



# **Attachment Four**

Bushfire Management Plan

# Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

## Bushfire Management Plan and Site Details

Site Address / Plan Reference: 2 Kakadu Road		
Suburb: Yanchep	State: WA	P/code: 6035
Local government area: City of Wanneroo		
Description of the planning proposal: Development Application for Aldi Store		
BMP Plan / Reference Number: 15385	Version: v1	Date of Issue: 18/2/2020
Client / Business Name: Aldi Stores (A Limited Partnership)		

Reason for referral to DFES	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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 BPC elements)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Is the proposal any of the following special development types (see SPP 3.7 for definitions)?</b>		
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Minor development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
High risk land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vulnerable land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

## BPAD Accredited Practitioner Details and Declaration

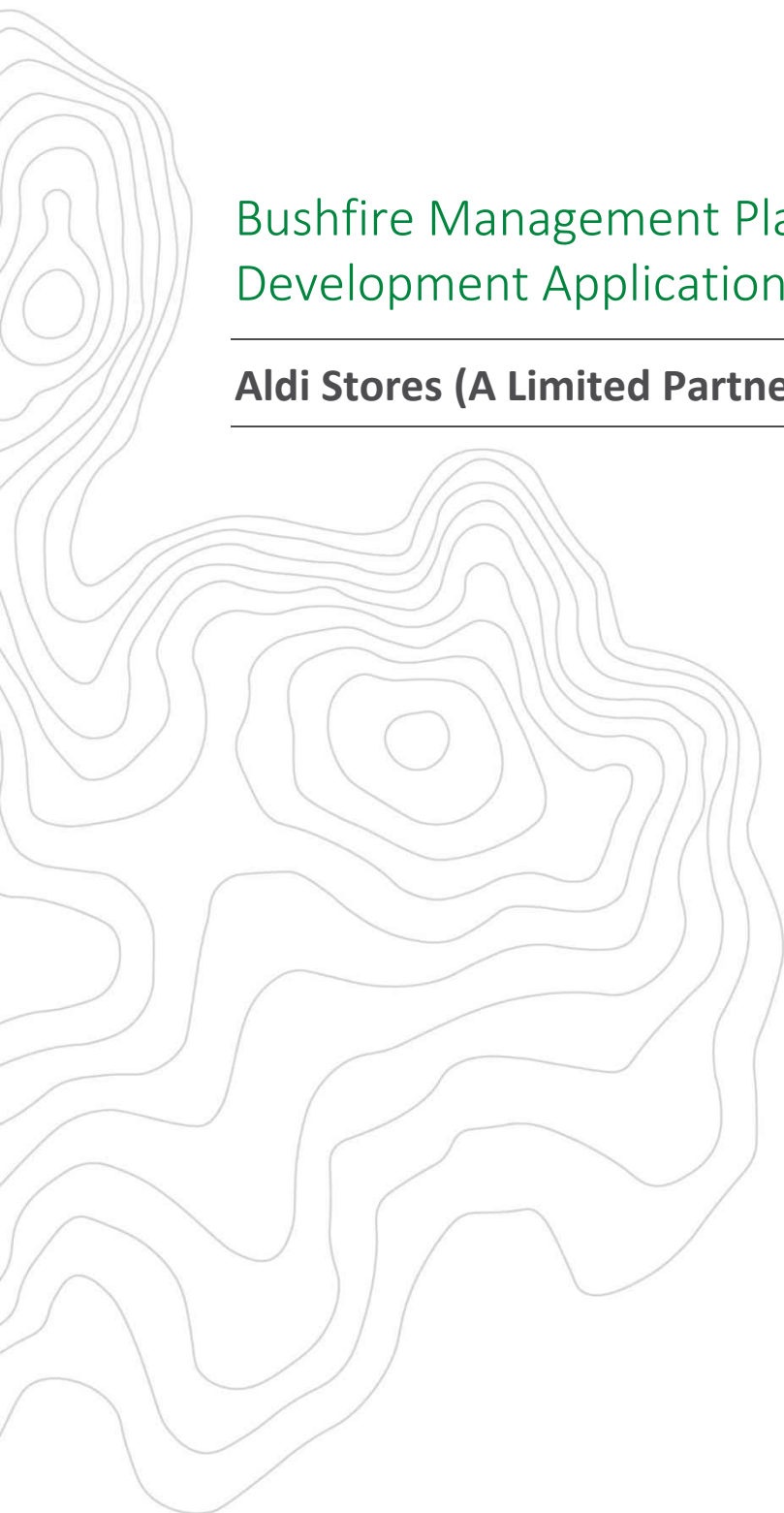
Name Alex Aitken	Accreditation Level Level 2	Accreditation No. 37739	Accreditation Expiry October 2020
Company Eco Logical Australia		Contact No. 08 6218 2200	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner



Date 18/2/202



Bushfire Management Plan:  
Development Application: 2 Kakadu Road, Yanchep

---

**Aldi Stores (A Limited Partnership)**

---

## DOCUMENT TRACKING

---

<b>Project Name</b>	Bushfire Management Plan: Development Application: 2 Kakadu Road, Yanchep
<b>Project Number</b>	20PER-15385
<b>Project Manager</b>	Alex Aitken
<b>Prepared by</b>	Alex Aitken (BPAD Level 2 – 37739)
<b>Reviewed by</b>	Daniel Panickar (BPAD Level 2 – 37802)
<b>Approved by</b>	Daniel Panickar (BPAD Level 2 – 37802)
<b>Status</b>	<b>Final</b>
<b>Version Number</b>	<b>v1</b>
<b>Last saved on</b>	<b>18 February 2020</b>

---

This report should be cited as 'Eco Logical Australia 2020. *Bushfire Management Plan*: Development Application: 2 Kakadu Road, Yanchep. Prepared for Aldi Stores (A Limited Partnership).

## ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Aldi Stores (the client).

---

### *Disclaimer*

*This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and the client. The scope of services was defined in consultation with the client, by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.*

---

Template 2.8.1

## Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1 Proposal details .....	1
1.2 Purpose and application of the plan .....	1
1.3 Environmental considerations .....	1
<b>2. Bushfire assessment results</b> .....	<b>5</b>
2.1 Bushfire assessment inputs .....	5
2.1.1 Fire Danger Index .....	5
2.1.2 Vegetation classification .....	5
2.1.3 Topography and slope under vegetation .....	5
2.2 Bushfire assessment outputs .....	7
2.2.1 BAL assessment .....	7
2.2.2 Method 1 BAL assessment .....	7
2.3 Identification of issues arising from the BAL assessment .....	8
<b>3. Assessment against the Bushfire Protection Criteria</b> .....	<b>10</b>
3.1 Compliance .....	10
3.2 Additional Bushfire Requirements .....	11
<b>4. Implementation and enforcement</b> .....	<b>13</b>
<b>5. Conclusion</b> .....	<b>14</b>
<b>6. References</b> .....	<b>15</b>
<b>Appendix A – Classified Vegetation Photos</b> .....	<b>16</b>
<b>Appendix B – Standards for Asset Protection Zones</b> .....	<b>19</b>
<b>Appendix C - Vehicular access technical requirements (WAPC 2017)</b> .....	<b>21</b>
.....	<b>22</b>

## List of Figures

Figure 1: Site overview .....	2
Figure 2: Proposed development plan for the Aldi Store .....	3
Figure 3: Bushfire Prone Area associated with the subject site .....	4
Figure 4: Vegetation classification .....	6
Figure 5: Bushfire Attack Level (BAL) Contours .....	9
Figure 6: Spatial representation of the bushfire management strategies .....	12
Figure 7: Illustrated tree canopy cover projection (WAPC 2017) .....	19

## List of Tables

Table 1: Classified vegetation as per AS 3959-2018.....	5
Table 2: Method 1 BAL calculation (BAL contours).....	7
Table 3: Summary of solutions used to achieve bushfire protection criteria .....	10
Table 4: Proposed work program.....	13

# 1. Introduction

## 1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by Aldi Stores to prepare a Bushfire Management Plan (BMP) to support a development application for 2 (Lot 396) Kakadu Road, Yanchep (hereafter referred to as the subject site, Figure 1 and Figure 2). The proposed development is for an Aldi retail store within a commercial area.

The subject site is within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2019; Figure 3), which triggers bushfire planning requirements under *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; Western Australian Planning Commission (WAPC) 2015) and reporting to accompany submission of the development application in accordance with the associated *Guidelines for Planning in Bushfire Prone Areas v 1.3* (the Guidelines; WAPC 2017).

The subject site is located within the City of Wanneroo and is zoned as Commercial. The proposed development comprises of an Aldi retail store and associated carpark. The subject site encompasses ~11,446m<sup>2</sup> and incorporates the following as depicted in Figure 2:

- The proposed building ~1,474 m<sup>2</sup>;
- Carpark ~4,157m<sup>2</sup>; and
- A future development area ~3,855 m<sup>2</sup>.

This assessment has been prepared by ELA Senior Bushfire Consultant Alex Aitken (FPAA BPAD Level 2 Certified Practitioner No. BPAD37739-L2) with quality assurance undertaken by Senior Bushfire Consultant Daniel Panickar (FPAA BPAD Level 2 Certified Practitioner No. BPAD37802).

## 1.2 Purpose and application of the plan

The primary purpose of this BMP is to act as a technical supporting document to inform planning assessment. This BMP is also designed to provide guidance on how to plan for and manage the bushfire risk to the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

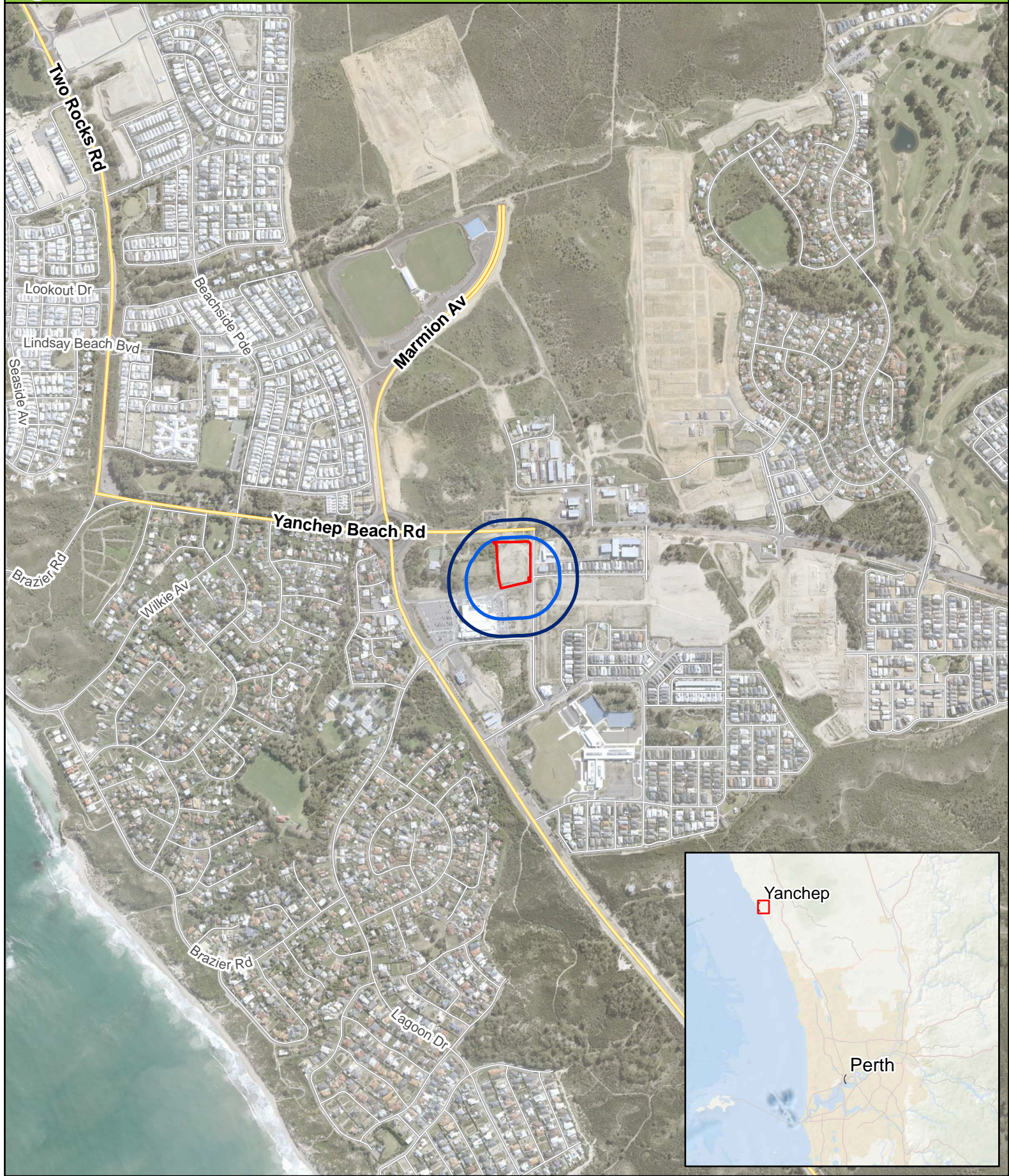
## 1.3 Environmental considerations

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

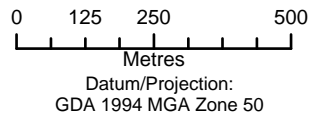
The subject site has been previously cleared, resulting in no existing native vegetation on site.

No revegetation is proposed within the development and any planned landscaping will be maintained in a low-threat state.

**Figure 1: Site Overview**



- Legend**
- Subject site
  - 100m site assessment
  - 150m site assessment





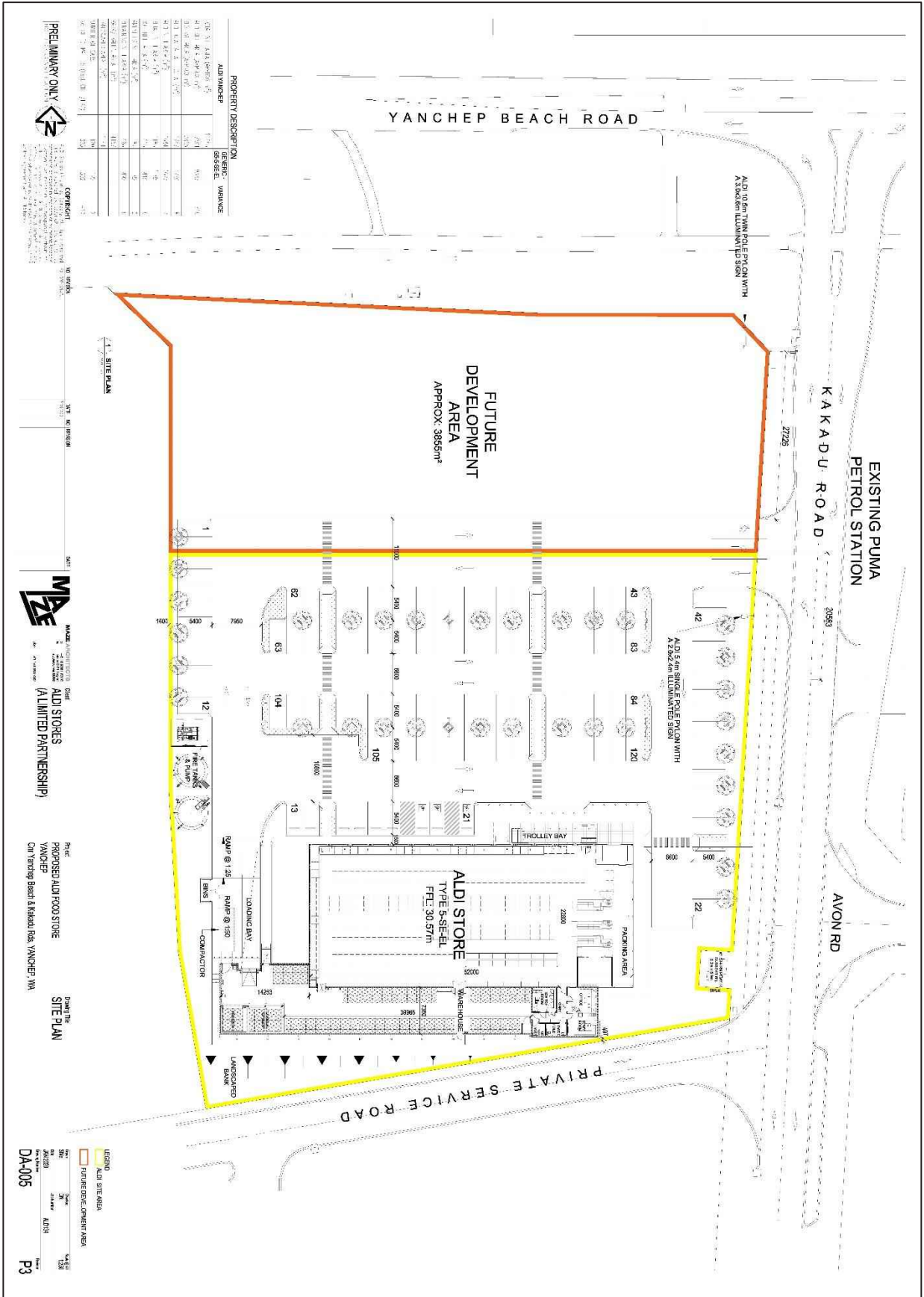
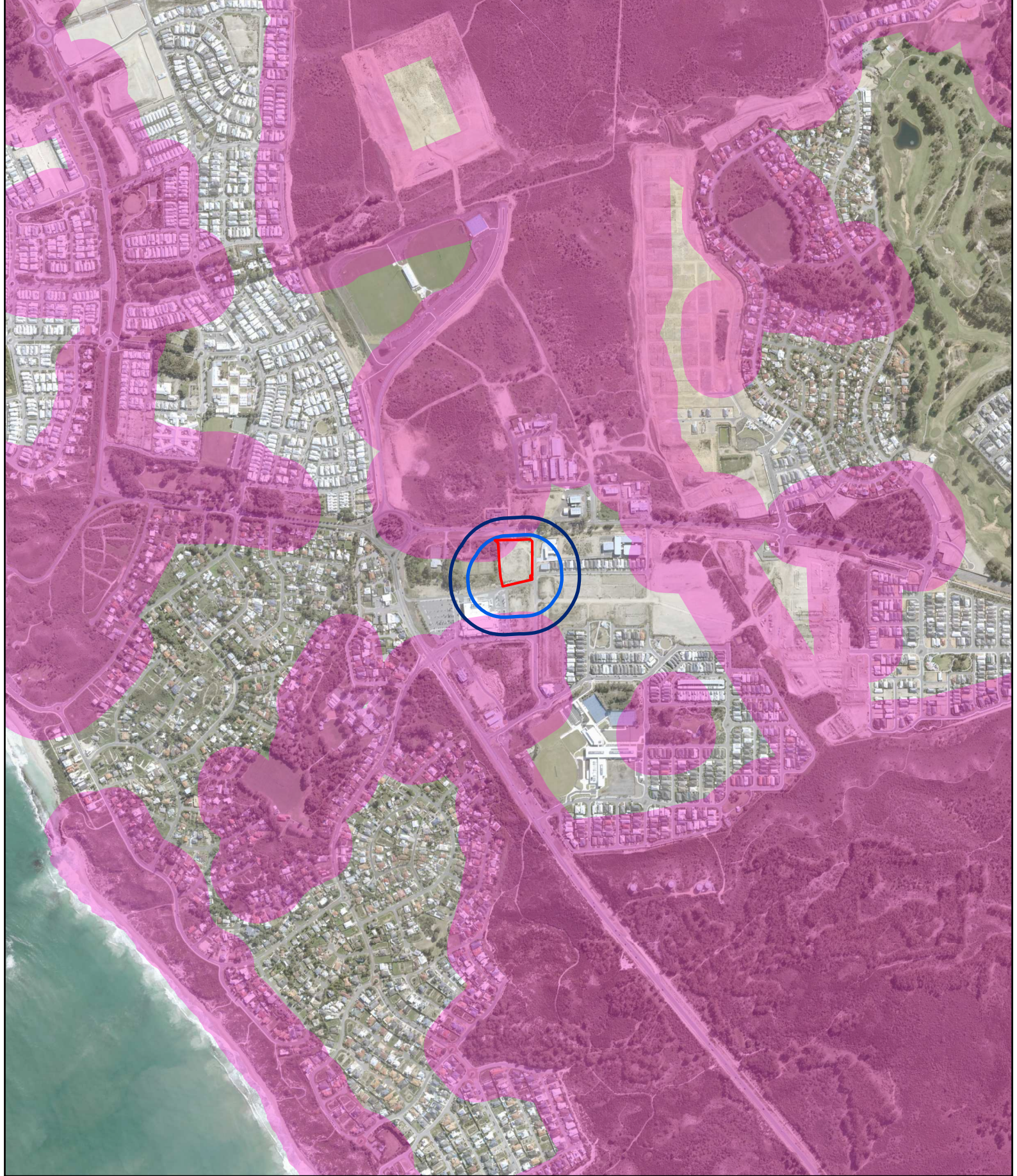






Figure 2: Proposed development plan for the Aldi Store

**Figure 3: Bushfire Prone Areas**



- Legend**
-  Subject site
  -  100m site assessment
  -  150m site assessment
  -  Bushfire Prone Mapping (DFES 2019)

0 125 250 500  
Metres  
Datum/Projection:  
GDA 1994 MGA Zone 50

## 2. Bushfire assessment results

### 2.1 Bushfire assessment inputs

The following section is a consideration of spatial bushfire risk and has been used to inform the bushfire assessment in this report.

#### 2.1.1 Fire Danger Index

A blanket rating of FDI 80 is adopted for Western Australia, as outlined in *AS 3959-2018 Construction of Buildings in Bushfire Prone Areas* (AS 3959-2018; SA 2018) and endorsed by Australasian Fire and Emergency Service Authorities Council (AFAC).

#### 2.1.2 Vegetation classification

Vegetation within the subject site and surrounding 150 m (the assessment area) was assessed in accordance with the Guidelines and AS 3959-2018 with regard given to the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016). Site assessment was undertaken on 14 February 2020.

The classified vegetation for the proposed development from each of the identified vegetation plots are identified below, Table 1 and Figure 4.

**Table 1: Classified vegetation as per AS 3959-2018**

Plot	Vegetation Classification	Assessed Effective Slope (degrees)	Effective Slope
1	Class D Scrub	Upslope	All upslopes and flat land (0 degrees)
2	Class D Scrub	0	All upslopes and flat land (0 degrees)
3	Class C Shrubland	Upslope	All upslopes and flat land (0 degrees)
4	Excluded AS 3959-2018 2.2.3.2 (e)	N/A	N/A

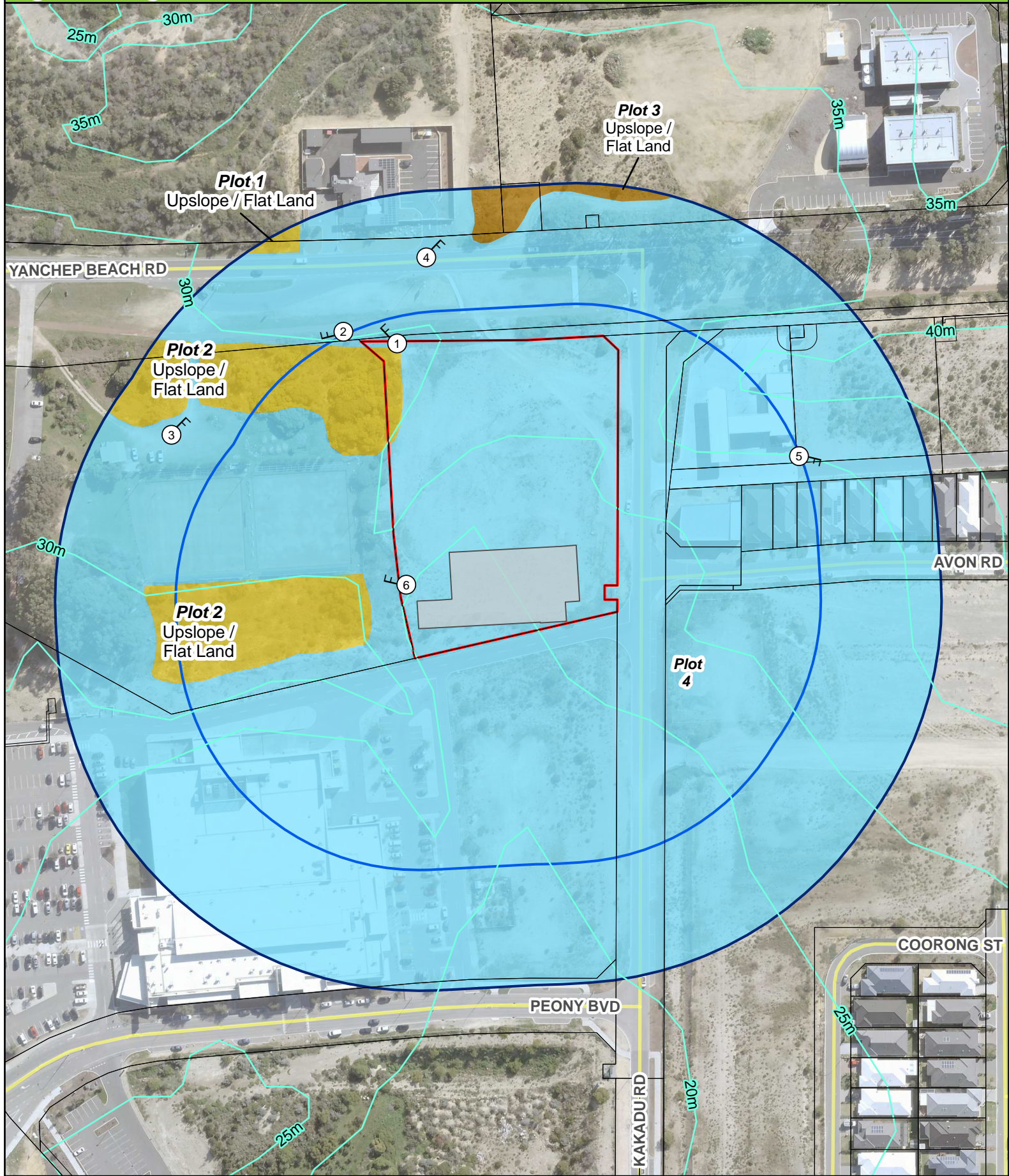
The classified vegetation indicated in Figure 4 and Table 1 is the current vegetation within the assessment area. With future development in the area, Plots 2 and 3 may be cleared or managed to meet the exclusions outlined in AS3959-2018. If this occurs, the bushfire risk will be reduced and may require a reassessment.

Photographs relating to each area and vegetation type are included in Appendix A.

#### 2.1.3 Topography and slope under vegetation

Effective slope under vegetation was assessed for a distance of 150 m from the subject site in accordance with AS 3959-2018 and is depicted in Figure 4. Slope under classified vegetation was assessed and is shown in Table 1.

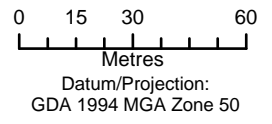
**Figure 4: Vegetation Classification**



- Legend**
- Subject site
  - 100m site assessment
  - 150m site assessment
  - Contour (5m)
  - Cadastre
  - Proposed Building Location

F Photo location

- Vegetation classification**
- Class C shrubland
  - Class D scrub
  - Excluded as per clause 2.2.3.2 (e) and (f)



Datum/Projection:  
GDA 1994 MGA Zone 50



## 2.2 Bushfire assessment outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959-2018 and the bushfire assessment inputs in Section 2.1.

### 2.2.1 BAL assessment

All land located within 100 m of the classified vegetation depicted in Figure 4 is considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959-2018.

A Method 1 BAL assessment (as outlined in AS 3959-2018) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating;
- Vegetation class;
- Slope under classified vegetation; and
- Distance between proposed development area and the classified vegetation.

Based on the identified BAL, construction requirements for the proposed building can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed building and subsequently informs the standard of construction required to increase building survivability.

### 2.2.2 Method 1 BAL assessment

Table 2 and Figure 5 display the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959-2018 methodology.

**Table 2: Method 1 BAL calculation (BAL contours)**

Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
Plot 1 Class D Scrub	All upslopes and flat land (0 degrees)	0-<10	BAL-FZ	No development proposed in this area
		10-<13	BAL-40	No development proposed in this area
		13-<19	BAL-29	No development proposed in this area
		19-<27	BAL-19	No development proposed in this area
		29-<100	BAL-12.5	No development proposed in this area
Plot 2 Class D Scrub	All upslopes and flat land (0 degrees)	0-<10	BAL-FZ	No development proposed in this area
		10-<13	BAL-40	No development proposed in this area
		13-<19	BAL-29	No development proposed in this area
		19-<27	BAL-19	Development proposed in this area
		29-<100	BAL-12.5	Development proposed in this area
Plot 3 Class C Shrubland	All upslopes and flat land (0 degrees)	0-<7	BAL-FZ	No development proposed in this area
		7-<9	BAL-40	No development proposed in this area
		9-<13	BAL-29	No development proposed in this area
		13-<19	BAL-19	No development proposed in this area
		19-<100	BAL-12.5	No development proposed in this area

Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
Plot 4				
Excluded as per clause 2.2.3.2 (e) and (f) of AS3959- 2018		N/A		

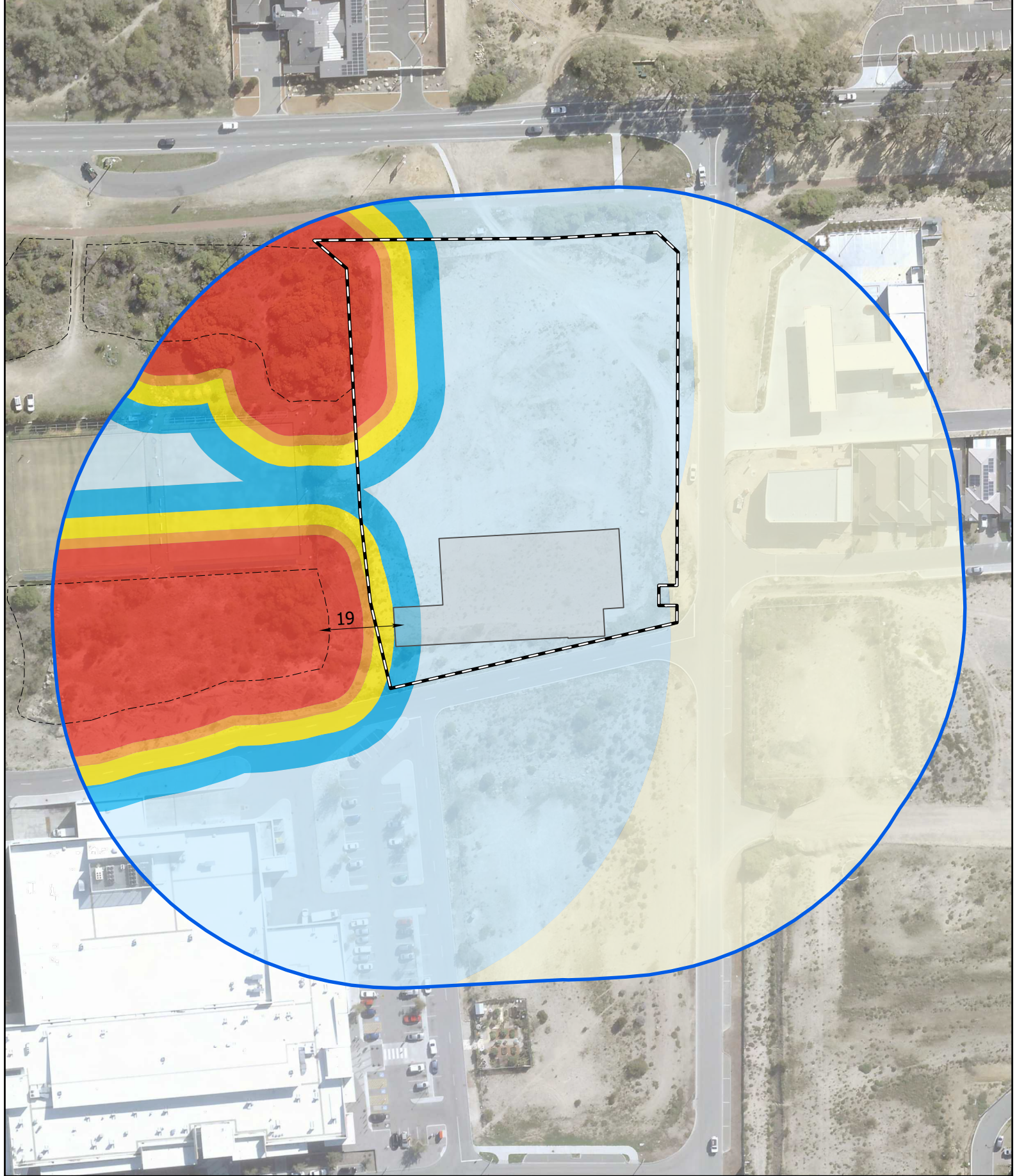
Based on the site assessment inputs and BAL assessment, the proposed Aldi store within the subject site has a BAL rating of BAL-19.

### 2.3 Identification of issues arising from the BAL assessment

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to this BMP.

The current BAL rating indicated in Figure 5 is being influenced by the offsite vegetation associated with the Yanchep Sports Club at 81 Yanchep Beach Road. The vegetation within Plot 2 is not managed and poses the highest bushfire risk in relation to this development. It is assumed the City of Wanneroo manage this land and it may be possible to reduce the radiant heat and ember attack that currently could impact on the proposed building by either removing the vegetation or managing the area as low threat vegetation to the APZ standards shown in Appendix B.

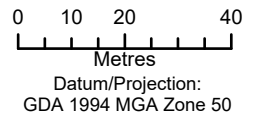
**Figure 5: Bushfire Attack Level (BAL) Contours**



- Legend**
- Subject site
  - 100m site assessment
  - Separation Distance
  - Bushfire Hazard Interface
  - Proposed Building Footprint

**Bushfire Attack Level (BAL)**

	BAL - FZ
	BAL - 40
	BAL - 29
	BAL - 19
	BAL - 12.5
	BAL - LOW



## 3. Assessment against the Bushfire Protection Criteria

### 3.1 Compliance

The proposed development is required to comply with policy measures 6.2 and 6.5 of SPP 3.7 and the Guidelines. Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

In response to the above requirements of SPP 3.7 and the Guidelines, bushfire risk management measures, as outlined, have been devised for the proposed development in accordance with Guideline acceptable solutions to meet compliance with bushfire protection criteria.

Table 3 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summaries how the intent of each Bushfire Protection Criteria has been achieved. No Performance Solutions (PS) have been proposed for this proposal. These management measures are depicted in Figure 6 where relevant.

**Table 3: Summary of solutions used to achieve bushfire protection criteria**

Bushfire Protection Criteria	AS	PS	N/A	Comment
<b>Element 1: Location</b> <b>A1.1 Development location</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The proposed building within the subject site will be located in an area subject to BAL ratings of ≤BAL-29 (Figure 5). The proposed development is considered to be compliant with A1.1.
<b>Element 2: Siting and design of development</b> <b>A2.1 Asset Protection Zone (APZ)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The proposed building has an APZ sufficient for the potential radiant heat flux to not exceed 29kW/m <sup>2</sup> and will be managed in accordance with the requirements of 'Standards for Asset Protection Zones' (WAPC 2017; Appendix B). The APZ can be contained within the boundaries of the lot or managed in perpetuity in a low fuel state (Figure 6). The proposed development is considered to be compliant with A2.1.
<b>Element 3: Vehicular access</b> <b>A3.1 Two access routes</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Two access routes to/from the subject site are available via Kakadu Road (Figure 6). All roads are public roads and comply with requirements outlined in the Guidelines (Appendix C). The proposed development is considered to be compliant with A3.1.
<b>A3.2 Public road</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No public roads are proposed as part of this development.
<b>A3.3 Cul-de-sac</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No cul-de-sacs are proposed as part of this development.
<b>A3.4 Battle-axe</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No battle axe lots are proposed.
<b>A3.5 Private Driveway longer than 50 m</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No private driveways longer than 50 m are proposed.
<b>A3.6 Emergency Access way</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No emergency access way is required.



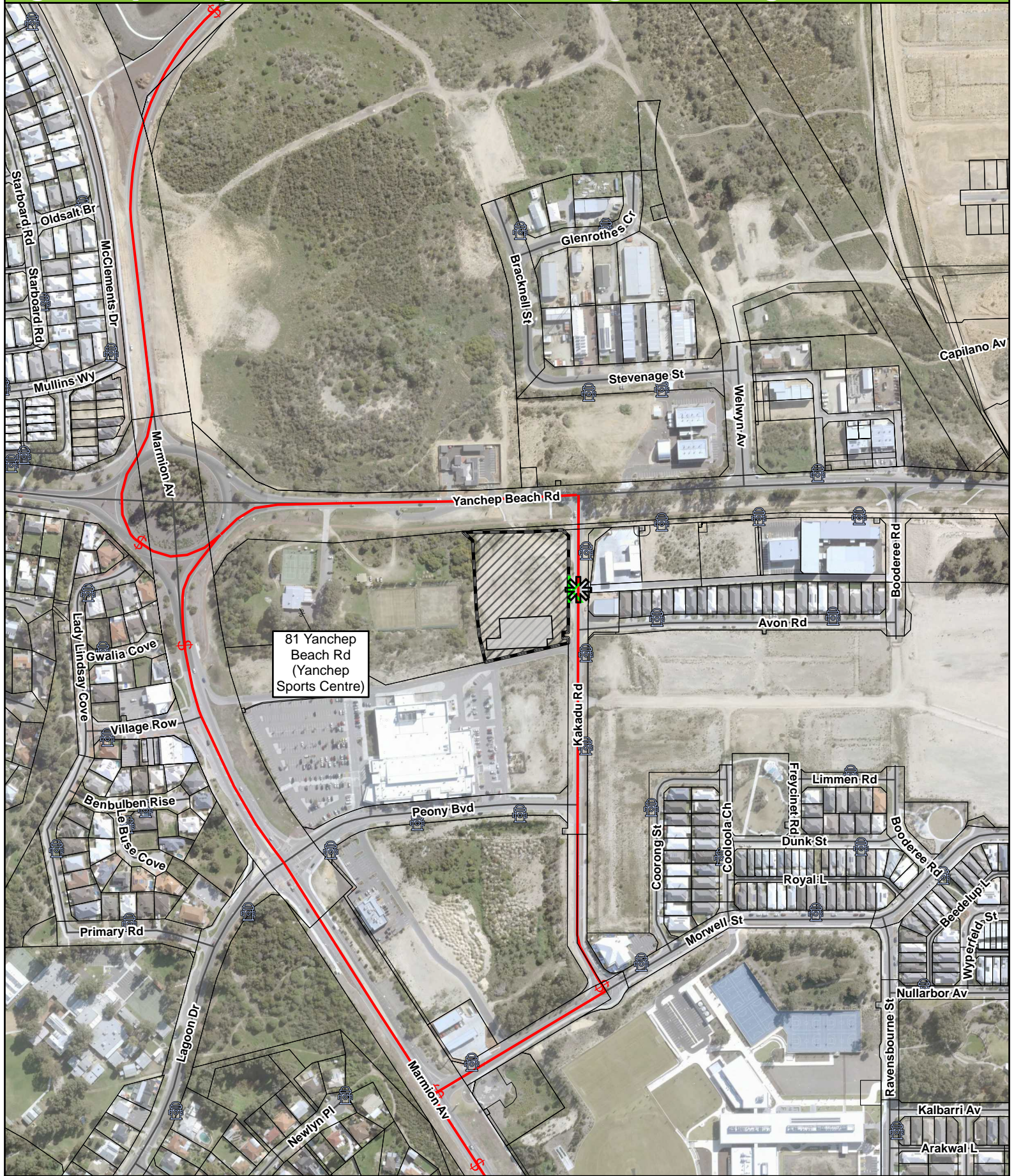
Bushfire Protection Criteria	AS	PS	N/A	Comment
<b>A3.7 Fire-service access routes</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No fire service access routes are required or proposed.
<b>A3.8 Firebreak width</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The proposed development site is cleared of all vegetation from the lot and will be managed as per the City of Wanneroo Fire Hazard Reduction Notice.  The proposed development is considered to be compliant with A3.8.
<b>Element 4: Water</b>				The subject site is connected to a reticulated water supply.
<b>A4.1 Reticulated areas</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The proposed development is considered to be compliant with A4.1.  A4.2 and A4.3 are not applicable to this proposed development.
<b>A4.2 Non-Reticulated areas</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Reticulated water is present within the area.
<b>A4.3 Individual Lots within non-reticulated areas</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Reticulated water is present within the area.

NOTE – AS- ACCEPTABLE SOLUTION, PS- PERFORMANCE SOLUTION, N/A- NOT APPLICABLE









### 3.2 Additional Bushfire Requirements

All landscaping areas within the subject site including the Future Development area (Figure 2) will be maintained in accordance with Standards for Asset Protection Zones (Appendix B).

**Figure 6: Spatial representation of the bushfire management strategies**



**Legend**

-  Access point
-  Subject site
-  Access / egress route
-  Asset Protection Zone (APZ)
-  Proposed Building Footprint
-  Cadastral Boundary
-  Hydrant
-  Road

0 25 50 100  
Metres  
Datum/Projection:  
GDA 1994 MGA Zone 50

## 4. Implementation and enforcement

Implementation of the BMP applies to the developer and future owners within the subject site to ensure bushfire management measures are adopted and implemented on an ongoing basis. A summary of the bushfire management measures described in Section 3, as well as a works program, is provided in Table 4. These measures will be implemented to ensure the ongoing protection of life and property assets is achieved. Timing and responsibilities are also defined to assist with implementation of each measure.

**Table 4: Proposed work program**

No	Bushfire management measure	Responsibility
<b>Prior to occupancy</b>		
1	Ensure proposed building is located outside of areas subject to BAL-FZ and BAL-40 as per the design in Figure 5.	Developer
2	Maintain subject site to meet the APZ standards.	Developer
3	Connect building to reticulated water.	Developer
<b>Ongoing management</b>		
5	Maintain APZ	Future owner

## 5. Conclusion

In the author's professional opinion, the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed development. As such, the proposed development is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

## 6. References

City of Wanneroo. 2019. Fire Hazard Reduction Notice.

Department of Fire and Emergency Services, 2019, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from: <http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx>

Department of Planning (DoP), 2016, *Visual guide for bushfire risk assessment in Western Australia*. DoP, Perth.

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

Western Australian Planning Commission, 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*. WAPC, Perth.

Western Australian Planning Commission, 2017, *Guidelines for Planning in Bushfire Prone Areas Version 1.3 (including appendices)*, WAPC, Perth.

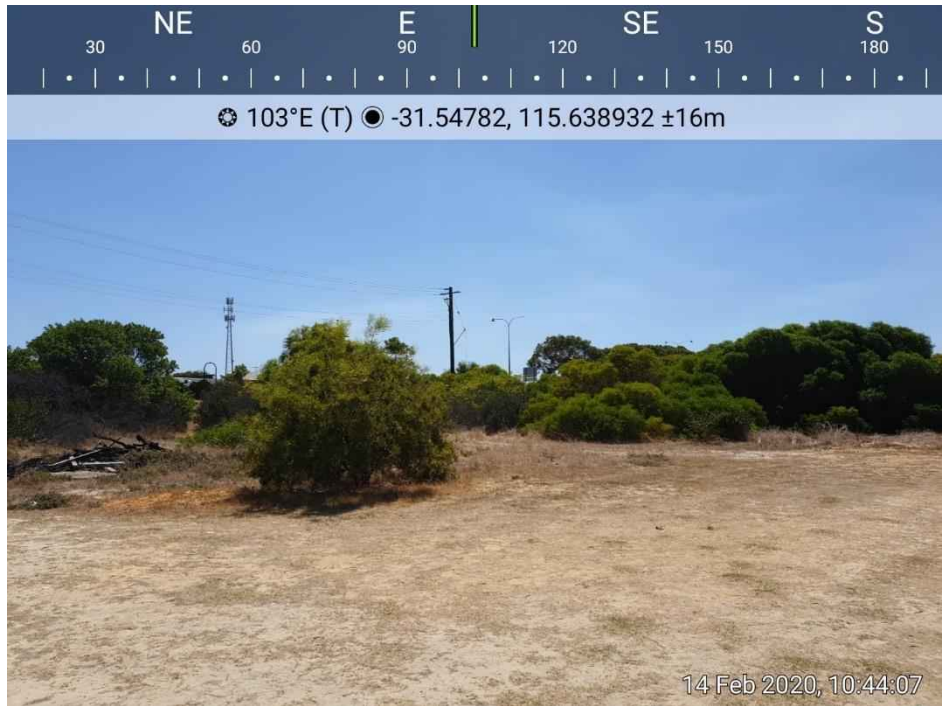
Western Australian Planning Commission, 2019, *A guide to developing a Bushfire Emergency Evacuation Plan, October 2019*.

## Appendix A – Classified Vegetation Photos

Plot	Photo ID	Photo and vegetation classification
1	1	 <p>14 Feb 2020, 10:13:27</p> <p>Class D Scrub – Scrub in the background</p>
2	2	 <p>14 Feb 2020, 10:14:28</p> <p>Class D Scrub</p>

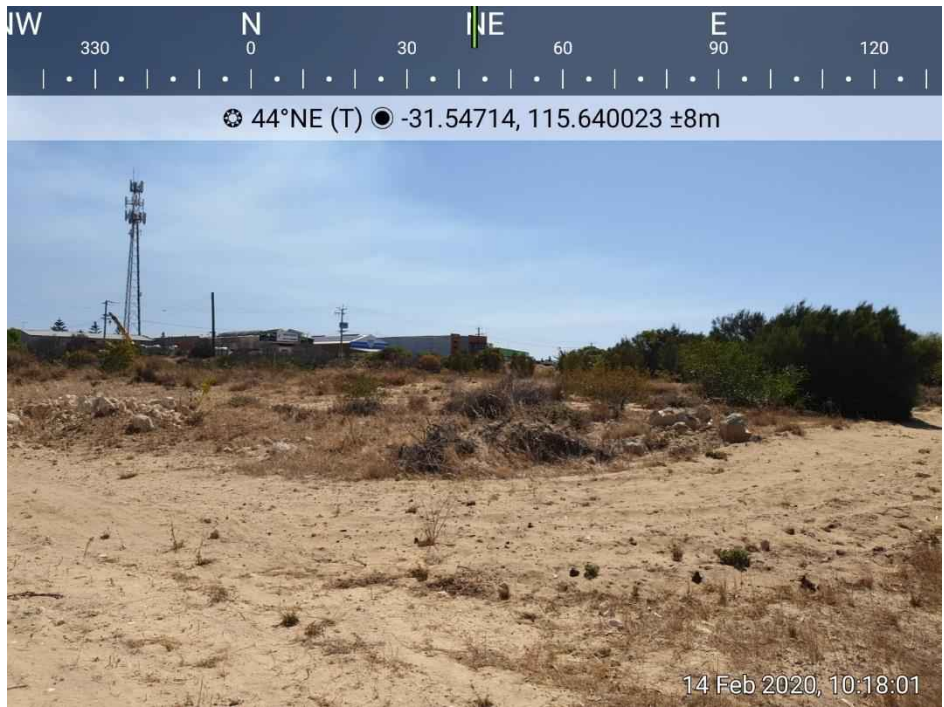
Plot Photo ID Photo and vegetation classification

2 3



Class D Scrub

3 4



Class C Shrubland

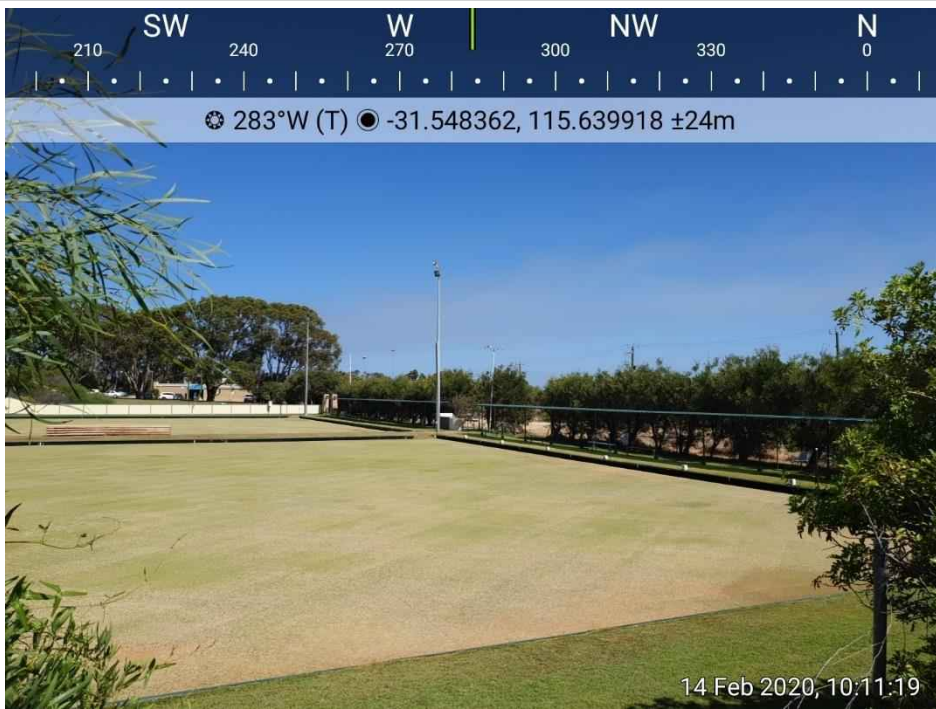
Plot	Photo ID	Photo and vegetation classification
------	----------	-------------------------------------

4 5



Excluded AS 3959-2009 2.2.3.2 (e)

4 6



Excluded AS 3959-2009 2.2.3.2 (f)



## Appendix B – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.3* (WAPC 2017).

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:** Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed  $29\text{kW/m}^2$  (BAL-29) in all circumstances.

**b. Location:** the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).

**c. Management:** the APZ is managed in accordance with the requirements of ‘Standards for Asset Protection Zones’ (below):

- 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 7**).

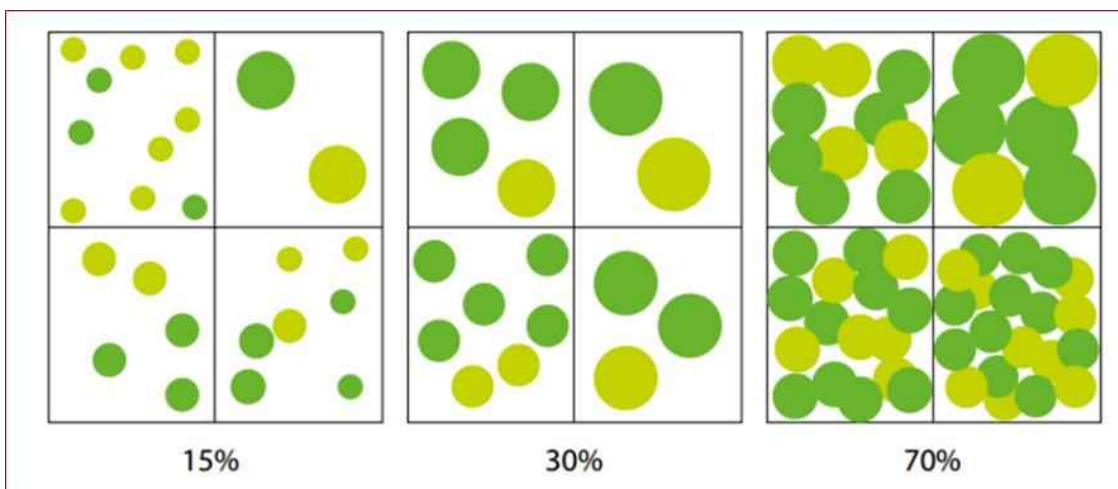


Figure 7: Illustrated tree canopy cover projection (WAPC 2017)

- **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 5m<sup>2</sup> 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.

### **Additional notes**

The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

## Appendix C - Vehicular access technical requirements (WAPC 2017)

Technical requirements	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access route
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal distance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 m	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	8.5	8.5	8.5	8.5	8.5
* Refer to E3.2 Public roads: Trafficable surface					

