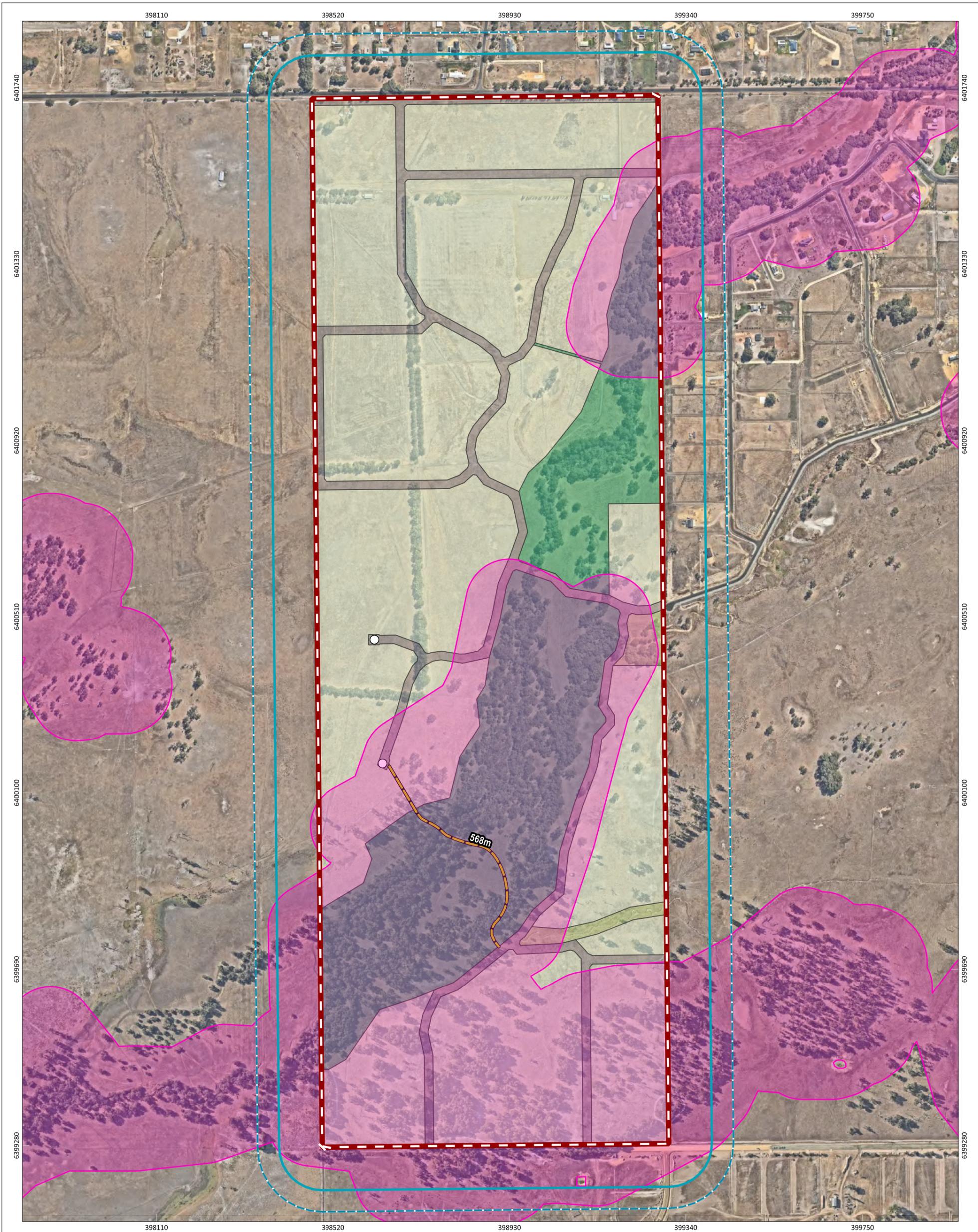


Figure 3: Bushfire Prone Areas

	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup		Legend Subject Site Buffer 100m Buffer 150m Cul-de-sac Emergency Access Way (EAW)	Proposed Special Rural Foreshore Reserve Public Open Space (POS) / Drainage Road Bush Fire Prone Area Planning (OBRM-023) Bushfire Prone Area 2	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025															
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3. Bushfire Assessment Results

3.1 Broader Landscape Assessment

3.1.1 Assessment context

The subject site was identified to be within Area 2 of the Map of Bush Fire Prone Areas (OBRM-001; DFES, 2024). In light of this, the following Broader Landscape Assessment (BLA) has been completed to assess the compliance of the proposed LPS Amendment against Element 1 (Location) of the Guidelines.

Step 1: Determine the BLA area

For the purposes of this desktop assessment, all areas within 2 km of the subject site boundary have been included in the BLA area (Figure 1).

Step 2: Assess and map the broader landscape

2.1: Assess and map vegetation

Using up to date aerial imagery, the structure of vegetation falling within the BLA area were assessed and categorised (Figure 4). The categories align with classified vegetation and exclusions under Australian Standard (AS) 3959: Construction in Bushfire Prone Areas (AS 3959) as per the following:

- Areas of low-threat vegetation and non-vegetated areas.
- Areas of unmanaged grassland (Class G Grassland).
- Areas of all other types of classified vegetation.

Consideration has been given to any known revegetation and areas of environmental, biodiversity or conservation value in assigning categories to vegetation within the BLA area.

2.2: Assess and map aspects

The broader landscape area has been broken down into four quadrants depending on their aspect in relation to the subject site (Figure 4). The exposure of the proposed development to identified bushfire hazards has been assessed in relation to each of these aspects (Table 1).

Table 1: Description of Vegetation Within Each of the Map Quadrants

Aspect	Bushfire hazard description
Northeast	The northeastern aspect is covered by a mix of unmanaged grassland associated with rural-residential and agricultural land uses as well as low-threat/non-vegetated areas of rural-residential development. Small patches of classified vegetation associated mainly with the North Dandalup River foreshore area are also present. This aspect is not expected to support a landscape scale bushfire.
Southeast	The southeastern aspect is covered by a mix of unmanaged grassland associated with agricultural land uses, patches of classified vegetation and one larger continuous low-threat/non-vegetated area, which has been cleared for rural-residential development. This aspect is not expected to support a landscape scale bushfire.
Southwest	The southwestern aspect is mainly covered by unmanaged grassland associated with agricultural land uses. One continuous 2 km long, but narrow strip of classified vegetation is associated with the foreshore area of North Dandalup River passing through the subject site. Minimal areas of low-threat/non-vegetated areas are present. This aspect is not expected to support a landscape scale bushfire.
Northwest	The northwestern aspect is largely covered by unmanaged grassland associated with agricultural land uses. Some isolated patches of classified vegetation are present and small patches of low-threat/non-vegetated areas used for rural-residential dwellings. This aspect is not expected to support a landscape scale bushfire.

The subject site is not considered to be exposed to any aspects which may support a landscape scale bushfire.

2.3: Assess and map the predominant vegetation pattern

Using the vegetation assessment undertaken in Step 2.1, the predominant vegetation pattern was determined based on the following three categories (Figure 5):

- Cleared vegetation (e.g. residential or urban zoned and developed land).
- Mosaic pattern of vegetation (including Class G Grassland and vegetation within rural living precincts).
- Large tracts of classified vegetation (e.g. contiguous vegetation within reserves or national parks which facilitate fire runs at least 1 km long and 100 m wide).

The predominant vegetation pattern within the BLA area is Mosaic vegetation types. The following breakdown of the vegetation patterns have been mapped in Figure 5:

- Cleared vegetation: 12.8%
- Mosaic: 84.8%
- Large tracts: 2.4%



Figure 4: Mapped Vegetation Aspect

 0 200 400 600 800 m	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup		Legend Subject Site Buffer 2km Mapped Vegetation Low threat/non vegetated Unmanaged grassland All other classified vegetation	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025																 WESTERN ENVIRONMENTAL <small>Western Environmental Pty Ltd 08 6244 2310 enquiries@westenv.com.au Level 3/25 Prowse St, West Perth WA 6005 westenv.com.au</small>
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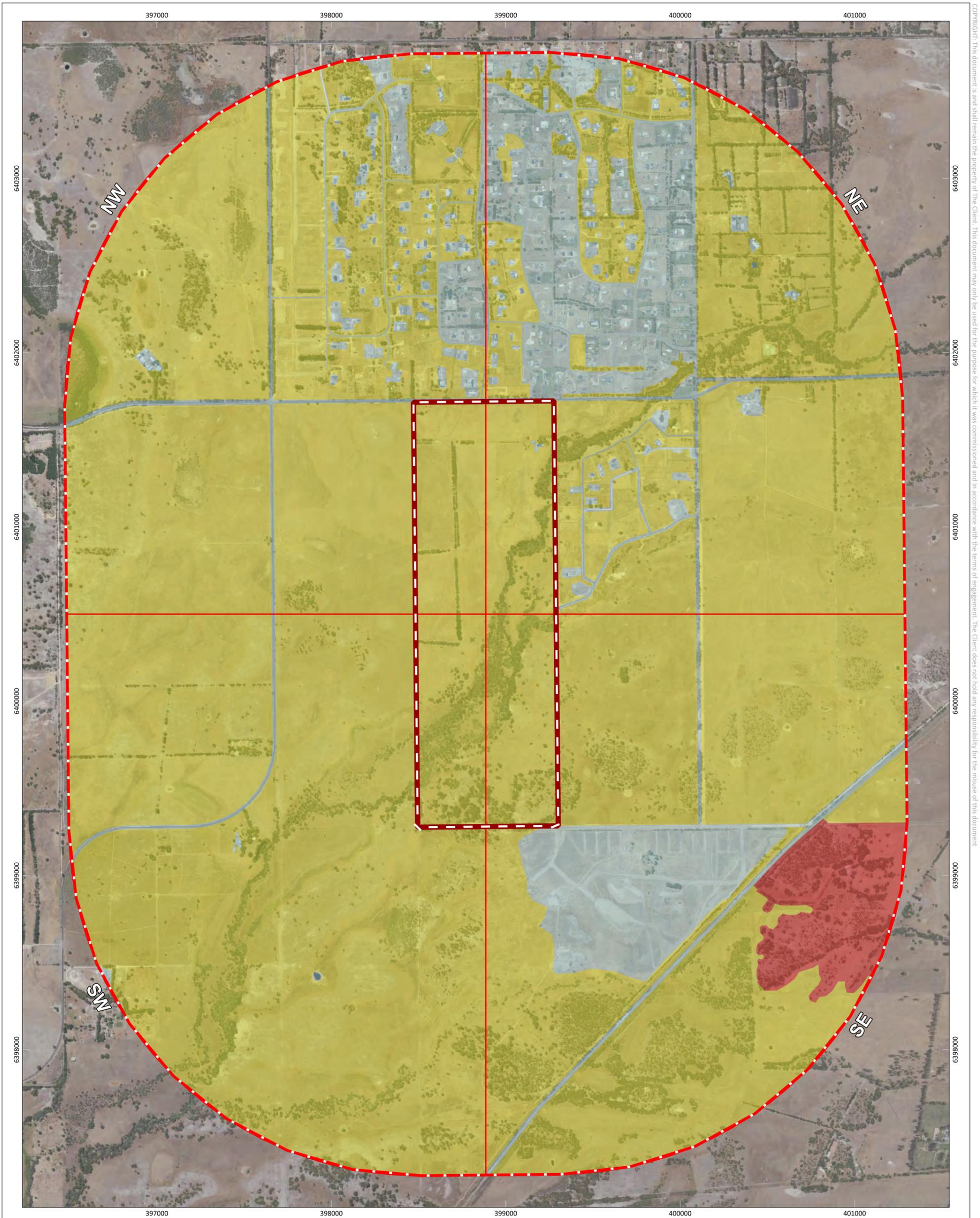


Figure 5: Predominant Vegetation Pattern

 0 200 400 600 800 m	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup	Legend Subject Site Buffer 2km Vegetation Pattern Low threat/non vegetated Mosaic pattern Large tracts of classified vegetation	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>NOTES: Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.</p>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025																 WESTERN ENVIRONMENTAL Western Environmental Pty Ltd 08 6244 2310 enquiries@western.com.au Level 3/25 Prowse St, West Perth WA 6005 western.com.au
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2.4: Assess and map road pattern and suitable destination(s)

The public road network surrounding the subject site was mapped and assessed to establish the level of vehicular access to the proposed LSP area. Potential escape routes to suitable destinations have been mapped and highlighted within Figure 6. In order to assess the complexity of these escape routes, the following details have been assessed and displayed:

- Main Roads WA road hierarchy.
- The location of intersections along each of the escape routes.
- Any cul-de-sacs exceeding 100m in length which are within a 1 km drive distance of the escape routes.
- The length of each of the escape routes to a suitable destination.

The analysis resulting in the outputs in Figure 6 is briefly detailed below.

Escape routes, road intersections and cul-de-sacs were generated from MRWA - Road Hierarchy (MRWA, 2024), a polyline dataset representing road centrelines spatially.

Escape routes used the geometry of the polylines to connect subject site access points to suitable destinations using the most efficient trafficable paths. Road intersections were points derived from the intersection of any polyline features within the dataset and cul-de-sacs were points derived from polyline end nodes not connected to other polyline features.

Significant intersections were defined as intersections on the escape route where:

- There is change in road name of roads on the escape route (e.g. Road Name A leading to Road Name B, both on the escape route);
- There is change in road category of roads on the escape route (Primary Distributor Road leading to Local Distributor Road, both on the escape route);
- There is road of a higher category leading off the escape route (e.g. Primary Distributor Road leading off the escape route connected to Local Distributor Road on the escape route); or
- There is a traffic signal present at the intersection on the escape route.

Significant cul-de-sacs were defined as cul-de-sacs in the vicinity of the escape route which are:

- Longer than 100 m in length (i.e. greater 100 m driving distance to any road interaction); and
- Less than 1 km driving distance from the end of the cul-de-sac to the nearest intersection on the escape route.

A relatively direct route from the subject site to a suitable destination is possible, within a length of 20.4 km, containing limited intersections. This route is mapped through mostly unmanaged grassland, passing by limited classified vegetation scattered along the route. Note: this is a conservative assessment that discounts the North Dandalup townsite due to its small size.

It should also be noted that post development, a number of large areas within the north-western portion of the subject site will have a Bushfire Hazard Level (BHL) of Low. These areas will facilitate refuge as suitable destinations in the event of a landscape scale bushfire and require shorter distances of travel avoiding the need to travel past bushfire hazards.

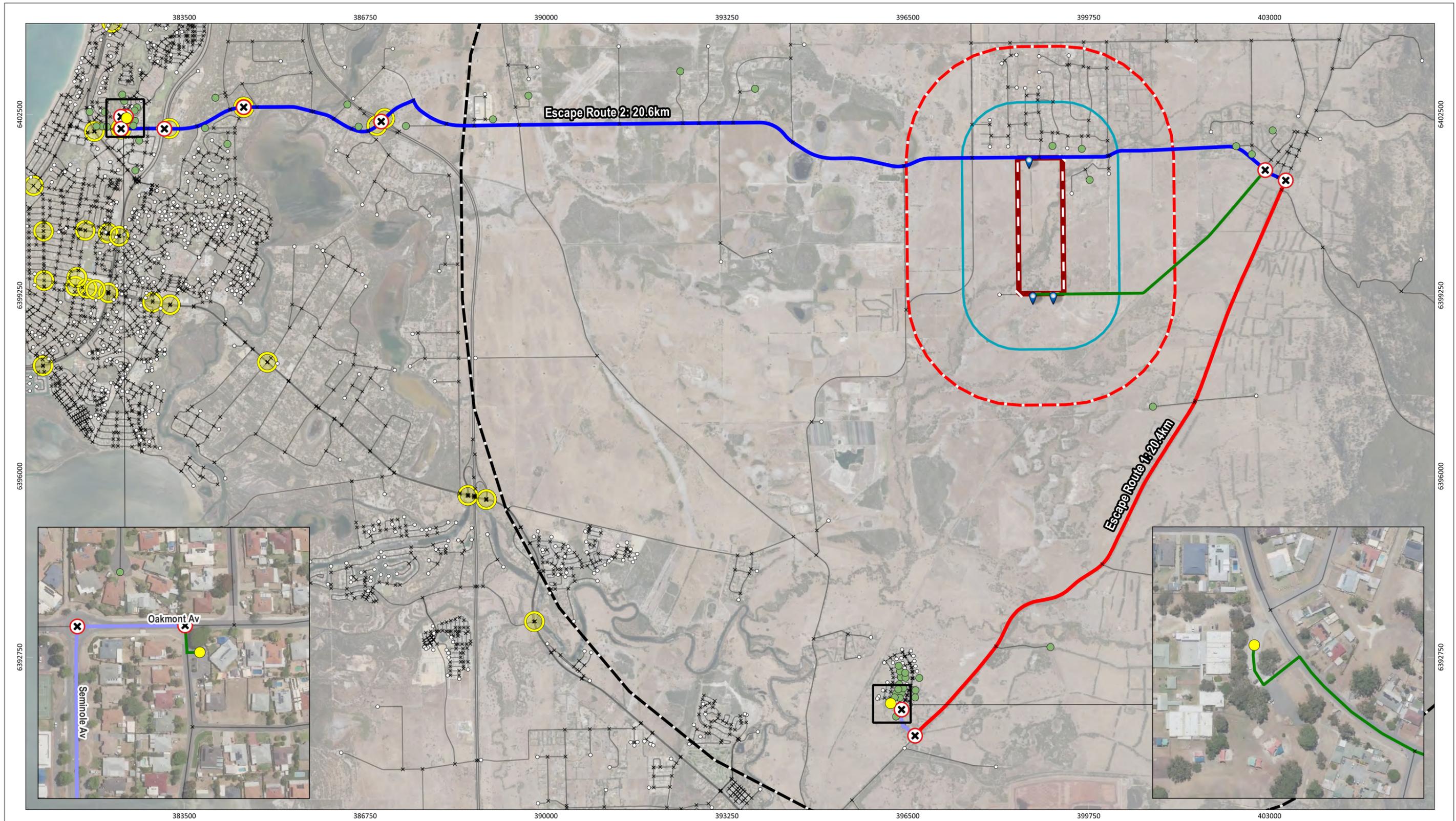


Figure 6: Road patterns and suitable destinations

	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup	Legend Property Buffer 1km Buffer 2km Buffer 10km	Access point Suitable Destination (Swan Suburbs Rugby Union Football Club)	Road Hierarchy (MRWA) Escape Route Primary Distributor District Distributor Local Distributor Access Road	Road intersection Significant intersection along the escape route Cul de Sac Cul de Sac (longer than 100m within a 1km drive distance of the escape route) Traffic_Signal_Sites																									
SCALE 1:65,000	SHEET SIZE A3 COLOUR	CLIENT Harley Dykstra	PROJECT NUMBER A24.034	VERSION 0	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025															
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COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 50		DRAWN BY / REVIEWED BY SM/JB	DATE 6/8/2025																											
DATA SOURCE Landgate Aerial Imagery		 Western Environmental Pty Ltd 08 6242 2310 enquiries@western.com.au Level 3/25 Prowise St, West Perth WA 6005 western.com.au																												

Step 3: Establish the Broader Landscape Type (BLT)

Using the information gathered throughout Steps 1 and 2, the BLT has been determined using a points-based system as presented in Table 2 below.

Table 2: Determination of the Broader Landscape Type

Criteria	5 points	2 points	1 point	Points
Proximity of the planning proposal to a suitable destination is:	✓	<input type="checkbox"/>	<input type="checkbox"/>	5
	>10 km	1 – 10 km	<1 km	
The road pattern from the planning proposal to a suitable destination is:	<input type="checkbox"/>	<input type="checkbox"/>	✓	1
	Complex and indirect (cul-de-sacs, and/or multiple intersections)	Mixed road patterns	Simple and/or direct (limited intersections)	
The predominant vegetation pattern is:	<input type="checkbox"/>	✓	<input type="checkbox"/>	2
	Large tracts of vegetation (contiguous vegetation)	A mosaic pattern of vegetation (e.g. vegetation within rural living precincts)	Cleared vegetation (e.g. clearing for residential zoned urban lots)	
Exposure of the planning proposal to an identified external bushfire hazard (excluding Class G Grassland) is from:	<input type="checkbox"/>	<input type="checkbox"/>	✓	1
	Three or four aspects	Two aspects	From nil or one aspect only	
TOTAL POINTS:				9
Total points		Broader landscape type		
0 – 11 points		Broader landscape type A		✓
12 – 20 points		Broader landscape type B		<input type="checkbox"/>

As per the above analysis, the subject site is within BLT A.

3.2 Bushfire Hazard Level Inputs

A bushfire assessment has been undertaken for the proposed LPS Amendment in accordance with the Guidelines. Inputs to this assessment are detailed below.

3.2.1 Vegetation Classification and Slope under Vegetation

Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) were assessed on 1/04/2025 with regard given to the Guidelines and AS 3959: 2018.

The classified vegetation for the site from each of the identified vegetation plots are identified in Figure 7. Photographs relating to each area and vegetation type are included in Appendix A.

Post-Development Bushfire Assessment

A high-level assessment of vegetation and slope was undertaken based on the proposed development concept in Figure 2. As no development plans have been prepared to support this strategic planning application, this assessment has not been depicted in a figure in this BMP.

A summary of the post-development bushfire assessment is provided below:

- Proposed roads have been excluded to represent cleared areas and low threat vegetation in the form of streetscapes.
- A foreshore reserve has been delineated, containing two CCWs within the subject site. Vegetation within this area will be retained in its current structure.
- Vegetation in the south-eastern portion of the subject site will be retained in its current structure.
- Vegetation within Public Open Space (POS) and Drainage will be retained in its current structure.

Updated BMPs will be prepared to address any changes to landscaping and/or vegetation extent at future planning stages. These updates may also result in exclusion of Asset Protection Zones (APZs) and/or landscape buffers as per Clause 2.2.3.2 of AS 3959: 2018 based on final size and composition of these areas.

At the time of subdivision, a condition of approval is to be imposed requiring a detailed Landscape Plan to be prepared by the Developer and approved by the Shire of Murray, which requires:

- Public Open Space areas to be established and maintained in a low threat state in accordance with AS 3959: 2018, through the use of hard landscaping, irrigation and the removal of all existing vegetation (excluding trees proposed for retention).
- All landscaping outside of, landscape buffers and conservation areas is to be established and maintained in a low threat state in accordance with AS 3959:2018, through the use of hard landscaping, irrigation and removal of existing vegetation (excluding trees proposed for retention).
- All road verges and median strip drainage swales shall be established and maintained in a low threat state in accordance with AS 3959: 2018.

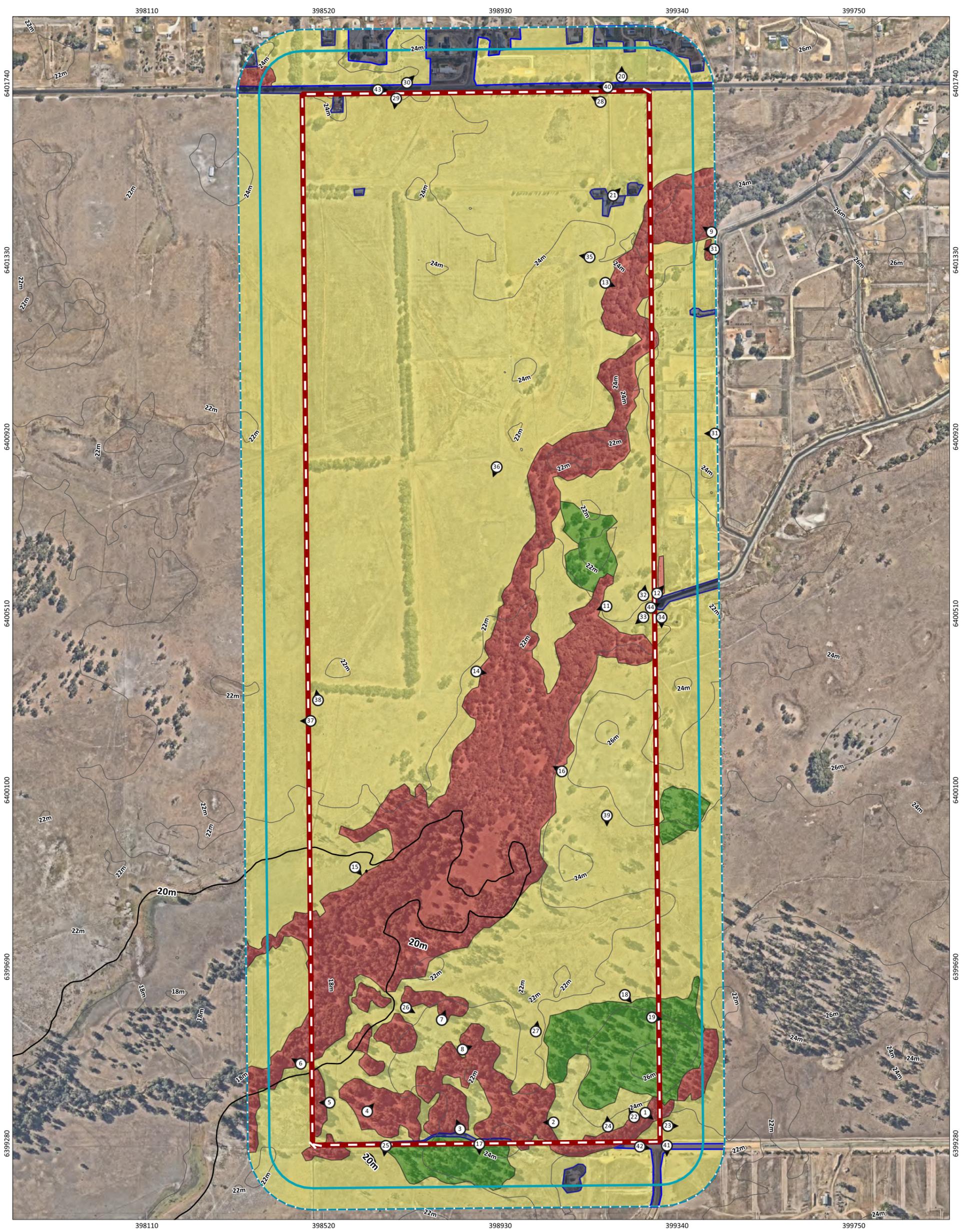


Figure 7: Vegetation Classification (Pre-Development)

<p>0 75 150 225 300 m</p> <p>N</p>	<p>PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup</p>	<p>Legend</p> <ul style="list-style-type: none"> Subject Site Buffer 100m Buffer 150m Photos — 2m — 10m 	<p>Vegetation Classification</p> <ul style="list-style-type: none"> Class A - Forest Class B - Woodland Class G - Grassland Excluded AS 3959: 2018 2.2.3.2 (e) 	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original Issue</td> <td>SM</td> <td>JB</td> <td>6/6/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>NOTES: Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.</p>	No	Description	Drawn	Approved	Date	A	Original Issue	SM	JB	6/6/2025																					<p>WESTERN ENVIRONMENTAL</p> <p>Western Environmental Pty Ltd 08 6244 2310 enquiries@westenv.com.au Level 3/25 Prowse St, West Perth WA 6005 westenv.com.au</p>
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3.3 Bushfire Assessment Outputs

A Bushfire Hazard Level (BHL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959: 2018 and the bushfire assessment inputs in Section 3.2.

3.3.1 BHL Assessment

All land located within 100 m of the classified vegetation depicted in Figure 7 is considered bushfire prone and is subject to a BHL assessment in accordance with the Guidelines.

Pre-development BHLs have been assessed for the subject site in accordance with the methodology contained within the Guidelines and incorporates the following factors:

- Vegetation class.
- Slope under classified vegetation.

Table 3 contains a summary of the BHL assessment for each vegetation plot depicted in Figure 7. All land within 100 m of Extreme and Moderate BHLs has also been mapped as a Moderate hazard as per the Guidelines. The pre-development BHL result is depicted in Figure 8. Descriptions of each vegetation classification are with each of the plates in Appendix A.

Clearing and landscaping will be undertaken within the subject site for development purposes, and consequently the pre-development BHLs are subject to change. As no development plans have been prepared to support this strategic planning application however, a post-development BHL has not been included in this BMP.

Table 3: Bushfire Hazard Level (BHL) Assessment

Plot	Vegetation classification	Effective slope	BHL pre-development
1	Class A Forest	All upslopes and flat land (0 degrees)	Extreme
2	Class B Woodland	All upslopes and flat land (0 degrees)	Extreme
3	Class G Grassland	All upslopes and flat land (0 degrees)	Low
4	Excluded - clause 2.2.3.2 (e) & (f)	-	Low

3.4 Identification of Issues Arising from the BHL Assessment

Given the majority of the extent of vegetation within the subject site is comprised of grassland, most areas within the subject site have been assessed to have a low bushfire hazard level, post-development. The north-eastern portion of the subject site is therefore considered developable.

Vegetation within the foreshore reserve and the south-eastern portion of the subject site remains and presents an Extreme BHL.

No detailed development, such as subdivision design or the location of building envelopes are proposed during this planning stage. As the zoning for the subject site is proposed to be amended to 'Special Rural' it is expected that future lots will be able to be sufficiently sized to allow suitable bushfire setbacks to be achieved without the need for excessive clearing of vegetation.

Development of building pads during future planning stages will manage future Bushfire Attack Level (BAL) impacts on dwellings via the implementation of APZs. An APZ will be prescribed around each of the proposed building pad within designated bushfire prone areas to achieve BAL ratings of \leq BAL-29 for future dwellings. The building pads are assumed to be non-vegetated post-development, whilst the APZs are assumed to contain vegetation which is maintained to APZ standards.

Given the above, for the purposes of strategic level planning, WEPL does not consider the current on-site vegetation extent to be a bushfire hazard issue post-development, since these hazards can be managed through standard management responses and compliance with acceptable solutions outlined in the Guidelines. These management measures will need to be factored into the development design as early as possible to ensure a suitable, compliant and effective bushfire management outcome is achieved to aid in the protection of life and property assets.

Demonstration of compliance with the relevant requirements of SPP 3.7, the Guidelines and AS 3959: 2018 at future planning stages will also depend on the developer's ability to coordinate the timing and staging of clearing and development works within the subject site. This should be undertaken with the aim to avoid bushfire impacts from retained vegetation.

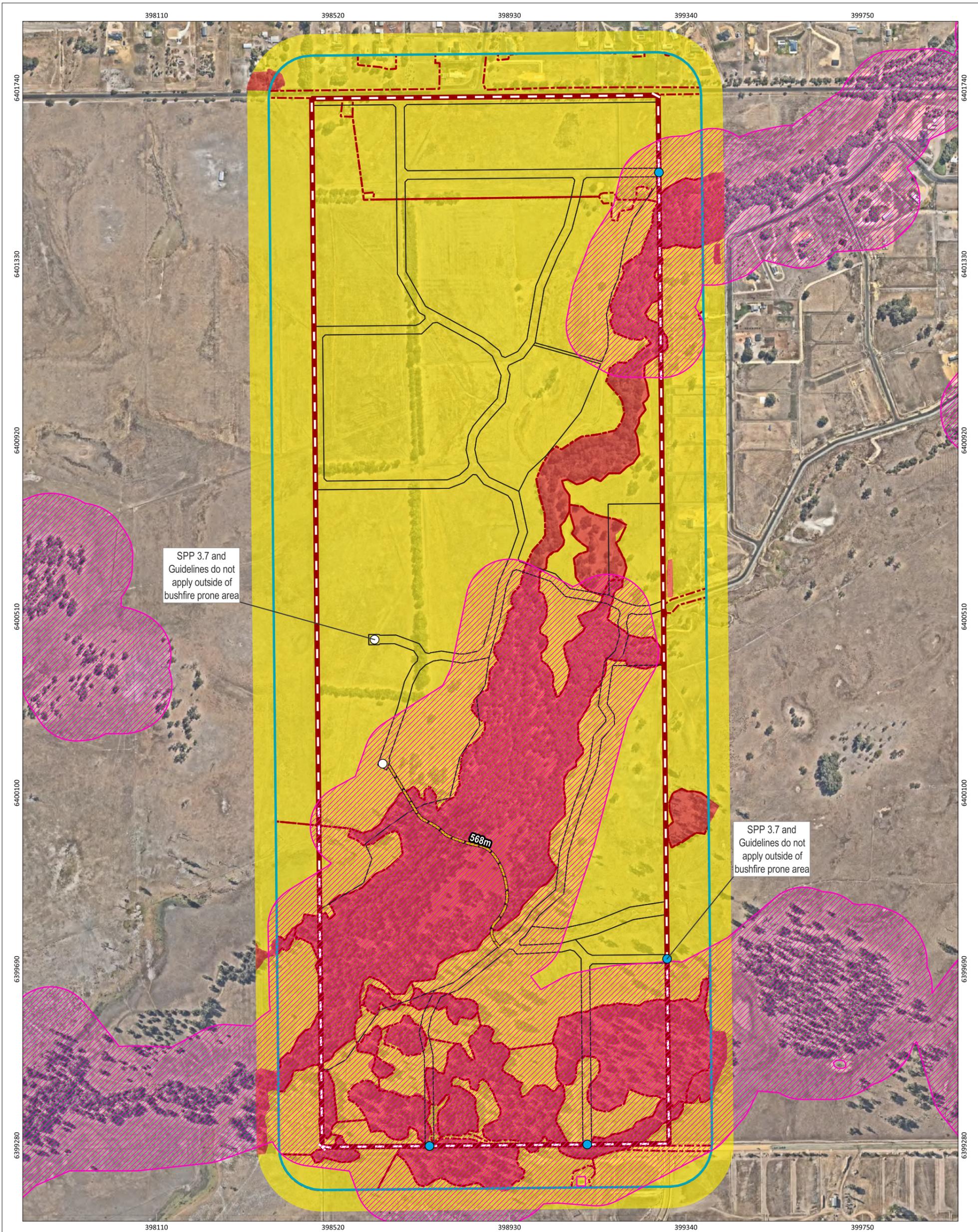


Figure 8: Bushfire Hazard Level (Pre-Development)

	PROJECT/REPORT NAME Bushfire Management Plan Lot 39 Lakes Road, North Dandalup		Legend 	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>SM</td> <td>JB</td> <td>6/8/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	JB	6/8/2025															
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4. Assessment Against the Bushfire Protection Criteria

4.1 Compliance

The proposed LPS Amendment is required to comply with policy measures 7.1 and 7.2 of SPP 3.7 and Bushfire Protection Criteria 4 of the Guidelines.

Table 4 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved through the application of bushfire risk management measures. No Outcomes-based Approach (OA) have been proposed for this LPS Amendment.

Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

Table 4: Assessment Against the Bushfire Protection Criteria

Bushfire Protection Criteria 4	AS	OS	N/A
Element 1: Location	✓	<input type="checkbox"/>	<input type="checkbox"/>
A1.1 Broader Landscape Type			
<p>The policy outcome for Element 1 has been achieved through a Broader Landscape Assessment (BLA), as detailed in Section 3.1. The subject site is considered appropriate for land use intensification given the location presents a lower risk of landscape scale bushfire, being of the category Broader Landscape Type A.</p> <p>The proposed LPS Amendment is considered to be compliant with A1.1.</p>			
Element 2: Siting and design of development	✓	<input type="checkbox"/>	<input type="checkbox"/>
A2.1 Siting and design			
<p>Post-development, a minimum of eight rural-residential cells within the subject site will be subject to BHLs of Moderate or Low. This BHL covers approximately 50% of the subject site. Whilst there are areas with a BHL rating of Extreme within the subject site, these are contained to the retained foreshore reserve and the south-eastern portion of the subject site.</p> <p>Vegetated areas will be separated from future building pads by APZs, roads, managed parkland etc. to ensure that Bushfire Attack Level (BAL) ratings of ≤BAL-29 will apply to all future building pads. The lot layout within the subject site is currently unconfirmed and this separation is unable to be spatially depicted, however will be in future BMPs to support more detailed planning applications.</p> <p>The proposed LPS Amendment is considered to be compliant with A2.1.</p>			
A2.2 Clearing of native vegetation	✓	<input type="checkbox"/>	<input type="checkbox"/>
<p>Native vegetation is to be retained within the defined foreshore reserve, POS reserves and within the south-eastern portion of the subject site. No clearing will be required at this stage of the planning process. Clearing will be limited during future planning stages to the minimal extents required for the development of building pads and to implement APZs in alignment with APZ standards.</p> <p>The proposed LPS Amendment minimises the clearing of native vegetation where possible and is therefore considered to be compliant with A2.2.</p>			
Element 3: Vehicular access	✓	<input type="checkbox"/>	<input type="checkbox"/>
A3.1 Public roads			
<p>The subject site is accessed via one existing public road in the north (Lakes Road) and one public road in the east (Goldmine Road). An additional public road accessing the subject site in the south (Shanns Road) is currently under construction. The Guidelines do not prescribe values for the trafficable (carriageway/pavement) width of public</p>			

Bushfire Protection Criteria 4	AS	OS	N/A
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roads as they should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area. Proposed roads within the subject site will be designed according to Liveable Neighbourhoods.

WEPL's assessment, however, has identified that the roads surrounding the development are bitumen with estimated width of the sealed surface achieving a minimum width of 6 m, with a 16 m road widening of Lakes Road being proposed as part of the LPS concept plan, and therefore consider the existing road network would provide suitable access and egress for the community and emergency services personnel in the event of a bushfire.

Vehicular access technical requirements in accordance with the Guidelines are detailed in Appendix C.

The proposed LPS Amendment is considered to be compliant with A3.1.

A3.2 Access routes	✓	<input type="checkbox"/>	<input type="checkbox"/>
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Multiple access routes from the subject site to more than two suitable destinations are available via the existing public network (**Figure 6**). Access to the site is available via three different access points.

Refer to A3.1 above for details regarding vehicular access technical requirements for public roads.

The proposed LPS Amendment is considered to be compliant with A3.2.

A3.3a No-through roads	✓	<input type="checkbox"/>	<input type="checkbox"/>
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Six proposed roads within the subject site are no through roads.

Four of the proposed no through roads are temporary and will be connected to Shanns Road in the south once construction is completed, a neighbouring development in the north-east as result of WAPC Approval No. 161314 and future development of Lot 2 to the south-east of the subject site. The terminus of these roads will contain temporary cul-de-sacs in accordance with the Guidelines until future road connections remove the requirements for these.

The remaining two roads will be permanent no through roads and will contain a permanent cul-de-sac in accordance with specifications in the Guidelines (**Figure 8**). One of these roads is located outside the bushfire prone area as shown in **Figure 8** and, as such, is not required to comply with SPP 3.7 or the Guidelines. The second road is considered a no through road for public traffic with a length exceeding 200 m. As per the requirements of the Guidelines, a 568 m long Emergency Access Way (EAW) has been incorporated into the design to ensure emergency vehicular access from the terminus of this cul-de-sac through the foreshore reserve and leading onto another public road within the subject site (as discussed in A3.4). In the event of a bushfire, this route will be accessible for both emergency services and members of the public.

It should be noted that, given the broad detail associated with this high level of planning, road design in subject to change from that that is encompassed in this BMP. Detailed road design will be determined at future stages of planning and justification of the inclusion of any cul-de-sacs in the design will be addressed in future supporting BMPs.

The proposed LPS Amendment is considered to be compliant with A3.3a.

A3.3b No-through road requirements	✓	<input type="checkbox"/>	<input type="checkbox"/>
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All no-through roads will be designed to meet the requirements of a public road and include appropriate turning heads which comply with the Guidelines (Appendix C).

The proposed LPS Amendment is considered to be compliant with A3.3b.

A3.4 Emergency access ways	✓	<input type="checkbox"/>	<input type="checkbox"/>
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The LPS Amendment contains one EAW, which connects the bushfire prone no through road terminus with the road network in the southern portion of the subject site via passing through the foreshore reserve.

The EAW is required to comply with all portions of the Vehicular Access Technical Requirements set out in the *Planning for Bushfire Guidelines* (Appendix C).

The proposed LPS Amendment is considered to be compliant with A3.4.

Bushfire Protection Criteria 4	AS	OS	N/A
Element 4: Water	✓	<input type="checkbox"/>	<input type="checkbox"/>
A4.1 Water supply		<input type="checkbox"/>	<input type="checkbox"/>

Existing reticulated water is present within the area and the subject site will be connected to this water supply. A network of hydrants will also be provided which meet Water Corporation specifications.

The proposed LPS Amendment is considered to be compliant with A4.1.

Note: AS - Acceptable Solution, OA - Outcomes-based Approach, N/A - Not Applicable.

5. Responsibilities for Implementation and Management of Bushfire Management Measures

Implementation of the BMP applies to the developer, the Shire of Murray, and future landowners to ensure bushfire management measures are adopted and implemented on an ongoing basis. This BMP has been prepared as a strategic guide to demonstrate how development compliance will be delivered at future planning stages in accordance with the Guidelines. In this respect, management measures documented in Section 3, where applicable, will be incorporated into development design as early as possible and confirmed through subdivision design. Therefore, aside from the revision of this BMP or preparation of a BMP addendum to accompany future subdivision applications, there are no further items to implement, enforce or review at this stage of the planning process.

6. Conclusion

In the professional opinion of the author, the proposed LPS Amendment satisfies the intent, aim and objectives of SPP 3.7 and the Guidelines and is recommended for approval.

7. References

Department of Fire and Emergency Services (DFES). (2024). Map of Bush Fire Prone Areas. Retrieved on 31 July 2025 from: <http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx>.

Standards Australia (SA). (2018). *Construction of buildings in bushfire-prone areas* (AS 3959: 2018).

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Western Australian Planning Commission (WAPC). (2024b). *Planning for Bushfire Guidelines*. Government of Western Australia.

Appendix A:

Classified vegetation photos

Plot 1 | **Class A Forest**

Photo 1

Trees to 30 m in height in the southern portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1 | **Class A Forest**

Photo 2

Trees to 30 m in height in the southern portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1 | **Class A Forest**

Photo 3

Trees to 30 m in height in the southern portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 4

Trees to 30 m in height in the southern portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 5

Trees to 30 m in height in the south-western portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 6

Trees to 30 m in height within the south-western portion of the foreshore area. Overstorey is dominated by Eucalypts and myrtaceous species up to 6m in height. Vegetation structure is open in some areas and multi-tiered in others with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 7

Trees to 30 m in height in the south-western portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 8

Trees to 30 m in height in the south-western portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 9

Trees to 30 m in height within the north-eastern portion of the foreshore area. Overstorey is dominated by Eucalypts and myrtaceous species up to 6m in height. Vegetation structure is open in some areas and multi-tiered in others with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1	Class A Forest
<p>Photo 10</p> <p>Vegetation of up to 2m in height with consistent canopy cover >30%.</p> <p>This vegetation is representative of Class C Shrubland vegetation. However, given that the species planted include <i>Melaleuca</i> sp. and <i>Eucalyptus</i> sp., the site context and the expected growth of the planted vegetation, this vegetation is expected to resemble Class A Forest at maturity.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	

Plot 1	Class A Forest
<p>Photo 11 (background)</p> <p>Trees to 30 m in height in the eastern portion of the subject site. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	

Plot 1	Class A Forest
<p>Photo 12</p> <p>Vegetation below 2m in height east to the subject site. This vegetation is representative of Class C Shrubland vegetation. However, given that the species planted include <i>Eucalyptus</i> sp., the site context and the expected growth of the planted vegetation, this vegetation is expected to resemble Class A Forest at maturity.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	

Plot 1

Class A Forest

Photo 13

Trees to 30 m in height within the north-eastern portion of the foreshore area. Overstorey is dominated by Eucalypts and myrtaceous species up to 6m in height. Vegetation structure is open in some areas and multi-tiered in others with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 14

Trees to 30 m in height within the central portion of the foreshore area. Overstorey is dominated by Eucalypts and myrtaceous species up to 6m in height. Vegetation structure is open in some areas and multi-tiered in others with consistent canopy cover >30%. The understorey consists of grass.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 15

Low trees up to 6 m in height. Vegetation structure is multi-tiered with myrtaceous species dominant. Canopy cover is consistently >30%.

This vegetation This vegetation is representative of Class D Scrub vegetation. However, given that the vegetation plot is continuous with Class A Forest vegetation, the site context and the potential for Eucalyptus sp. to be recruited from immediately adjacent areas, we have adopted a conservative approach and classed this vegetation as Class A Forest.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 1

Class A Forest

Photo 16

Trees to 30 m in height in the eastern portion of the subject site, forming part of the retained foreshore area. Eucalypts dominate the overstorey with consistent canopy cover >30%. The understorey consists of grass. The slope under this vegetation was assessed to be upslope/flat land.



Plot 2

Class B Woodland

Photo 17

Trees to 30 m in height with Eucalypts dominating the overstorey. The vegetation is open. Understorey consists of grass with an overstorey canopy less than 30%. The slope under this vegetation was assessed to be upslope/flat land.



Plot 2

Class B Woodland

Photo 18

Trees to 30 m in height with Eucalypts dominating the overstorey. The vegetation is open. Understorey consists of grass with an overstorey canopy less than 30%. The slope under this vegetation was assessed to be upslope/flat land.



Plot 2

Class B Woodland

Photo 19

Trees to 30 m in height with Eucalypts dominating the overstorey. The vegetation is open. Understorey consists of grass with an overstorey canopy less than 30%. The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 20

Grassy regrowth with an average height greater than 100 mm. Scattered isolated trees present. The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 21

Grassy regrowth with an average height greater than 100 mm. Scattered isolated garden trees present. Maintained by landowners living within this plot. The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 22

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 23

Grassy regrowth with an average height greater than 100 mm.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 24

Grassy regrowth with an average height greater than 100 mm.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 25

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 26

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 27

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 28

Grassy regrowth with an average height greater than 100 mm. Trees present constitute a windbreak of less than 20 m in width and have therefore been assessed to be low threat vegetation.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 29

Grassy regrowth with an average height greater than 100 mm.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 30

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 31

Grassy regrowth with an average height greater than 100 mm.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 32

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 33

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 34

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 35

Grassy regrowth with an average height greater than 100 mm.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 36

Grassy regrowth with an average height greater than 100 mm.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 37

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated shrubs.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 38

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 3

Class G Grassland

Photo 39

Grassy regrowth with an average height greater than 100 mm. Paddock with scattered isolated trees.

The slope under this vegetation was assessed to be upslope/flat land.



Plot 4 | **Excluded - clause 2.2.3.2 (e) & (f)**

Photo 40

Lakes Road running along the northern boundary of the subject site. This area is clear of vegetation.



Plot 4 | **Excluded - clause 2.2.3.2 (e) & (f)**

Photo 41

Area to the south of the subject site that has been cleared of vegetation for road construction.



Plot 4 | **Excluded - clause 2.2.3.2 (e) & (f)**

Photo 42

Area to the south of the subject site that has been cleared of vegetation for road construction.



Plot 4 | **Excluded - clause 2.2.3.2 (e) & (f)**

Photo 43

Existing public road on the land adjacent to the subject site, which is clear of vegetation.



Plot 4 | **Excluded - clause 2.2.3.2 (e) & (f)**

Photo 44

Existing public road on the land adjacent to the east of the subject site, which is clear of vegetation.



Appendix B: Standards for Asset Protection Zones (WAPC, 2024b)

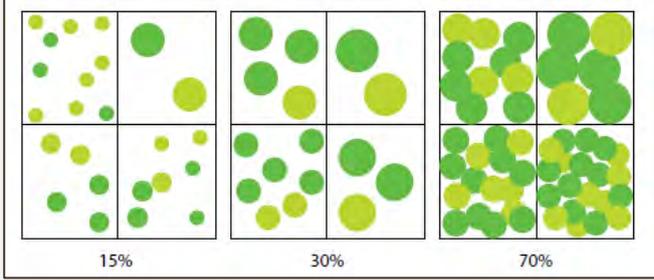
The following standards have been extracted from the Planning for Bushfire Guidelines (WAPC, 2024b).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

- a. Width: the APZ is measured from the development site, and of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29) in all circumstances.
- b. Location: the APZ should be contained solely within the boundaries of the lot, except in instances where:
 - o 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 APZ technical requirements, or an alternative standard on a local planning scheme, on an ongoing basis in perpetuity; or
 - o the adjoining land is and will remain in perpetuity, non-vegetated.
- c. Management: the APZ is managed in accordance with the APZ technical requirements (below), or an alternative standard in a gazetted local planning scheme.

APZ Technical Requirements

Object	Requirement
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter less than 6 mm in thickness)	<ul style="list-style-type: none"> • Should be managed and removed on a regular basis to be maintained as a low threat vegetation. • Should be maintained at less than two tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulch more than five millimetres in thickness.
Trees* (more than 6 m in height)	<ul style="list-style-type: none"> • Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be less than 15 per cent of the total APZ area. • Tree canopies at maturity should be at least 5 m apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided the total canopy cover within the APZ does not exceed 15 per cent and is not connected to the tree canopy outside the APZ.

Object	Requirement
	 <ul style="list-style-type: none"> • Tree canopy cover – ranging from 15 to 70 per cent at maturity
<p>Shrub* and scrub* (0.5 m to 6 m in height). Shrub and scrub more than 6 m in height are to be treated as trees.</p>	<ul style="list-style-type: none"> • Should not be located under trees or within three metres of buildings. • Should not be planted in clumps more than five square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
<p>Ground cover*(less than 0.5 m in height. Ground cover more than 0.5 m in height is to be treated as shrub)</p>	<ul style="list-style-type: none"> • Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above • Can be located within two metres of a structure but three metres from windows or doors if more than 100 mm in height.
<p>Grass</p>	<ul style="list-style-type: none"> • Grass should be maintained at a height of 100 mm or less, at all times • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
<p>Defendable space</p>	<ul style="list-style-type: none"> • Within three metres of each wall or supporting post of a habitable building; the area is kept free from vegetation but can include ground cover, grass and non-combustible mulches as prescribed above.
<p>Liquid petroleum gas cylinders</p>	<ul style="list-style-type: none"> • Should be located on the side of a building farthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house. • No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.
<p>* Plant flammability, landscaping design and maintenance should be considered - refer to explanatory notes in the Guidelines.</p>	

ADDITIONAL NOTES

An Asset Protection Zone (APZ) is a low fuel area, maintained around a building to increase the likelihood a building will survive a bushfire, by reducing the potential for direct flame contact, radiant heat exposure and ember attack. The APZ allows emergency services access and provides an area for firefighters and homeowners to defend their property.

An APZ should be contained within the boundaries of the lot on which the building is situated, except in instances where it is demonstrated the vegetation on the adjoining land is, and will continue to be, low threat as per cl. 2.2.3.2 of AS 3959, or the vegetation on the adjoining lot is, and will remain in perpetuity, non-vegetated. However, it should be noted there is no requirement for a neighbouring landowner or land

manager (public or private) to be party to a legal agreement to undertake ongoing management of vegetation as low threat, in perpetuity.

Appendix C:

Vehicular access technical requirements (WAPC, 2024b)

Technical requirements	Perimeter Roads		Public Roads		Emergency Access Way ³		Fire Service Access Route ³		Battle-Axe and Private Driveways ¹	
	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1
Map of Bush Fire Prone Areas Designation										
Minimum horizontal clearance (m)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (m)	4.5									
Minimum weight capacity (t)	15									
Maximum grade unsealed road ²	See note 5		See note 5		1:10 (10% or 6 degrees)					
Maximum grade sealed road ^{2, 4}					1:7 (14.3% or 8 degrees)					
Maximum average grade sealed road					1:10 (10% or 6 degrees)					
Minimum inner radius of road curves (m)					8.5					

NOTES

1. Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.
2. Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.
3. To have crossfalls between 3 per cent and 6 per cent.
4. For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.
5. As outlined in the Institute of Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards Main Roads standard, supplement, policy or guideline and/or any applicable or relevant local government standard or policy.

