

Bushfire Attack Level Assessment Report



AS 3959 BAL Assessment Report

This report has been prepared by an Accredited BPAD Practitioner using the Simplified Procedure (Method 1) as detailed in Section 2 of AS 3959 – 2018. FPA Australia makes no warranties as to the accuracy of the information provided in the report. All enquiries related to the information and conclusions presented in this report must be made to the BPAD Accredited Practitioner, WA Fire & Safety, contact details below.




Property Details and Description of Works

Address Details	Lot		No.	2	Street name	Mirfield Street
	Suburb	Roleystone			State	Western Australia
Local government area	City of Armadale					
Main BCA class of the building	Class 1a	Use(s) of the building	Primary Dwelling			
Description of the building or works	Class 1a Additions or Modifications				Change of Use	

Report Details

Report Number	WAFS000	Version	1.0	Assessment Date	5 September 2020	Report/Certificate Date	7 September 2020
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BPAD Accredited Practitioner Details

<p>Name Dwayne Griggs BPAD40466 (Level 2)</p> <p>Company Details Email: admin@wafiresafety.com.au Mobile: 0415684681 Links to: Facebook & Google</p> 	<p>I hereby declare that I am a BPAD accredited bushfire practitioner</p> <p>Accreditation No. BPAD 40466</p> <p>Signature: </p> <p><i>Authorised Practitioner Stamp</i></p> 
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Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated report issued.

Site Assessment & Site Plans

The assessment of this site / development was undertaken by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2018 Simplified Procedure (Method 1).



Line Of Measure Effective Angle / linear distance		Site Boundary	
Proposed Building		Vegetation Plot	
Asset Protection Zone (If Applicable)		Photo Location & Direction	
		North	

Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID: 1	Plot: 1	
Vegetation Classification or Exclusion Clause		
Class A Forest		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Class G Grassland		
Description / Justification for Classification		
Overstorey 10-30m in Height Canopy Cover of 30-70% Understorey of Low Trees, Shrubs, Scrub and Grasses Moderate surface, Near surface and Intermediate Fuel loads		
Photo ID: 2	Plot: 2	
Vegetation Classification or Exclusion Clause		
Class G Grassland		
Description / Justification for Classification		
Vegetation Classification or Exclusion Clause		
Class G Grassland		
Description / Justification for Classification		
Grassland of >100mm in Height Canopy Cover of Less than 10% Residential Areas Minimal surface, Near surface and Intermediate Fuel loads		

Photo ID:	3	Plot:	3
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Overstorey 10-30m in Height Canopy Cover of More than 90% Understorey of Low Trees, Shrubs, Scrub and Grasses Moderate surface, Near surface and Intermediate Fuel loads			



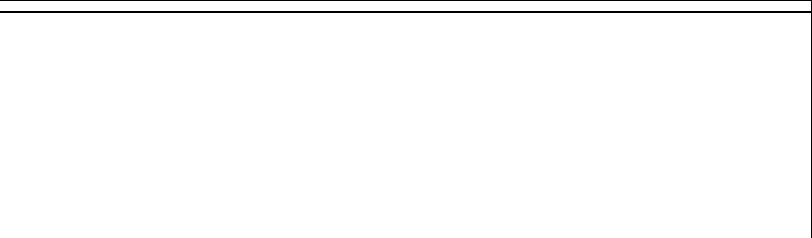


Photo ID:	4	Plot:	4
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Overstorey 10-30m in Height Canopy Cover of 30-70% Understorey of Low Trees, Shrubs, Scrub and Grasses Moderate surface, Near surface and Intermediate Fuel loads			



Photo ID:	5	Plot:	5
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Overstorey 10-30m in Height Canopy Cover of 30-70% Understorey of Grasses Moderate surface, Near surface and Intermediate Fuel loads Unmanaged lots			



Photo ID: 6	Plot: 6		
Vegetation Classification or Exclusion Clause			
Class G Grassland			
Description / Justification for Classification			
Grassland of >100mm in Height Canopy Cover of Less than 10% Understorey of Grasses Moderate surface, Near surface and Intermediate Fuel loads Semi-maintained area surrounding house,			
Photo ID: 7	Plot: 7		
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Overstorey 10-30m in Height Canopy Cover of 30-70% Understorey of Grasses Minimal surface, Near surface and Intermediate Fuel loads Irrigated gardens with low threat ground covers			
Photo ID: 8	Plot: 8		
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			

Overstorey 10-30m in Height
 Canopy Cover of 10-30%
 Understorey of Grasses
 Minimal surface, Near surface and Intermediate
 Fuel loads
 Irrigated gardens with low threat ground covers
 Non-Vegetated Areas
 Very Small Area of Class A



Photo ID:	9	Plot:	9
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Overstorey 10-30m in Height Canopy Cover of 30-70% Understorey of Shrubs and Grasses Moderate surface, Near surface and Intermediate Fuel loads Small Area on verge and in lot of class A			



Photo ID:	10	Plot:	10
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			

Overstorey 10-30m in Height
 Canopy Cover of 30-70%
 Understorey of Grasses
 Minimal surface, Near surface and Intermediate
 Fuel loads

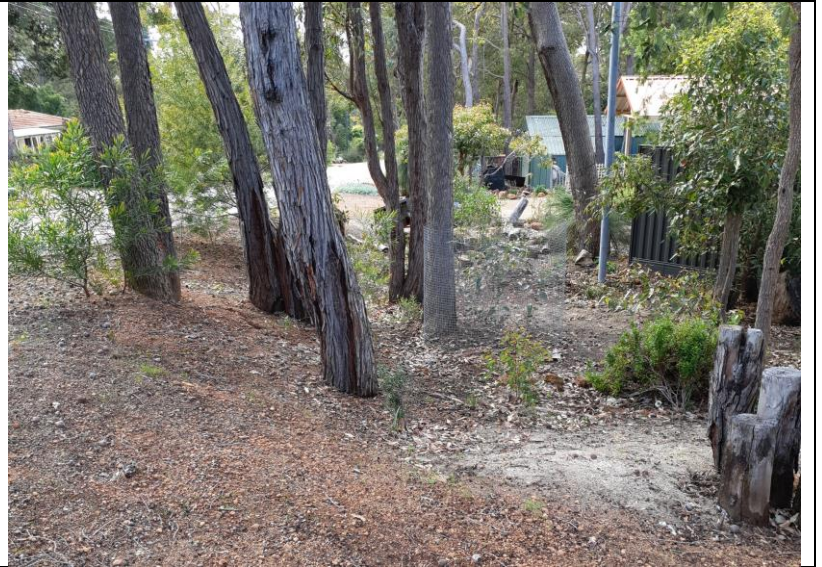
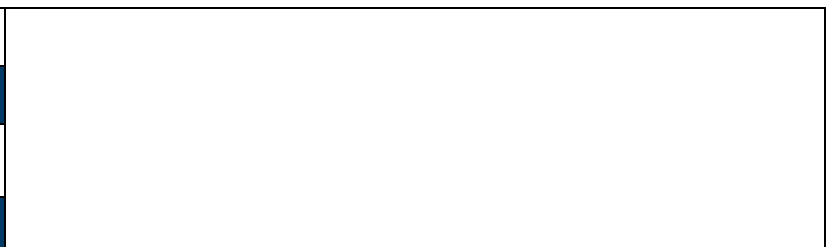


Photo ID:	11	Plot:	11
Vegetation Classification or Exclusion Clause			
Class A Forest			
Description / Justification for Classification			
Overstorey 10-30m in Height			
Canopy Cover of 30-70%			
Understorey of Low Trees, Shrubs, Scrub and Grasses			
Minimal surface, Near surface and Intermediate Fuel loads			
Small plot with potential when mature			



Photo ID:	12	Plot:	12
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2 (e) (f) Low Threat Vegetation/Non Vegetated			
Description / Justification for Classification			



Grassland of <100mm in Height
 Canopy Cover of Less than 10%
 Residential Areas
 Insufficient Fuels to increase the risk from bushfire
 Irrigated gardens with low threat ground covers
 Non-Vegetated Areas
 Maintained areas



Photo ID: 13 **Plot:** 12

Vegetation Classification or Exclusion Clause

Excludable - 2.2.3.2 (e) (f) Low Threat Vegetation/Non Vegetated

Description / Justification for Classification

Grassland of <100mm in Height
 Canopy Cover of Less than 10%
 Residential Areas
 Insufficient Fuels to increase the risk from bushfire
 Irrigated gardens with low threat ground covers
 Non-Vegetated Areas
 Maintained areas



Photo ID: 14 **Plot:** 12

Vegetation Classification or Exclusion Clause

Excludable - 2.2.3.2 (e) (f) Low Threat Vegetation/Non Vegetated

Description / Justification for Classification

Grassland of <100mm in Height
 Canopy Cover of Less than 10%
 Residential Areas
 Insufficient Fuels to increase the risk from bushfire
 Irrigated gardens with low threat ground covers
 Non-Vegetated Areas
 Maintained areas



Photo ID: 15 **Plot:** 13

Vegetation Classification or Exclusion Clause

Excludable - 2.2.3.2 (e) (f) Low Threat Vegetation/Non Vegetated

Description / Justification for Classification

Grassland of <100mm in Height
 Canopy Cover of Less than 10%
 Residential Areas
 Insufficient Fuels to increase the risk from bushfire
 Irrigated gardens with low threat ground covers
 Non-Vegetated Areas
 Maintained areas



Photo ID:	16	Plot:	13
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2 (e) (f) Low Threat Vegetation/Non Vegetated			
Description / Justification for Classification			
Grassland of <100mm in Height Canopy Cover of Less than 10% Residential Areas Insufficient Fuels to increase the risk from bushfire Irrigated gardens with low threat ground covers Non-Vegetated Areas Maintained areas			



Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

Fire Danger Index (WA is FDI of 80)

FDI 40

Table 2.4.5

FDI 50

Table 2.4.4

FDI 80

Table 2.4.3

FDI 100

Table 2.4.2

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	0-5 Downslope	72	BAL – 12.5
2	Class G Grassland	0/Upslope	26	BAL – 12.5
3	Class A - Forest	0/Upslope	41	BAL – 19
4	Class A - Forest	0-5 Downslope	67	BAL – 12.5
5	Class A - Forest	0-5 Downslope	27	BAL – 29
6	Class G Grassland	0-5 Downslope	15	BAL – 19
7	Class A - Forest	0-5 Downslope	50	BAL – 12.5
8	Class A - Forest	0-5 Downslope	52	BAL – 12.5
9	Class A - Forest	0-5 Downslope	81	BAL – 12.5
10	Class A - Forest	0/Upslope	25	BAL – 29
11	Class A - Forest	0-5 Downslope	68	BAL – 12.5
12	Excludable – Clause 2.2.3.2 (e) & (f)	-	-	BAL – LOW
13	Excludable – Clause 2.2.3.2 (e) & (f)	-	-	BAL – LOW

Table 1: BAL Analysis

Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level

BAL – 29

Appendix 1: Plans and Drawings

Plans and drawings relied on to determine the bushfire attack level

Drawing / Plan Description

Class 1a Additions or Modifications

No Plan Provided – BAL Rating to existing structure

Appendix 2: Application of Shielding Provisions

AS3959-2018 c3.5 Shielding Provision applies as described and illustrated below

Proposed structure is BAL-29

Appendix 3: Additional Information and Advisory Notes

Excluded Vegetation (as3959 Clause 2.2.3.2):

Area contains residential lots that are maintained being excludable (e) and (f) low risk managed areas with APZ to 20m or lot sizes; these low risk areas have been assessed and plotted on the map in white as Plot 12.

APZ (Asset Protection Zone) or BPZ

APZ for this site will be lot in entirety to the curb.

Topography

Area is mainly flat ground, with downslopes not exceeding 5° in any direction.

Recommendations for Landowner

Maintenance of the APZ and or Lot to the size and standard directed by the local government firebreak and fuel notice and the standard for APZ's (appendix 4).

Construction Requirements Advisory Statement:

All information given regarding construction requirements for the appropriate BAL Level from AS3959, within and outside this report is advisory only.

Statement:

I Dwayne Griggs BPAD40466 of WA Fire & Safety, Maida Vale, have taken the appropriate steps to ensure that all the information provided in this Bushfire Attack Level Report is accurate and the correct determination of the site is given on the date of this assessment.

This report does not guarantee that a structure will not be damaged or destroyed from a bushfire. This assessment is made from the information provided and available to me the Bushfire Consultant on the day of the assessment. The Bushfire Consultant will not be liable for loss or other consequences following a fire whether due to negligence arising from the services conducted by the consultant, local government authority, the agent requesting and or the owner/occupier.

Any further vegetation planted after the date of this BAL Assessment or a failure to maintain the area within this BAL Report to the same standards can dramatically change the BAL rating. This will put the structure and close structures at a higher risk in the event of extreme bushfire behaviour in the area.

Very important information for landowner:

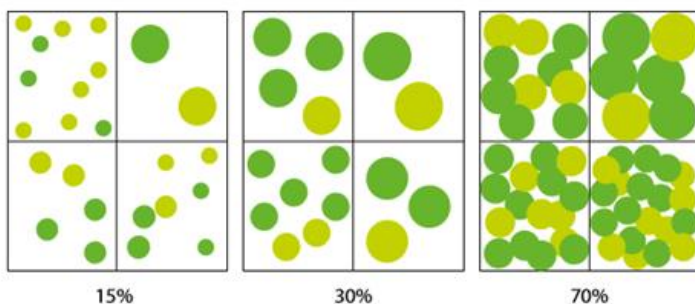
It is the responsibility of the landowner/proponent to maintain their APZ in accordance with Schedule 1 'Standards for Asset Protection Zones' It is further recommended that maintenance of APZs and Property is addressed through the local government firebreak notice (LGA firebreak and fuel notice), issued under s33 of the Bushfires Act 1954.

Appendix 4: Standards for Asset Protection Zones (from SPP3.7)

An APZ is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. The width of the required APZ varies with slope and vegetation. The APZ should at a minimum be of sufficient size to ensure the potential radiant heat impact of a fire does not exceed BAL-29.

- **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 16: 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 5: Local Government Authority Fire Notice

FIREBREAK NOTICE



7 Orchard Avenue, Armadale
Western Australia 6112

Locked Bag No 2, Armadale
Western Australia 6992

www.armadale.wa.gov.au
ABN: 79 863 269 538

For updated information on alerts and warnings about fires, floods, storms, earthquakes, cyclones, hazardous material incidents and more visit
www.emergency.wa.gov.au
DFES 1300 657 209
www.dfes.wa.gov.au

Western Australian
Bureau of Meteorology 1196
City of Armadale Rangers
9394 5000
After Hours 1300 886 885
To obtain a fire permit
9394 5000

NOTICE TO ALL OWNERS AND OCCUPIERS OF LAND WITHIN THE CITY OF ARMADALE

**IN ALL EMERGENCIES CALL 000
FIRE AMBULANCE POLICE**

Date: 5 August 2019

BUSH FIRES ACT 1954

Pursuant to the powers contained in Section 33 of the *Bush Fires Act 1954*, you are hereby required on or before the 30th day of November 2019 or within fourteen days of you becoming the owner or occupier of land should this be after the 30th day of November 2019 to clear firebreaks and remove flammable materials from the land owned or occupied by you as specified hereunder and to maintain the specified land and firebreaks clear of all flammable materials up to and including the 31st day of March 2020.

Definitions

FIREBREAK means plough, cultivate, scarify, burn or otherwise clear upon the land firebreaks in such manner, at such places, of such dimensions, and to such number, and whether in parallel or otherwise, as the local government may and is hereby empowered to determine and as are specified in the notice, and thereafter to maintain the firebreaks clear of inflammable matter – Section 33(a) of the *Bush Fires Act 1954*.

FLAMMABLE means any bush, plant, tree, grass, mineral, vegetable, substance, object, thing or material that may, or is likely to, catch fire and burn.

TRAFFICABLE means to be able to travel from one point to another in a 4x4 fire vehicle on a firm and stable surface, unhindered without any obstruction or getting stuck, bogged or trapped.

VERTICAL AXIS means a continuous vertical uninterrupted line at a right angle to the horizontal line of the firebreak.

All Areas of Land over 5000m²

Install and maintain a minimum three (3) metres wide by four (4) metres high clearance, bare mineral earth, trafficable (refer to definition) firebreak no more than 10 metres from the property boundary for the entire perimeter of that property. A reticulated and maintained green lawn may be accepted in lieu of a firebreak.

The firebreak must be a minimum of three (3) metres wide to accommodate for the width of emergency vehicles and have a minimum height clearance of four (4) metres to allow for the height of emergency vehicles.

Bare, mineral earth is essential for the safety and effectiveness of all firebreaks and is considered a safe passage for emergency vehicles to travel along. If a firebreak contains combustible material, it could potentially set vehicles alight and facilitate the growth of a fire.

Install bare mineral earth trafficable firebreaks to a minimum of three (3) metres wide immediately surrounding all buildings, sheds and haystacks or groups of buildings situated on that land, with all overhanging branches, trees, limbs etc. to be trimmed back to three (3) metres high with a clear vertical axis over firebreak area. This includes driveways and access to all buildings on the land.

All Areas of Land less than 5000m²

Have all flammable matter except living trees, shrubs and plants under cultivation, slashed, mowed or trimmed down by other means to a height no greater than five (5)cms across the entire property. This includes slashing between parkland, includes weeds, all grasses and hay.

Shrubs are to be trimmed back over driveways and access ways to all buildings to three (3) metres wide with a clear vertical axis over it four (4) metres high to afford access for emergency vehicles to all structures and points of the property.

Hazard Reduction

In addition to the provisions of this notice you may be required to carry out further works which are considered necessary by Council or an Authorised Officer of the City and specified by way of a separate written notice forwarded to the address as shown on the City of Armadale rates record for the relevant land.

Application to Vary Firebreak Requirements

Note: No firebreak exemptions will be given. Please apply for a firebreak variation if an alternative location for firebreak installation is required.

If it is considered impracticable for any reason whatsoever to clear firebreaks or establish other arrangements as required by this notice, you may apply in writing to the City of Armadale, or its duly Authorised Officers, **no later than the 1st day of October 2019** for permission to provide firebreaks in alternative positions on the land. If permission is not granted by the City or its duly Authorised Officers you must comply with the requirements of this notice.

In some instances naturally occurring features such as rocky outcrops, natural watercourses or landscaping such as reticulated gardens, lawns or driveways may be an acceptable substitute for cleared firebreaks.

All firebreaks and other alternative arrangements allowed by the preceding parts of this notice must be established on or before the 30th day of November 2019 (or within 14 days of you becoming the owner or occupier should this occur after that date) and remain clear of flammable material up to and including the 31st day of March 2020.

All approved firebreak variations must be installed as close to the property boundary as practicable.

Fuel Storage

On all land where fuel drum ramps are located and where fuel dumps, whether containing fuel or not, are stored, clear maintained firebreaks three (3) metres wide with a clear vertical axis over it of four (4) metres in height, around any drum, ramp or stack of drums.

Penalties

The penalty for failing to comply with this notice is a fine not exceeding \$5000 and a person in default is also liable whether prosecuted or not to pay the costs of performing the work directed by this notice if it is not carried out by the owner and/or occupier by the date required by this notice.

By order of the City of Armadale
Cliff Frewing - Chief Executive Officer