

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address:

Site visit:

Yes

☐

No

☐

Date of site visit (if applicable):

Day

Month

Year

Report author or reviewer:

WA BPAD accreditation level (please circle):

Not accredited

☐

Level 1 BAL assessor

☐

Level 2 practitioner

☐

Level 3 practitioner

☐

If accredited please provide the following.

BPAD accreditation number:

Accreditation expiry: Month

Year

Bushfire management plan version number:

Bushfire management plan date: Day

Month

Year

Client/business name:

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?		
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?		

Is the proposal any of the following (see [SPP 3.7 for definitions](#))?

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		
Strategic planning proposal (including rezoning applications)		
High risk land-use		
Vulnerable land-use		

None of the above

☐

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

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

Signature of report author
or reviewer



Date



Bushfire Management Plan


Proposed Subdivision

Pt. Lot 9057 Howden Parade, Alkimos

City of Wanneroo

Document Information

Prepared for: Northern Corridor Developments Ltd
Project Name: Piazza Subdivision, Alkimos
Site Address: Pt. Lot 9057 Howden Parade, Alkimos
Prepared by: Rohan Carboon
Bushfire Safety Consulting Pty Ltd

I hereby declare that I am a BPAD accredited bushfire practitioner.	
Accreditation No.	23160
Signature	
Date	17/09/2020



Document Control

Bushfire Management Plan – Lot 9057 Howden Parade, Alkimos			
REPORT VERSION	PURPOSE	AUTHOR/REVIEWER AND ACCREDITATION DETAILS	DATE SUBMITTED
V 1.0	Draft for Review	Rohan Carboon (BPAD 32160) Dr Karen Brown (BPAD 48364)	17/09/2020
V 2.0	Final for submission	Rohan Carboon (BPAD 32160)	18/9/2020

Front cover photo: Development Site

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EXECUTIVE SUMMARY

This Bushfire Management Plan (BMP) has been prepared to support a proposed 11 lot subdivision on a portion of land at Lot 9057 Howden Parade, Alkimos (the 'site'). The site is predominately surrounded by residential development, with areas of Public Open Space (POS) to the south and east. The POS areas consist of low threat managed turf and garden beds close to the site, with remnant native Class B Woodland vegetation further away.

A Method 1 BAL assessment has been undertaken to determine predicted radiant heat flux levels on the site and eight lots on the southern boundary are exposed to predicted radiant heat flux levels of 12.5 kW/m² (BAL-12.5), with the remaining BAL-LOW.

The area is reticulated and there is excellent vehicular access.

The proposed subdivision can achieve all of the Acceptable Solutions and Performance Principles in the Guidelines for Planning in Bushfire Prone Areas V1.3 (2107).

The site is completely cleared of vegetation and the developer is responsible for maintaining the Asset Protection Zone on lots 4-11 until lots are sold. Fuel loads and responsibility for APZ standards then transfers to the new owners / occupiers of the land.

It is expected that the implementation of this BMP will reduce the threat to residents, the public and fire fighters in the area addressed by this BMP. The proposal complies with the *State Planning Policy No. 3.7: Planning in Bushfire Prone Areas (SPP 3.7)* and the *Guidelines for Planning in Bushfire Prone Areas* (WAPC 2017 V1.3).

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1 PROPOSAL DETAILS

A 0.2189 hectare portion of Lot 9057 Howden Parade, Alkimos, is proposed to be subdivided into 11 residential lots (Figure 1). The site is located adjacent to Santorini Promenade and Piazza Link and is approximately 14km north of Joondalup and 40km north of the Perth Central Business District (CBD). It is surrounded by existing urban residential development. Public open space areas are present to the west and south of the site and contain maintained turf and cultivated gardens, as well as some areas of remnant native Class B Woodland vegetation (Figure 2). A 6 metre wide laneway reserve is also proposed to connect two existing public roads to the east and west, Piazza Link and Patras Lane.

The site is zoned 'Urban Development' under the City of Wanneroo District Planning Scheme Number 2 (DPS2).

This Bushfire Management Plan (BMP) has been prepared to support the subdivision application. It addresses future subdivision conditions by providing responses to the performance criteria in the *Guidelines for Planning in Bushfire Prone Areas V1.3* (WAPC et.al. 2017). If there is a bushfire within or near the site, implementing this BMP will reduce the threat to residents, property and emergency response personnel.



Location details: Lot 9057 Howden Parade
Alkimos
Assessment date: September 2020
Prepared by: Bushfire Safety Consulting
Accreditation level: Level 3 BPAD Practioner
Accreditation number: BPAD 23160
Accreditation expiry date: 31st January 2021
Date aerial photo: May 2020

FIGURE 1
PROPOSED
SUBDIVISION

0 5 10 15 20m
SCALE 1:500 @ A3
DATE: SEPTEMBER 2020

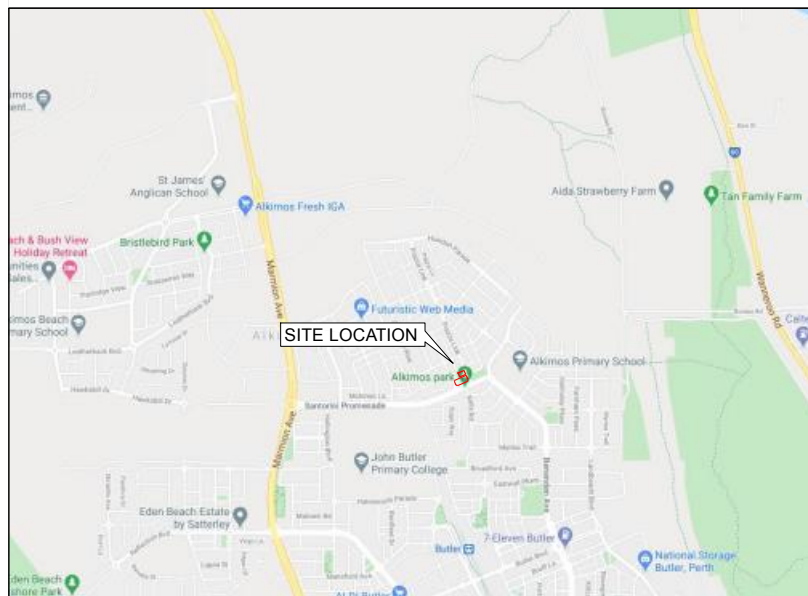


LEGEND:
 SUBJECT LAND

SOURCE OF PHOTOGRAPHY: NEARMAP



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FIGURE 2
SITE LOCATION

0 100 200 300m
SCALE 1:10 000 @ A4
DATE: SEPTEMBER 2020



LEGEND:
 SUBJECT LAND

SOURCE OF PHOTOGRAPHY: NEARMAP



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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 2017 V1.3; the Guidelines). The policy applies to this subdivision proposal because the subdivision application is located in the designated bushfire prone area on the WA map of Bushfire Prone Areas (Figure 3).

The following policy measures will need to be comply with SPP 3.7:

Table 1. Policy measures

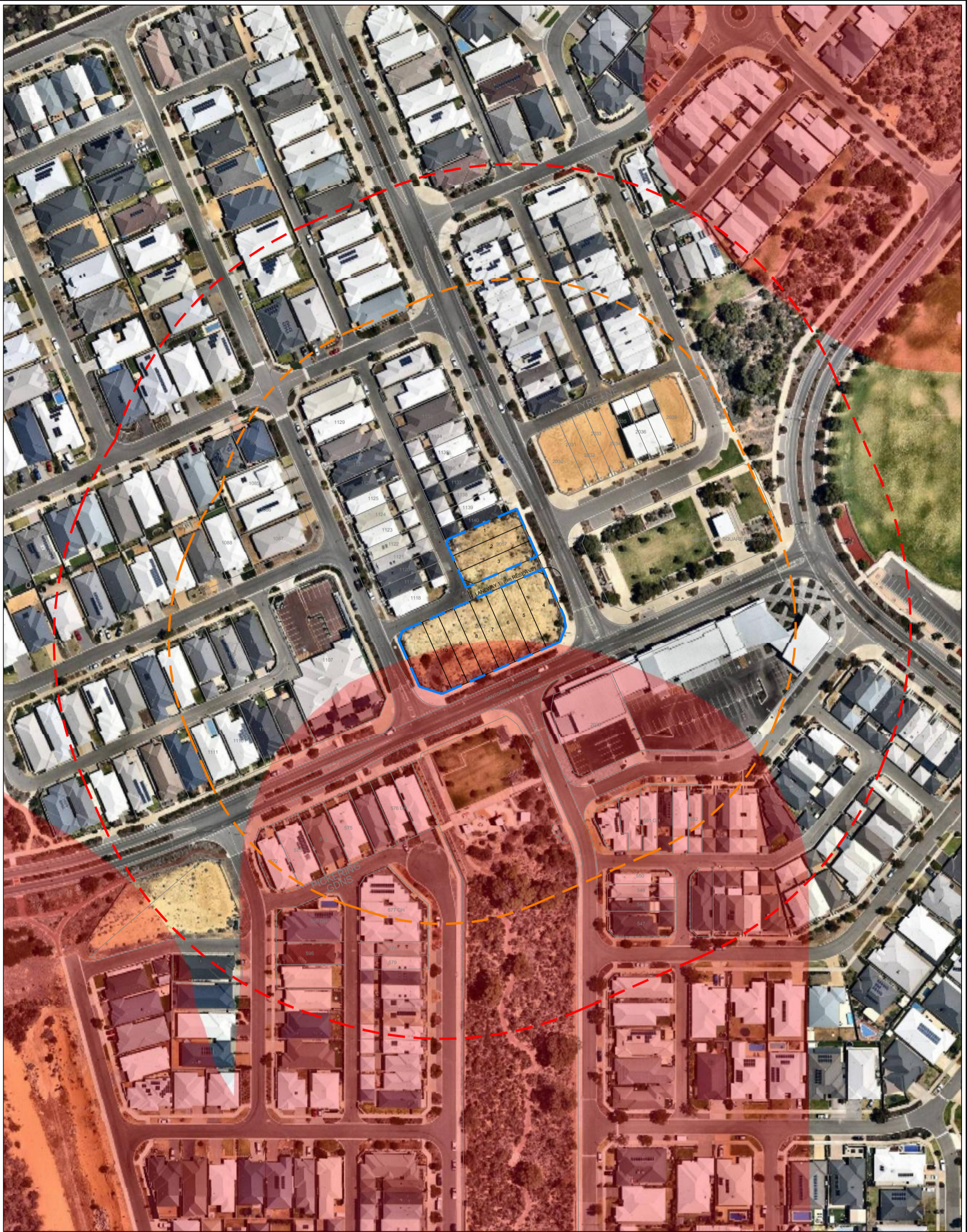
Policy Measure 6.2	The subdivision application is located within a designated bushfire prone area and will have a Bushfire Hazard Level above low and a Bushfire Attack Level rating above BAL-LOW.
Policy Measure 6.4	Policy 6.4 applies meaning the subdivision proposal will be accompanied by: <ul style="list-style-type: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

The subdivision proposal does not propose vulnerable or high-risk land use and is not considered as minor or unavoidable development under *SPP 3.7*.

1.1.2 Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)

The Department of Planning have released the *Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)*. The requirements of this document are accommodated within this BMP.

The *Guidelines for Planning in Bushfire Prone Areas V 1.3 (2017)* 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.



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Date aerial photo: May 2020

FIGURE 3 BUSHFIRE PRONE AREAS

0 10 20 30 40 50 60m
SCALE 1:1500 @ A3
DATE: SEPTEMBER 2020



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

The site is cleared and there is no additional clearing or modification of native vegetation required to achieve the subdivision.

2.2 Re-vegetation/Landscape Plans

There is no proposed revegetation or landscaping within or surrounding the site. Landowners of lots 4-11 are within 100 metres of the bushfire hazard and any gardening needs to comply with APZ standards (Appendix 1).

3 BUSHFIRE ASSESSMENT RESULTS

Bushfires occur regularly in the City of Wanneroo and local brigades respond to numerous incidents in the district annually. The bushfire threat to future dwellings is ember attack and lower levels of radiant heat and this BMP plays an important role in ensuring that the development of the land appropriately mitigates the risk from bushfire.

3.1 Assessment Inputs


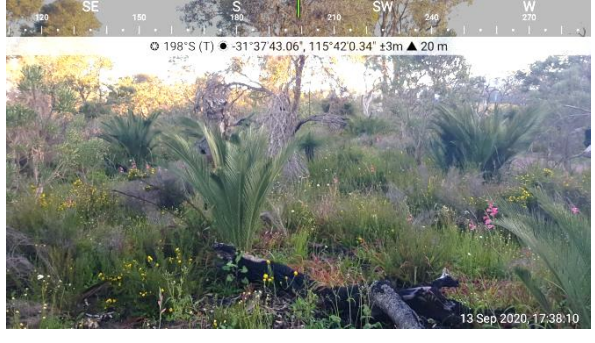
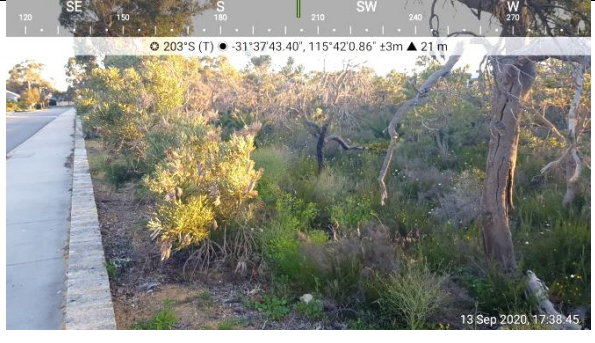
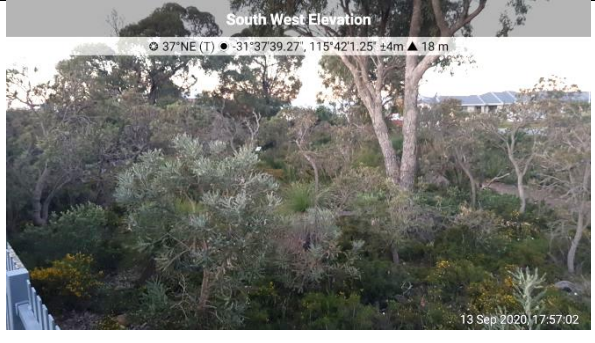
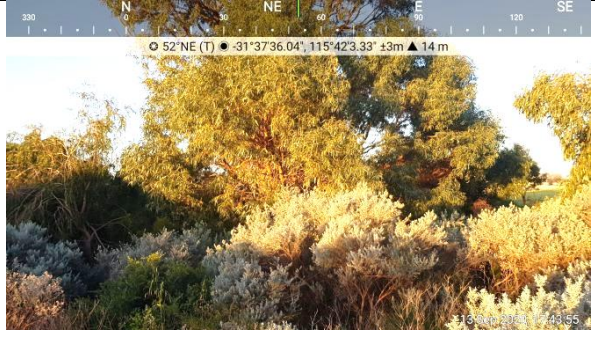
The methodology used to assess the site is outlined in the *Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)*. The lot layout is known and a strategic level bushfire hazard assessment is not required. A BAL Contour map is provided in accordance with Appendix 3 of the guidelines.

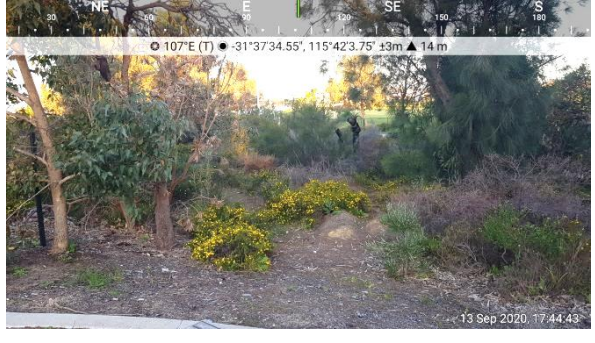
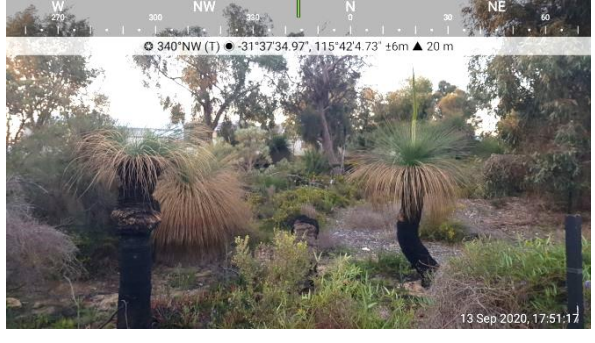

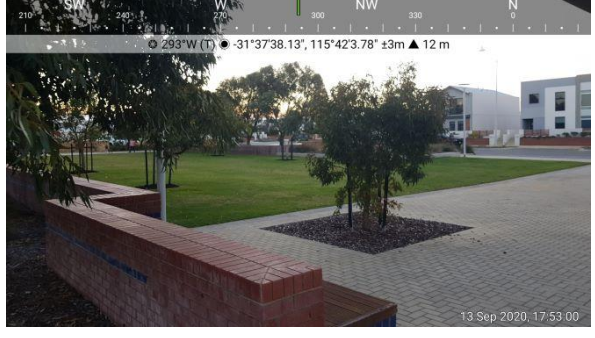
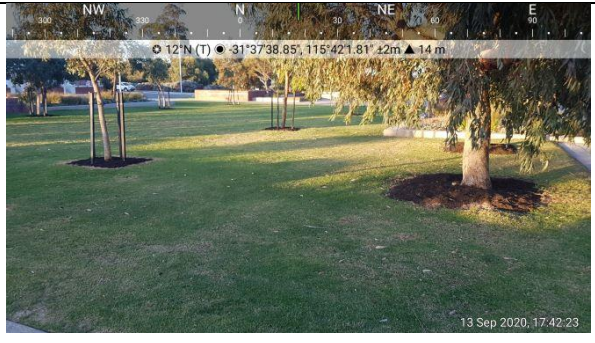
Assessing bushfire threat at the site-specific level accounts for the predominant class of vegetation on the site and surrounding area for a minimum of 150 m, as shown in **Figure 4**.

3.1.1 Vegetation Classification

The site has been cleared of all classified vegetation. Low threat residential development surrounds the site and there are two Public Open Space areas with maintained turf and cultivated gardens to the west and south of the site. Further to the south and north-west are two areas of remnant native Class B Woodland vegetation (**Figure 4**).

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 B Woodland</p> <p>Description/justification of classification: Low shrubland with scattered tall eucalypt trees</p>	
<p>Photo ID: 2</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Low shrubland with scattered tall Tuart trees</p>	
<p>Photo ID: 3</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Low shrubland, some low banksia shrubs and scattered tall Tuart trees</p>	
<p>Photo ID: 4</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Low shrubland, some low banksia shrubs and scattered tall Tuart trees</p>	
<p>Photo ID: 5</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Mature Tuart tree with shrubs in narrow POS Areas</p>	

<p>Photo ID: 6</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Banksia trees and shrubs in POS area.</p>	
<p>Photo ID: 7</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Grass trees in scattered woodland area</p>	
<p>Photo ID: 8</p> <p>Plot Number: 3</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2(f)</p> <p>Description/justification of classification: Irrigated sports oval at school results in Low threat vegetation.</p>	
<p>Photo ID: 9</p> <p>Plot Number: 3</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (f)</p> <p>Description/justification of classification: Irrigated turf and formal garden beds.</p>	
<p>Photo ID: 10</p> <p>Plot Number: 3</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (f)</p> <p>Description/justification of classification: Irrigated turf and formal garden beds.</p>	

<p>Photo ID: 11</p> <p>Plot Number: 3</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e)</p> <p>Description/justification of classification: Irrigated turf and formal garden beds.</p>	
<p>Photo ID: 12</p> <p>Plot Number: 3</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (3)</p> <p>Description/justification of classification: Woodchips in garden beds and irrigated plantings.</p>	
<p>Photo ID: 13</p> <p>Plot Number: 4</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e)</p> <p>Description/justification of classification: Cleared and unvegetated development site</p>	
<p>Photo ID: 14</p> <p>Plot Number: 5</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e)</p> <p>Description/justification of classification: Benenden Road with strips of plantings</p>	
<p>Photo ID: 15</p> <p>Plot Number: 5</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e)</p> <p>Description/justification of classification: Footpath and Santorini Promenade.</p>	

Photo ID: 16

Plot Number: 5

Vegetation classification or exclusion clause:
Exclusion Clause 2.2.3.2 (e)

Description/justification of classification:
Intersection Santorini Promenade and Mercado Way



3.1.2 Effective Slope

The landscape on and surrounding the site gently slopes from the north-west to the south-east, with the Class B Woodland to the north-east sloping up from the site and downslope 1° under the Class B Woodland to the south.

The topography and effective slope are outlined in Table 2 and Figure 4.

Table 2. Summary of vegetation type and effective slope

Vegetation Area/ Plot	Applied Vegetation Classification	Effective Slope under the Classified Vegetation (degrees)
1	Class B Woodland	Downslope 1°
2	Class B Woodland	Upslope
3	Exclusion Clause 2.2.3.2 (f)	N/A
4	Exclusion Clause 2.2.3.2 (e)	N/A

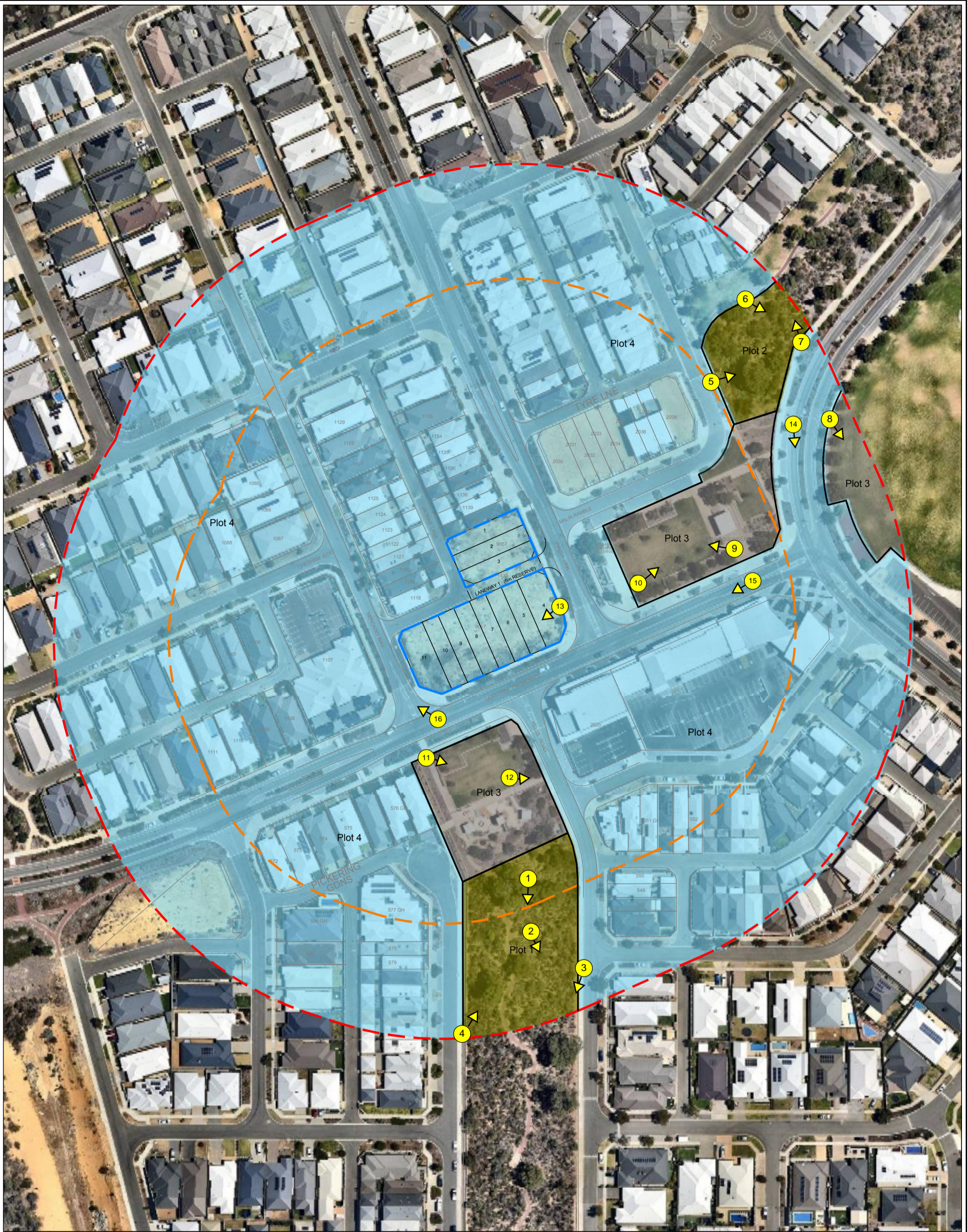


FIGURE 4
VEGETATION
CLASSIFICATION MAP

0 10 20 30 40 50 60m
SCALE 1:1500 @ A3
DATE: SEPTEMBER 2020



- 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 B WOODLAND - DOWNSLOPE 1
 - PLOT 2 CLASS B WOODLAND - FLAT/UPSLOPE
 - PLOT 3 EXCLUSION CLAUSE 2.2.3.2 (f)
 - PLOT 4 EXCLUSION CLAUSE 2.2.3.2 (e)

SOURCE OF PHOTOGRAPHY: NEARMAP

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3.2 Assessment Outputs

A BAL contour assessment was undertaken according to Appendix 3 of the Guidelines and the results are found in **Figure 5**.

A Method 1 BAL Assessment was undertaken to determine the BAL contours impacting the site. Eight proposed lots (Lots 4-11) are impacted by a BAL rating which is BAL-12.5, lots 1-3 are BAL-LOW.

Table 3. Summary of assessment outputs

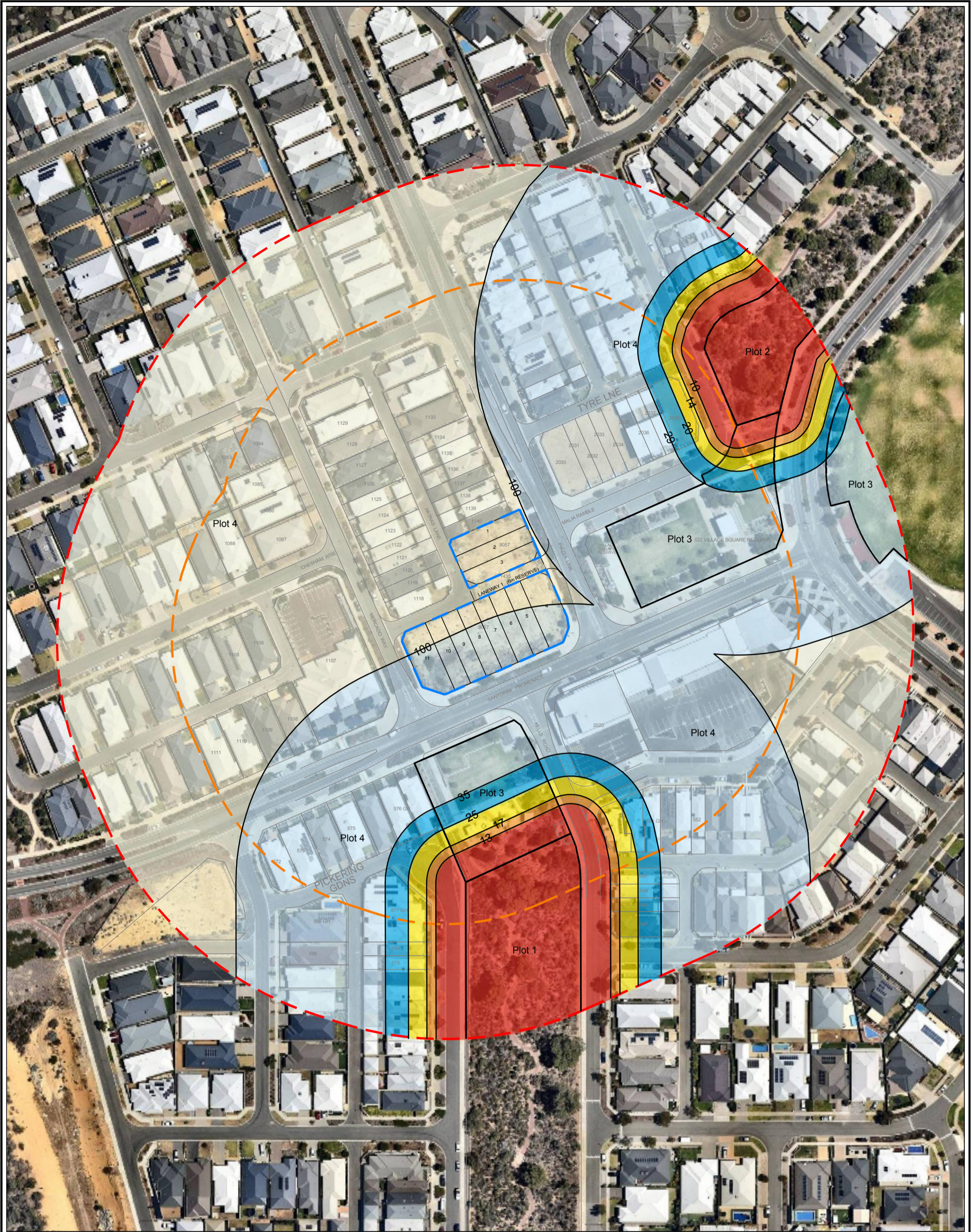
Lot	Applied Vegetation Classification	Plot No. & Effective Slope	Separation distance to Classified Vegetation	Highest BAL Contour
1	Class B Woodland	Plot 1 Upslope	101 metres	BAL-LOW
2	Class B Woodland	Plot 1 Upslope	101 metres	BAL-LOW
3	Class B Woodland	Plot 1 Upslope	102.5 metres	BAL-LOW
4	Class B Woodland	Plot 1 Downslope 1°	81 metres	BAL-12.5
5	Class B Woodland	Plot 1 Downslope 1°	79.5 metres	BAL-12.5
6	Class B Woodland	Plot 1 Downslope 1°	78 metres	BAL-12.5
7	Class B Woodland	Plot 1 Downslope 1°	77.5 metres	BAL-12.5
8	Class B Woodland	Plot 1 Downslope 1°	77.5 metres	BAL-12.5
9	Class B Woodland	Plot 1 Downslope 1°	77.5 metres	BAL-12.5
10	Class B Woodland	Plot 1 Downslope 1°	77.5 metres	BAL-12.5
11	Class B Woodland	Plot 1 Downslope 1°	77.5 metres	BAL-12.5

The BAL contours for the final developed scenario are outlined in **Figure 5**.

4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

The Class B Woodland vegetation to the south of the site poses the greatest threat to the development because this is the only area of classified vegetation within 100 metres of the site. The predicted radiant heat flux levels only impact the site along the south boundary and are at the lower end of the scale (ie. BAL-12.5). Long range ember attack from Class B Woodland vegetation outside of 100 metres is possible from the north-west.

Predicted radiant heat flux levels and ember attack could impact the site as evident in the BAL Contour Plan (**Figure 5**).



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FIGURE 5 BAL CONTOUR MAP

0 10 20 30 40 50 60m
SCALE 1:1500 @ A3
DATE: SEPTEMBER 2020



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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5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA

This report adopts an acceptable solution 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 1.3 (2017)*. The management issues are:

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

Acceptable solutions are proposed for all of the bushfire protection criteria and each illustrates a means of satisfactorily meeting the corresponding performance criteria.

5.1 Compliance Table

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 V1.3(2017)*. The compliance checklist is shown in **Table 4**.

Table 4: Compliance Table

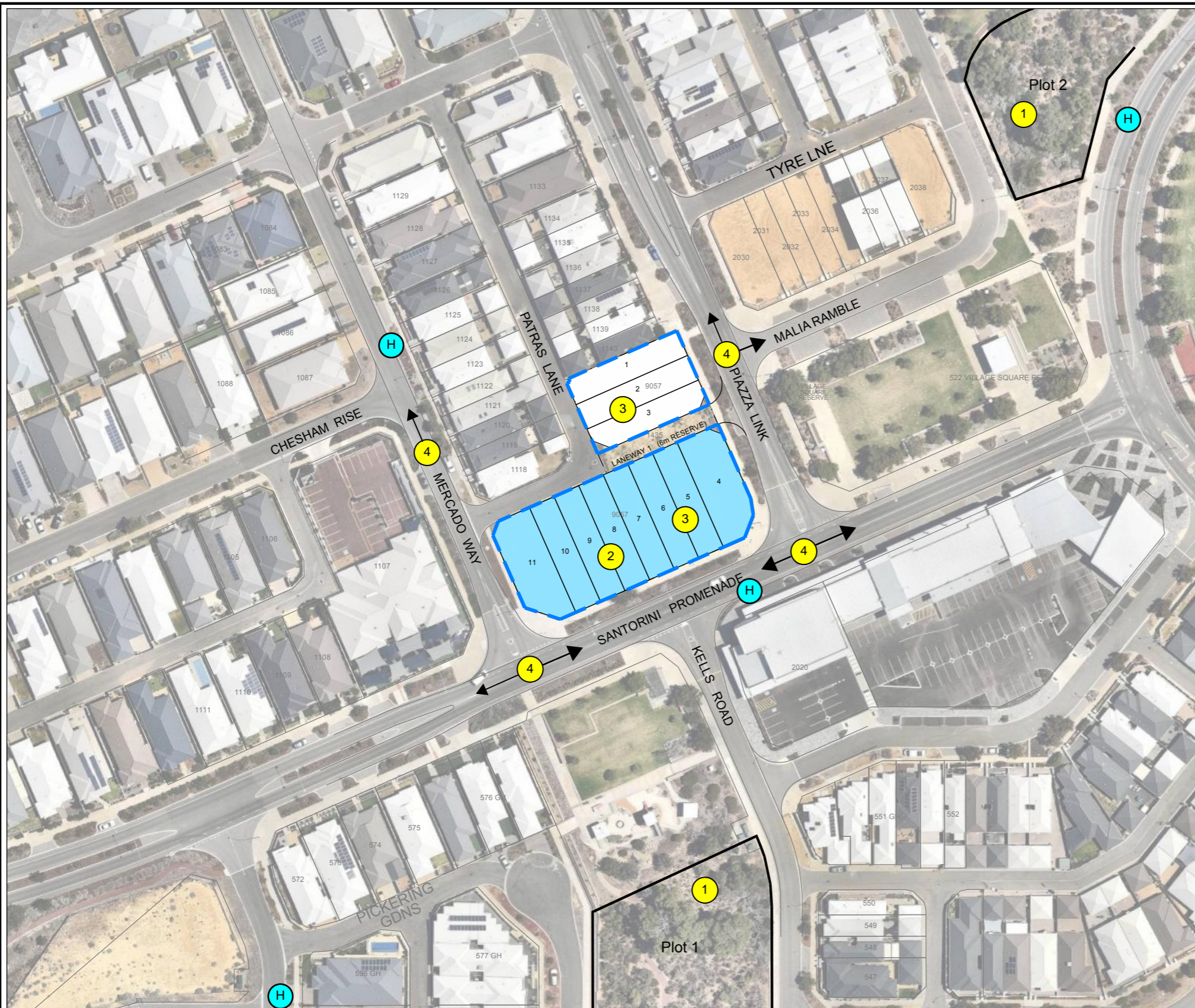
Bushfire Protection Criteria	Method of compliance	Proposed bushfire management strategies
	Acceptable Solutions	
Element 1: Location	AQ1.1 Development Location	The Method 1 BAL Assessment in this report demonstrates the classified vegetation in Plot 1 impacts 8 lots along the southern boundary of the site which are exposed to BAL-12.5. BAL-29 is not exceeded.
Element 2: siting and Design	A2.1 Asset Protection Zone (APZ)	<p>The Asset Protection Zones (APZ) extends over the 8 lots along the southern boundary of the site which are within 100 metres of classified vegetation. The site is largely surrounded by developed residential dwellings and low threat Public Open Space.</p> <p>The APZ is managed in accordance with the requirements of Schedule 1 Standards for Asset Protection Zones outlined in Appendix 1.</p>

Element 3: Vehicular Access	A3.1 Two access routes	Egress from the site is excellent with good public road access in all directions. Two access routes are achieved.
	A3.2 Public Road	One laneway is proposed that will comply with minimum public road standards. All existing public roads within and surrounding the site comply with minimum public road standards outlined in Appendix 2.
	A3.3 Cul-de-sac	There are no cul-de-sacs proposed.
	A3.4 Battle-axe	There are no battle axes proposed.
	A3.5 Private driveway longer than 50 m	There are no private driveways longer than 50m proposed.
	A3.6 Emergency Access Way	There are no Emergency Access Ways proposed.
	A3.7 Fire Emergency Access Ways	There are no Fire Emergency Access Ways proposed.
	A3.8 Firebreak width	Compliance will be achieved with the current City of Wanneroo Firebreak and Fuel Load Notice (Appendix 3).
Element 4: Water	A4.1 Reticulated areas	The development has access to a reticulated water supply. There are two hydrants within 100 metres. Hydrants are spaced according to the Water Corporation's No. 63 Water Reticulation Standard.
	A4.2 Non-reticulated areas	Not applicable
	A4.3 Individual lots	Not applicable

5.2 Additional Management Strategies

A summary of management strategies is outlined in **Figure 6**.

There are no specific Vulnerable or High-Risk Land Uses proposed at the site. Any specific applications will trigger the necessary requirements under State Planning Policy 3.7.



REQUIREMENTS

1. Bushfire hazard occurs south of Santorini Promenade in the form of permanent Class B Woodland in a Public Open Space Reserve. An additional small area of woodland occurs east of the site which is > 100 metres away from the lot boundaries
2. A total of 8 lots will be exposed to BAL-12.5. These 8 lots are required to comply with APZ standards (Appendix 1).
3. All lots will be maintained in a cleared 'low threat' condition until lots are sold and developed.
4. There is good vehicular access in all directions from the site. A minimum of two access ways is provided.
5. The area is provided with a reticulated water supply, hydrants are sited as marked. The provision of scheme water together with fire hydrants meets the specifications of Water Corporation Design Standard DS63 and DFES requirements.



SUBJECT LAND



LOTS EXPOSED TO BAL-12.5 WHICH ALSO REQUIRE AN INTERNAL ASSET PROTECTION ZONE



EXISTING FIRE HYDRANTS

FIGURE 6 - SPATIAL REPRESENTATION OF BUSHFIRE MANAGEMENT STRATEGIES



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Mbl: 0429 949 262
www.bushfiresafety.net

0 10 20 30 40m

SCALE 1:1250 @ A3
DATE: SEPTEMBER 2020



Location details:	Lot 9057 Howden Parade Alkimos
Assessment date:	September 2020
Prepared by:	Bushfire Safety Consulting
Accreditation level:	Level 3 BPAD Practitioner
Accreditation number:	BPAD 23160
Accreditation expiry date:	31st January 2021
Date aerial photo:	May 2020

6 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

Table 5 outlines the initial and ongoing responsibilities, actions and associated works that need to be undertaken by the developer, future landowners and the City of Wanneroo. The check boxes for implementation actions will be used for subdivision clearance. A Bushfire Planning Practitioner will certify the BAL ratings are correct and necessary implementation actions have been completed.

Table 5. Responsibility for bushfire measures

Table 3: Responsibility for bushfire measures

DEVELOPER – PRIOR TO ISSUE OF TITLES		
No.	Implementation Action	Subdivision Clearance
1	Establish the public laneway to standards outlined in Appendix 2.	<input type="checkbox"/>
2	Maintain site as ‘low threat’ until the site is developed.	<input type="checkbox"/>
3	A notification, pursuant to Section 70A of the Transfer of Land Act 1893 is to be placed on the certificate(s) of title of the lots within the Bushfire Prone Area. Notice of this notification is to be included on the diagram or plan of survey (deposited plan). The notification is to state as follows: ‘The lot(s) is/are subject to a Bushfire Management Plan. (Local Government)’.	
LANDOWNER/OCCUPIER – ONGOING MANAGEMENT		
4	Lot owners 4-11 maintain the Asset Protection Zone (APZ) to standards stated in this BMP (Appendix 1).	
5	Ensure the site complies with the City of Wanneroo’s Fire Break and Fuel Load Notice as published.	
6	Ensure construction of buildings complies with AS 3959:2018	
7	If buildings are subject to additional construction in the future, AS 3959:2018 compliance is required.	

CITY OF WANNEROO– ONGOING MANAGEMENT

8	Maintain public roads to appropriate standards and ensure compliance with the City of Wanneroo's Fire Break and Fuel Load Notice.
9	Provide fire prevention and preparedness advice to landowners upon request, and the City of Wanneroo's Fire Break and Fuel Load Notice.

Certification by Bushfire Consultant

I _____ certify that at the time of inspection, the BAL ratings contained within this BMP are correct, and implementation of Actions 1-2 has been undertaken in accordance with the BMP.

Clearance is recommended.

Signature: _____

Date: _____

7 CONCLUSION

This Plan provides acceptable solutions that fulfil the intent of the bushfire hazard management issues outlined in the Guidelines for Planning in Bushfire Prone Areas (WAPC 2017 V1.3).

However, community bushfire safety is a shared responsibility between governments, fire agencies, communities and individuals.

The subdivision is located in the bushfire prone area (i.e. within 100 m of classified vegetation) and risk is reduced via compliance with AS 3959:2018 standards. Eight lots are exposed to BAL-12.5 and BAL-29 is not exceeded anywhere on the site.

A minimum of two access options and dedicated fire hydrant spacings for fire-fighting are provided. The proposed development will fall within the acceptable level of risk.

REFERENCES

Department of Fire and Emergency Services (DFES), 2014, *The Home Owner's Bushfire Survival Manual*, https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES_Bushfire-Homeowners_Survival_Manual.pdf, Department of Fire and Emergency Services, Government of Western Australia.

Standards Australia, 2018, *Construction of buildings in bushfire-prone areas (Amendments 1-3)*, AS 3959-2018, Standards Australia International Ltd, Sydney.

Western Australian Planning Commission (WAPC), 2015, *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.

Western Australian Planning Commission (WAPC), 2017, *Guidelines for Planning in Bushfire Prone Areas*, December 2017 V1.3, 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: City of Wanneroo Firebreak and Fuel Load Notice

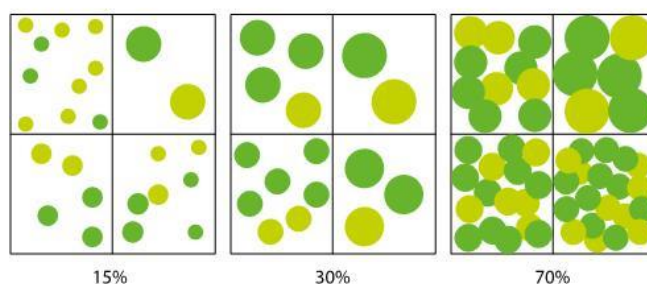
Appendix 1 – Asset Protection Standards

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

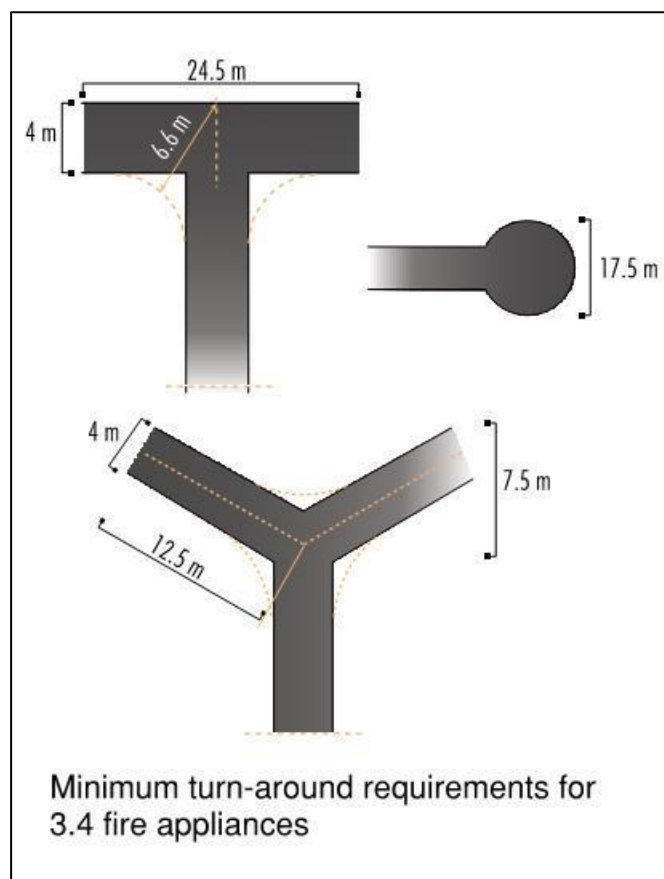


- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 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 – Vehicular 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 – City of Wanneroo Firebreak and Fuel Load Notice



IMPORTANT FIRE MITIGATION NOTICE

**FIRE MITIGATION MEASURES MUST BE IN PLACE BY 1 NOVEMBER
AND MAINTAINED UNTIL 30 APRIL EACH YEAR.**

This is a requirement under the Bush Fires Act 1954 Section 33.

Failure to comply with this Notice may incur penalties of up to \$5000 and the works required by this Notice will be carried out at the expense of the owner/occupier.

FIRE MANAGEMENT REQUIREMENTS FOR LAND LESS THAN 4000sqm

- Maintain grasses and inflammable materials with the exception of living trees on the entire property to a height of no more than 50 millimetres. The entire property is required to be maintained below 50 millimetres from 1 November each year until 30 April the following year.
- OR
- A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.
 - If it is not possible to install the firebreak adjacent to the external boundary of the property due to naturally occurring obstacles, it is acceptable to install the firebreak around the obstacle. If this requires the firebreak to be greater than 5 metres away from the external boundary, a firebreak variation is required.
 - Ensure a minimum vertical clearance of 4 metres is maintained along the firebreaks to enable vehicles to drive along the firebreaks without access being obstructed.
- Where a property is affected by an approved bushfire management plan, property owners must still comply with all requirements in this Notice and with any additional requirements outlined within that plan.

FIRE MANAGEMENT REQUIREMENTS FOR LAND GREATER THAN 4000sqm

- A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.
 - If it is not possible to install the firebreak adjacent to the external boundary of the property due to naturally occurring obstacles, it is acceptable to install the firebreak around the obstacle. If this requires the firebreak to be greater than 5 metres away from the external boundary, a firebreak variation is required.
 - Ensure a minimum vertical clearance of 4 metres is maintained along the firebreaks to enable vehicles to drive along the firebreaks without access being obstructed.
- Install and maintain a 20 metre bare earth area around all hay stacks and/or fuel dumps.
- Where a property is affected by an approved bushfire management plan, property owners must still comply with all requirements in this Notice and with any additional requirements outlined within that plan.

ALL VACANT LAND **GREATER** THAN 4000sqm

- A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.
- Ensure a minimum vertical clearance of 4 metres is maintained along the firebreaks to ensure vehicles can drive along the firebreaks without being impeded by tree branches.
- If the land is an area greater than 4000sqm but less than 50,000sqm (5 hectares) all grass on the land must be maintained to a height of less than 50 millimetres.
- If the land is an area of 50,000sqm (5 hectares) or greater, the grass must be maintained on the land to a height no greater than 50 millimetres for a distance of 10 metres from any firebreak.

Frequently Asked Questions

I live in a residential area, does this notice apply to me?

Yes. All City of Wanneroo property owners must comply with the Bush Fires Act 1954.

Please refer overleaf for fire management requirements to be in place by 1 November to ensure your property is compliant.

Most properties under 1000sqm will automatically comply if gardens are maintained.

Do I need a Bushfire Survival Plan?

If you live in, on or near bushland, you are at risk from a bushfire and developing a bushfire survival plan is critical.

Visit the Department of Fire and Emergency Services website for information on how to develop a plan for your property dfes.wa.gov.au

I am concerned my neighbour's property is not compliant, what can I do?

All properties are required to be compliant by 1 November. If you think your neighbour's property does not comply with the requirements as outlined in this Notice, please let the City know by calling 9405 5000.

I own a vacant lot, do I need a firebreak?

Firebreak requirements differ depending on your lot size and vegetation levels. If vegetation is unable to be maintained to a height of 50 millimetres or less (living trees exempt), a firebreak must be installed by 1 November. Please refer overleaf for more information.

I am unable to meet the requirements outlined, what should I do?

If it is considered impracticable for any reason to implement any of the requirements of this Notice, an application for a firebreak variation must be made to the City of Wanneroo by no later than 18 October of each year. If permission is not granted, the requirements of this Notice must be complied with.

Visit the City's website wanneroo.wa.gov.au/fireinformation to apply for a variation.

Where can I learn more about this Notice and bushfire management?

Visit the City's website wanneroo.wa.gov.au/fireinformation to learn more.

Please note, in addition to the requirements of this Notice, if a City of Wanneroo Fire Control Officer considers further works are necessary to reduce the risk of bushfire, Landowners will be notified via letter to the address shown on the City of Wanneroo rates record for the relevant land.

For further information call the City of Wanneroo Community Safety and Emergency Management Team on 9405 5000 or visit wanneroo.wa.gov.au/fireinformation

