

Appendix 5

Bushfire Risk Assessment

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

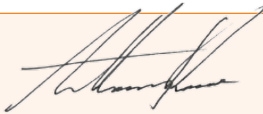
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Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

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

Childcare Centre

573 Lake Road, Seville Grove

Client – Red Cardinal Holdings Pty Ltd

September 2020



LIMITATIONS STATEMENT

This Bushfire Management Plan ('BMP') has been solely prepared for a Childcare Centre at Lot 89 Lake Road, Seville Grove.

Envision Bushfire Protection

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Version Control

Lot 89 Lake Road, SEVILLE GROVE			
Version	Date	Author	
V1	28/08/2020	AR	DRAFT
V2	24/09/2020	AR	Revised site plan

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Disclaimer

In undertaking this work, the authors have made every effort to accurately apply the available information **at the time of writing** following the instructions of the regulatory authorities and applying best practice as described by the Fire Protection Association Australia. Any conclusions drawn or recommendations made in the report are made in good faith, and the consultants take no responsibility for how this information and the report is subsequently used.

Envision Bushfire Protection accepts no liability for a third party's use of, or reliance upon, this specific report.

Importantly the measures contained in this report cannot guarantee, human safety or an absence of harm, or that the building will not be damaged or would survive a bushfire event on every occasion. This is due to the unpredictable nature of fire behaviour (knowledge in this field continues to develop) and the unpredictable nature of extreme weather conditions.

Scope of this report

Envision Bushfire Protection has been engaged to provide expert bushfire safety and planning advice.

The scope of the advice has been to assess the proposal for compliance with the policy measures described in State Planning Policy 3.7 and identify appropriate mitigation measures to be considered by the determining authority. This is described in a Bushfire Management Plan and prepared with regard to the Department of Planning Lands and Heritage templates.

The investigations and mitigation measures identified in the BMP, has in turn formed the basis for the preparation of a Bushfire Emergency Evacuation Plan.

Client relationship

I was engaged to provide expert bushfire safety and planning advice. My relationship with the client is a standard commercial contract and no private, personal, or other matter has influenced the content of the BMP or my findings.

STATEMENT OF CONFORMITY – PLANNING AND DEVELOPMENT ACT 2005



Anthony Rowe Level 3 - BPAD36690

Principal



The signatory declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7 and the Guidelines for Planning in Bushfire Prone Areas V1.3.

EXECUTIVE SUMMARY

Preface

The proposal is to establish a childcare centre at Lot 89 Lake Road, Seville Grove (**'the site'**).

The site is within a declared bushfire prone area and State Planning Policy 3.7 *Planning in Bushfire Prone Areas* ('SPP 3.7') applies.

In accordance with SPP 3.7 the planning authority when determining an application in a declared bushfire prone area must first be satisfied the proposal is consistent with the policy intent, ***to preserve life and reduce the impact of bushfire on property and infrastructure***.

The proposal, a childcare centre, is listed under SPP 3.7, as a vulnerable class of development. The requirements for a vulnerable development contained in SPP 3.7 and the *Guidelines for Planning in Bushfire Prone Areas* (WAPC, V1.3 December 2017) apply.

This BMP is accompanied by a Bushfire Emergency Evacuation Plan ('BEEP') which has been prepared following the requirements in cl 5.5.2 of the Guidelines, AS 3745-2010 and the format of the (DPLH) Emergency Evacuation Plan Template.

The purpose of this BMP is to assess *the suitability of the building in its location for the intended purpose and further, to place primacy upon human life, assessing the requirements needed for caring for 'vulnerable' people*.

This BMP has been prepared in accordance with SPP 3.7 and Appendix Five in the Guidelines V1.3.

1. Proposal details (addressed in Section 1)

The proposal is to construct a childcare facility at Lot 573 Lake Road, Seville Grove.

The site is 0.4 ha in area, triangular in shape and level. The site is zoned Residential in the Armadale Town Planning Scheme 4 and adjoins residential development to its west, north and east and a Parks and Recreation Reserve to the south.

The site currently retains a centrally located dwelling and outbuildings but these will be demolished to make way for the new building and landscaping.

The site is notable for a row of tall eucalypts along the perimeter. The grounds are predominantly grass and occasional shrubs and in poor repair, therefore presently classified as a bushfire threat.

The site adjoins a reserve to the south which has trees classed as woodland at the boundary with the site.

2. Environmental considerations (addressed in Section 2)

The site is located within a residential area and whilst it has tall trees it is not remnant forest, recognised within the Beard Native vegetation extent. Clearing of understorey vegetation will be required to establish the Asset Protection Zone (shown on Figure EX1).

3. Bushfire assessment results (addressed in Section 3)

A Bushfire Attack Level assessment following Method 1 AS 3959:2018, used an FFDI of 80. Due to the vegetation condition the existing building is determined to be within BAL-FZ, but an indicative BAL-29 (south exposed building elevation) and BAL -19 (shielded sides) is achievable by the management of vegetation within the site.

4. Identification of bushfire hazard issues (addressed in Section 4)

The most intense bushfire is likely to arrive in the afternoon between mid-December and March each year when the Forest Fire Dander Index (¹.FFDI) is higher than 50. The wind roses for Gosnells (nearest weather

¹ FFDI is a measure of fire danger weather 50+ is Severe, 75+ is Extreme and 100+ is Catastrophic

station) illustrate the afternoon wind (highest FFDI) is predominant and strongest from the south and south west.

The site is assessed to be exposed to a direct bushfire impact from one aspect, Woodland at the south boundary. The site is otherwise adjoined by areas classified as BAL – Low.

Secondary bushfire impact, from ember attack, can occur up to 700 m from a fire. The Wungong River reserve, regional ecological linkage is 200 m from the site and could impose an ember attack upon the site. However, at distances greater than 100 m from the fire front the heat can permit external surveillance and attention by people present to extinguish spot fires before they can grow and severely damage the building.

5. Assessment against the bushfire protection criteria (addressed in Section 5)

5.1 Bushfire Protection Criteria

The proposal was compared with the acceptable solution for the four Bushfire Protection Criteria Elements: Location, Siting and Design, Access, and Water.

Element 1 and 2 - Location and Siting and Design

Element 1 and 2 requires that that habitable building should not be exposed to a BAL greater than BAL-29 on completion.

The site is assessed to be exposed to a direct bushfire impact from one aspect, Woodland at the south boundary. The site is otherwise adjoined by areas classified as BAL – Low.

There is no restriction to establishing the Asset Protection Zone ('APZ') within the site (no ecologically restricted vegetation is required to be removed). The equivalent of an APZ can be achieved across the site but the adjoining vegetation to the south has determined the siting and construction of the building should be BAL-29.

The building should be evacuated immediately if a fire is observed to the south of the site. The site evacuations should be taken, on foot and into the adjacent BAL Low residential area away from the heat of the fire.

Upon emergency services advice to evacuate because the site is expected to be impacted by a fire, then evacuation should be taken to Armadale Arena at 4 Townley Street Armadale or as otherwise directed by emergency services (directly or through publicly broadcast information warnings).

The provision of convenient firefighting facilities at the site can assist any person present or attending emergency services personnel to extinguish small fires before they can develop to severely damage the building.

Element 3 - Vehicle Access

Element 3 requires the site to have access to a through road providing two destination options.

The site adjoins Lake Road at its north boundary and San Jacinta Road at its east boundary. Both roads are located within the City of Perth urban network and offer multiple destination options and access to the Armadale Arena at 4 Townley Street Armadale, as well as multiple opportunities for emergency services to approach and attend the site.

Element 4 - Water

The site is connected to a reticulated water supply and hydrants are immediately available to the site from Lake Road and San Jacinta Road.

5.2 Bushfire Management Strategies

5.2.1 Vulnerable development

Additional management strategies include the integration of the building asset features identified in the compliance criteria with the operational management described in the Bushfire Emergency Evacuation Plan (BEEP). The BMP, physical asset, and the BEEP operational management work in unison.

The BEEP has been prepared following the WA Department of Planning Lands and Heritage *A Guide to Developing a Bushfire Emergency Evacuation Plan 2019* and complies with the requirements listed under section 5.5.2 V1.3 *Guidelines for Planning in Bushfire Prone areas*.

5.2.2 Bushfire Management Measures

In addition to the measure of compliance with the Acceptable Solutions in section 5 above, the following measures are recommended as appropriate treatments to the bushfire risk identified by the investigations of this BMP.

5.3 Spatial representation of the bushfire management strategies (Figure EX 1)

Further to the assessment against the bushfire protection criteria, the key features demonstrating compliance are illustrated in Figure EX1.

These actions are reflected in the following *Responsibilities for implementation and management of the bushfire measures*, which also includes other compliance measures and context to the activities of the City and State Government.

6. Responsibilities for implementation and management of the bushfire measures

The Owner responsibilities (Guidelines 4.6.3) identify the bushfire management measures necessary to achieve compliance with the bushfire protection criteria.

Owner

1. The building, is to be constructed and maintained in accordance with the standard for BAL – 29 as described in AS 3959:2018.	Prior to occupation and ongoing
2. The inside face of all external doors shall display the Evacuation Diagram.	Prior to occupation and ongoing
3. A 4kg chemical fire extinguisher shall be provided together with operating instruction.	Prior to occupation and ongoing
4. Hard wired smoke detectors shall be installed (as per class 1a the Building Code Australia Requirements).	Prior to occupation and ongoing
5. The establishment of an Asset Protection Zone (APZ) as demonstrated by the Spatial Representation of Bushfire Management Strategies and in accordance with the Standards for Asset Protection Zones (Schedule 1 Guidelines for Planning in Bushfire Prone Areas V1.3).	Prior to occupation and ongoing
6. The provision of external water (fire) hoses shielded from radiant heat and capable of applying water, safely onto all surfaces of the building.	Prior to occupation
7. The adoption of the Bushfire Emergency Evacuation Plan dated 24 September 2020.	Prior to occupation

- | | |
|--|---------------------|
| 8. The owner, by means of a statutory declaration, is to certify the above measures have been satisfied. | Prior to occupation |
|--|---------------------|

Advisory notes

1. The landowner acknowledges any materials located against or near adjacent to the buildings, should they ignite, will expose the buildings to flame contact and will increase the risk of building ignition. No flammable material should be stored within a distance adjacent to the building (ie less than 5 times the material's height).
2. The landowner acknowledges that any buildings or combustible structures located within 6 m of the building may affect its BAL rating – the advice of the City should be obtained prior to placing any building or structure within 6 m of a building
3. The landowner acknowledges that external building materials can be damaged, perish, or distort over time and that can, in turn, provide a point of vulnerability for bushfire attack. The landowner acknowledges their responsibility to undertake an inspection of the building's external surfaces prior to each fire season, to eliminate any externally visible gaps greater than 2 mm
4. The landowner is responsible for availing themselves of any promotions and information to assist owners in preparing for and responding to a bushfire event as may be made by the City or the Department Fire and Emergency Services

The City of Armadale

- | | |
|---|---------|
| • Developing and maintaining district bushfire fighting services and facilities. | Ongoing |
| • Administer the <i>Bushfire Act 1954</i> and monitor landowner compliance to maintain land in a state not conducive to the ignition or spread of bushfire. | Ongoing |
| • Promoting education and awareness of bushfire prevention and preparation measures through the community. | Ongoing |
| • Administering the requirements of the <i>Planning and Development Act 2005</i> and the <i>Building Act 2011</i> . | Ongoing |
| • Maintain fuel reduction on public lands, Lake Road reserve | Ongoing |

State Government

- | | |
|--|---------|
| • Notification of Emergency Alerts - Website and Telecommunication Media | Ongoing |
|--|---------|

Spatial representation of the proposed risk management strategies



Notes

1. The building, is to be constructed and maintained in accordance with the standard for BAL – 29 described in AS 3959:2018.
2. The establishment of an Asset Protection Zone (APZ) (within the area shown as APZ) in accordance with the Standards for Asset Protection Zones described in Schedule 1 of the Guidelines for Planning in Bushfire Prone Areas V1.3.
3. Provision of external water (fire) hoses shielded from radiant heat and capable of applying water safely onto all surfaces of the building.
4. The landowner acknowledges that any buildings or combustible structures located within 6 m of the building may affect its BAL rating – the advice of the City should be obtained prior to placing any building or structure within 6 m of a building

Legend



Site Boundary



Asset Protection Zone



Low threat AS3959:2018 cl. 2.2.3.2(f)
Low threat AS3959:2018 cl. 2.2.3.2(f) under
perimeter trees.



Hydrant

Property Assessment Details

Lot No./House No: Lot 573 Lake Road, Seville Grove

Prepared by: Anthony Rowe

Accreditation Level: Level 3

Accreditation Number: 36690

Date: 24 September 2020

EMERGENCY EVACUATION DIAGRAM

YOUR LOCATION IS

573 Lake Road, Seville Grove

EVACUATE

if DFES or Police advise evacuation is required or

if you see an uncontrolled fire contact

Follow instructions from the Emergency Services Incident Controller (the DFES officer managing the fire).

Advise DFES (ph 13 33 37) of your location and the number of children present

- Contact the pre-arranged transport company
- Assemble in the common area and account for all children, staff, and other visitors.
- Evacuate to Armadale Arena at 4 Townley Street Armadale (or as otherwise directed by Emergency Services).
- Confirm your safe arrival at the evacuation destination (with DFES incident controller)
- Advise parents/guardians that the childcare centre has been evacuated and confirm the location for collection of children.

SURVIVAL

If it is not safe to leave

- keep the Fire Extinguisher close by.
- Soak towels.
- Block smoke ingress with soaked towels.
- Monitor the building condition for smoke and heat and stay low.
- Keep hydrated
- Monitor the Fire's passing
- Leave building when safe, shelter to avoid heat

Do not stay in a burning building

AFTER THE FIRE HAS PASSED

- when safe to do so, the warden is to undertake an external inspection of the building
- when safe to do so, the warden is to undertake an internal inspection of the building
- if it is safe return to the building, continue to monitor it for small fires for up to 24 hours after the bushfire has passed

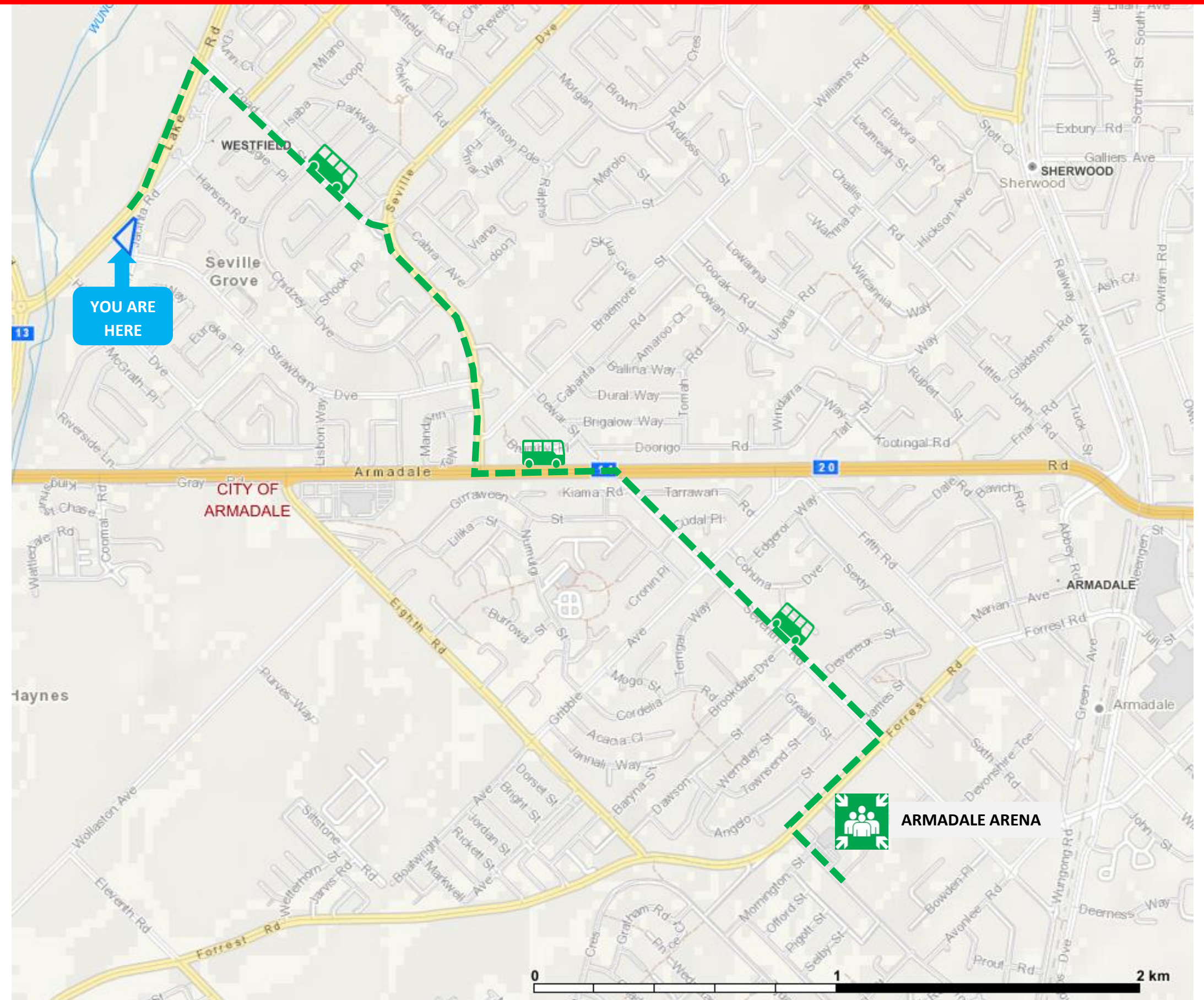


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1. PROPOSAL DETAILS

1.1 Introduction

Purpose of this Plan

The purpose of this BMP is to assess the suitability of the building in its location for the intended purpose and further, to place primacy upon human life, assessing the requirements needed for caring for 'vulnerable' people.

This document presents an assessment of a proposed vulnerable class of development "visitation uses that may involve people who are unaware of their surroundings" with the requirements State Planning Policy 3.7 and *Guidelines for Planning in Bushfire Prone Areas* (WAPC, V1.3 December 2017) including assessment against each of the Bushfire Protection Criteria and the requirement for an Emergency Evacuation Plan.

Site and Proposal Description

Landowner	Red Cardinal Holdings Pty Ltd			
Address	Lot 573 Lake Road, Seville Grove			
Local Government Area	City of Armadale			
Local Planning Scheme Zone	Town Planning Scheme No. 4 – Residential Zone			
Bushfire Season	November – May (precise dates vary annually)			
Development proposal	Construction of a Childcare facility and associated land use (vulnerable).			
Landscape context (5 km)	City of Perth urban area, residential to the east hemisphere incorporating the foot of the Darling Ranges and the west hemisphere characterised as open flat pastureland with fragmented areas of scrub, and industrial development.			
Land description site	The site 0.41 ha in area and is comprised of a single dwelling. The dwelling is set centrally with in the lot and is a 1960s construction, to be demolished. The site is notable for row of tall eucalypts along the site perimeter. The grounds are predominantly grass and occasional shrubs and in poor repair, therefore presently classified as a bushfire threat			
Adjoining Landuses within 150 m	North	East	South	West
	Low bushfire threat - vacant residential lots	Low bushfire threat - established residential area	Parks and Recreation Reserve at the south >150 m Wungong River reserve regional ecological linkage	Low bushfire threat - vacant residential lots
Road Access	The site is accessed from Lake Road providing access from north and south.			
Nearest town centre/evacuation centre	Armadale Arena at 4 Townley Street Armadale			
Water supply	The site has access to a reticulated water supply and a hydrant network.			
Tele communications	The site is within the Telstra 4G network			

Emergency services	Armadale Fire and Rescue service, 438 Green Ave Armadale 5 km from the site
Minor Development	N/A
Unavoidable development	N/A
Vulnerable Development	Yes
High risk land use	N/A



Plate 1: Site plan



Plate 2: Locality



Plate 3: OBRM Bushfire Prone Area (pink area)

Plate 4 – Plates H1-H7 – Existing dwelling



Plate H1



Plate H3



Plate H5



Plate H7



Plate H2



Plate H4



Plate H6

1.2 Stakeholders

The proponent's requirements are:

- To comply with State Planning Policy 3.7.
- To ensure the protection of the safety, health and wellbeing of the occupants.
- To accept superficial damage to buildings and grounds will occur during a bushfire event.
- To acknowledge the support of emergency services for fire suppression cannot be relied upon in a bushfire event.

1.3 Regulatory Compliance Requirements

Planning and Development Act 2005 - SPP 3.7

On 7 December 2015 the State Government introduced, a state map of Bushfire Prone Areas by order under the *Fire and Emergency Services Act 1998* and introduced development controls in Bushfire Prone Areas through the *Planning and Development Act 2005*. These controls were authorised by State Planning Policy 3.7 (Planning in Bushfire Prone Areas) regulations introduced under Part 10A Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015* and guided by the *Guidelines for Planning in Bushfire Prone Areas*.

The State Planning Policy, Regulations, and Guidelines now form the foundation for fire risk management planning in WA at a community and land development level. The Policy Intent of SPP 3.7 is ***to preserve life and reduce the impact of bushfire on property and infrastructure***.

Vulnerable Land Uses (Guidelines for Planning in Bushfire Prone Areas cl.5.5.1)

Typically, *Vulnerable* land uses are those where persons may be less able to respond in a bushfire emergency. This includes 'childcare centres'.

An additional requirement provided by SPP 3.7 and its Guidelines, is that a proposal classified as a 'vulnerable development' is to be accompanied by a (Bushfire) Emergency Evacuation Plan, comprising the details described at cl.5.5.2 of the Guidelines V1.3 and in accordance with the DPLH A Guide to developing a Bushfire Emergency Evacuation Plan 2019.

The Building Act 2011

The *Building Act 2011*, and *Building Regulations 2012*, applies the construction standards of the Building Code of Australia where it relates to an 'applicable' building.

A building permit as demonstration of compliance with the requirements of the National Construction Code is required for new habitable buildings and where there is a change of building class, unless expressly exempted.

The Childcare Centre will be subject to the construction requirements of the National Construction Code for a class 9b building. In some instances, the NCC may not address the siting construction considerations for bushfire. Where there is no conflict with the Building Act 2011, and NCC requirements, then an equivalent construction standard/measures can be identified in accordance with Clause 78E Part 10A Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015*.

Bushfires Act 1954

Section 33(1) of the *Bushfires Act 1954* recognises the responsibility of all landowners to prevent the spread of bushfire. Local government at any time, may give notice in writing to an owner or occupier of land within the district of the local government. The Notice may specify works to be undertaken including the management of grasses on the property usually to be maintained at less than 10cm during the fire season. It also provides that the identified works can be undertaken as a separate operation or in coordination with the neighbouring land.

It is important that the adjoining vacant residential lots comply with the City's Fire break notice.

"All Land with an area of less than 4047m² (less than one acre)

Owners/Occupiers of vacant land are required to:

Remove accumulated fuel such as leaf litter, twigs, dead bush and dead trees capable of carrying a running fire

Have the entire vacant land clear of weed or long grasses by slashing, mowing or other means to a height no greater than 50mm and maintained in this state"

2. ENVIRONMENTAL CONSIDERATIONS

2.1 Native Vegetation – Modification and Clearing

A fundamental consideration in the assessment of development under SPP 3.7 is to avoid instances where bushfire risk management measures would conflict with or be limited by other biodiversity management measures.

In accordance with the Department of Planning Lands and Heritage template (BMP template to support a BAL Contour Assessment) a review of the listed databases has been undertaken as part of this assessment to identify whether restrictions or other specific considerations may apply that would affect the implementation of any bushfire protection initiatives that may otherwise be identified.

Is the land affected by:	Yes/No/NA	If yes - describe
Conservation Wetland or buffer (DBCA-019 DBCA-017)	No	
RAMSAR Wetland (DBCA-010)	No	
Threatened and Priority Flora (DBCA-036)	No	
Threatened and Priority Fauna (DBCA-037)	Yes/ broad area	Carnabys Black Cockatoo Habitat. Roosting area confirmed Feeding area confirmed Breeding area confirmed
Threatened Ecological Communities (DBCA-038)	Nearby	Banksia Woodlands of the Swan Coastal Plain – likely to occur in area
Bush Forever (COP-071)	No	
Environmentally Sensitive Area (DWER-046)	No	
Regionally Significant Natural Areas (DWER-070)	No	
Conservation Covenant (DPIRD-023)	No	
South West Ecological Linkages	No	
Does the proposal require the removal of restricted vegetation?	Yes	No

2.2 Re-Vegetation/Landscape Plans

The site surface is to be substantially modified as part of the buildings and activity spaces associated with the Childcare centre. There is no restricted remnant understorey vegetation on the site. The perimeter trees are not endemic Eucalypts. In the adjacent park there is a mixed variety, it includes some Jarrah trees (*Eucalyptus marginata*) and Peppermint trees (*Agonis Flexuosa*) along with non-endemic tall smooth bark varieties.

Notwithstanding the perimeter trees are not considered endemic they are likely to have value in terms of the Carnabys Black Cockatoo Habitat and the site is a conspicuous canopy in the locality. The retention of the perimeter trees, provided the understorey is managed and the canopies are separated from the ground, would approximate a low threat 'single row' condition (exempt cl.2.2.3.2 (f)).

3. BUSHFIRE ASSESSMENT

3.1 Bushfire Attack Level Assessment (Inputs)

Bushfire Behaviour

Bushfire behaviour is the primary determinant of the bushfire risk and the design fire as a basis for identifying appropriate treatments. Bushfire behaviour is affected by three factors;

- Climate (drought and season) & weather (temperature, humidity, wind, atmospheric instability) – determines the intensity of a fire, the speed and direction and potential for advanced spotting. Measured as an FDI in AS3959.
- Topography (slope of the ground, aspect and wind influences) – fire travels faster uphill, flame length is increased uphill, landforms can channel and increase local windspeed and create turbulence. Measured as 0.0° or a degree down slope in AS3959 (Method 1).
- Vegetation (horizontal and vertical structure, flammability, mass and availability). Measured as a vegetation classification, or an exclusion, in AS3959 (Method 1).

It is assumed that a bushfire will achieve a steady state and be fully developed to maximum intensity over a 100 m (minimum fire run). Grass fires will travel faster (GFDI) than a forest canopy fire, but a forest canopy fire can eject a higher level of embers and also eject them over a greater distance. Crown fires occur when the ground fire is intense, and conversely when ground fuels are managed the resultant fire intensity may not be sufficient to involve the crown, and a crown fire cannot be sustained. Separating the vertical structure so there is no direct connection between the ground and the crown, reduces the likelihood of a crown fire.

The arrangement of fuel has a greater affect upon the intensity of the fire than just its mass, its exposure to oxygen is referred to as its availability in a bushfire.

The following assessment has been undertaken in accordance with the methodologies described in AS3959-2018 and in accordance with the Guidelines and the Fire Protection Association accredited practitioner methodology.

All vegetation within 150 m (**context**) of the subject building has been classified (AS 3959:2018 Clause 2.2.3) to determine the Bushfire Hazard Level at the locality;

The BAL rating has been determined through site inspection and assessment of the following parameters:

- Fire Danger Index (FDI) rating; assumed to be FDI - 80 for Western Australia;
- Separation distance between the building and the classified vegetation source(s) within 100 m (for BAL impact) the separation distance is measured from the wall face (receiver) to the unmanaged understory rather than the canopy edge (dripline) *see below*; and
- Slope of the land under the classified vegetation.

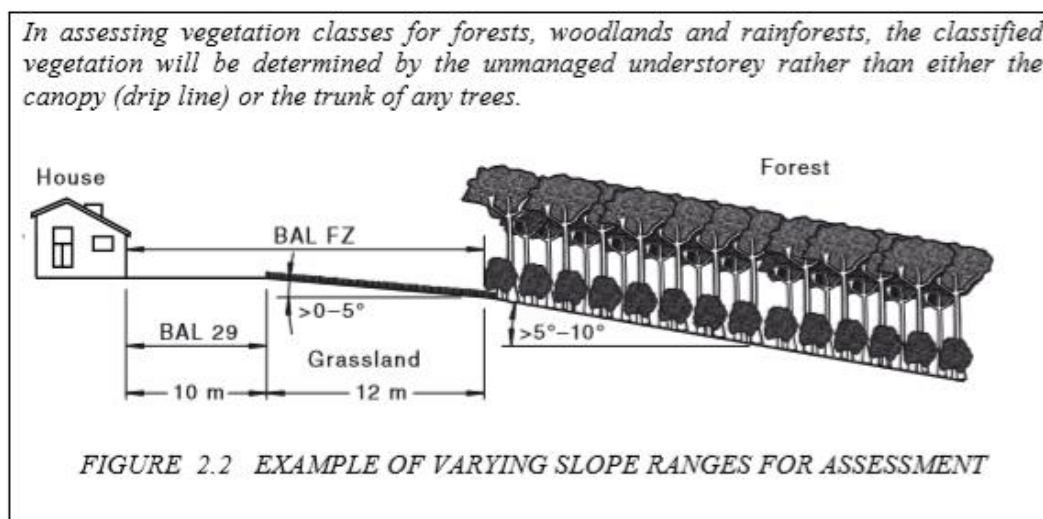


Plate 4: Arrangement of inputs for the determination of a BAL

A site inspection was undertaken on 25 August 2020, in accordance with the FPAA Guidelines.

All vegetation within 150m of the site / proposed development was classified in accordance with Clause 2.2.2.3 and Table 2.5 in AS 3959:2018.

A BAL assessment has been prepared in accordance with the FPAA Guidelines and is attached in Appendix A

3.2 Determined Bushfire Attack Level (Outputs)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 Method 1 of AS 3959:2018.

Determined Bushfire Attack Level (highest BAL)	29
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4. IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

For the purpose of this BMP, the contextual risk has been determined having regard AS31000:2018 and the National Emergency Risk Assessment Guidelines 2015 (NERAG) and the assessments of 'likelihood' and 'consequence'.

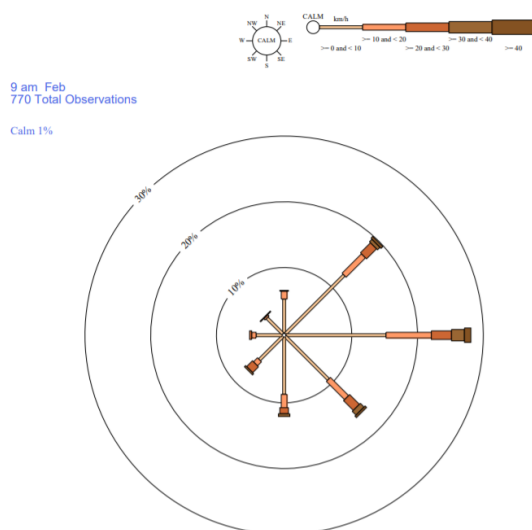
The intensity of a bushfire is affected by the conditions that make up the Fire Danger Index. The Fire Danger Index (Fire Danger Rating) is a grading of conditions ranging from moderate to catastrophic. DFES issue Fire Danger Ratings daily during summer. The ratings range from 'moderate', 'high', 'very high', 'severe', 'extreme' through to 'catastrophic'.

High temperatures, strong winds and dry available fuels represent the catastrophic conditions and belie the complacency that the public may develop from witnessing fires on less severe days. It's the worst conditions that are planned for and unfortunately most fires are the result of human actions inadvertent or deliberate and the propensity increases with an increasing population. The propensity for thunderstorms in the summer months is another source.

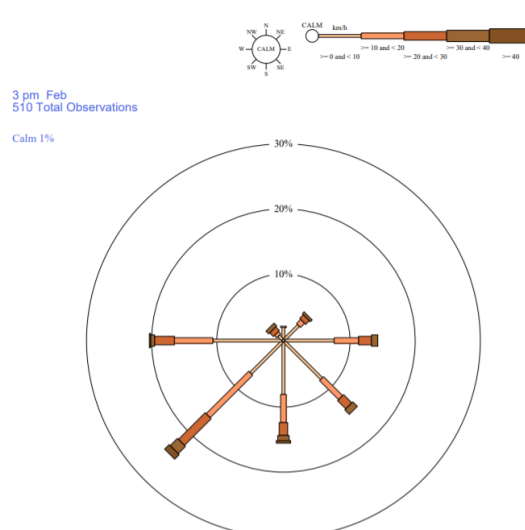
The Fire Danger Index for Western Australia is 80, and the fire season is inclusive of December and March each year. Extreme days occur mostly in January and February.

The prevailing winds directions (particularly in Severe + FDR conditions) season are predominantly from the south and south west in the afternoons during the bushfire season, but a bushfire can come from any direction.

Rose of Wind direction versus Wind speed in km/h (17 Jul 1991 to 08 Aug 2020)
Custom times selected, refer to attached note for details
GOSNELLS CITY
Site No: 009108 • Opened Jan 1961 • Still Open • Latitude: -32.0481° • Longitude: 115.9844° • Elevation 10m
An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



Rose of Wind direction versus Wind speed in km/h (17 Jul 1991 to 08 Aug 2020)
Custom times selected, refer to attached note for details
GOSNELLS CITY
Site No: 009108 • Opened Jan 1961 • Still Open • Latitude: -32.0481° • Longitude: 115.9844° • Elevation 10m
An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



The nearest classified vegetation is Woodland in the adjacent reserve, but the present risk to the site is also attributable to the condition of the site; which has been the reason to class forest on the site. This is because there is a vertical linkage of the bushfire fuels from the ground to the canopy.

The Woodland area alone, within a managed reserve, does not have a continuity of bushfire fuels leading to it, and this reduces its likelihood of being involved in a bushfire.

The site itself can be reduced to a low threat condition by ground management by reducing the surface fuels to less than 100 mm, with canopies trimmed above 3 m from the ground. The single row of perimeter trees is then determined as a low threat by AS 3959:2018 cl.2.2.3.2(f). Note the trees at the south boundary will be removed, replaces by a carpark.

The site had also been included in the bushfire prone area mapping due to the presence of grassland to its north east. This area has now been cleared and made ready for residential development. It is therefore now classed as low threat and no longer a threat.

The Lake Road road reserve and median strip have a single row of trees. The presence of these trees is considered a low threat by cl.2.2.3.2(f).

The area east of the site is a developed residential area and is classed as BAL Low. It does not present a bushfire threat to the site.

The site is therefore only subject to a bushfire threat from one side (one aspect) and that is from Woodland to the south the site. This means that evacuating in any other direction will be away from the fire and into safety.

5. BUSHFIRE PROTECTION MEASURES

5.1 Bushfire Protection Criteria

For each 'Element' listed within Appendix 4 of the Guidelines for Planning in bushfire-prone areas, the 'intent' must be achieved either by the proposal meeting the acceptable solutions; or where these acceptable solutions cannot be fully met, then by a performance-based solution that can achieve the 'intent'.

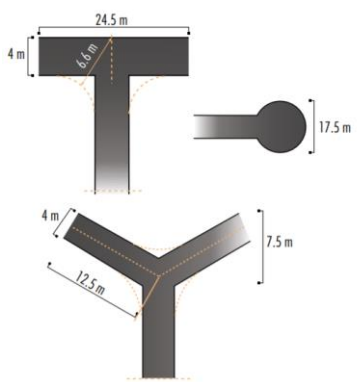
Table 2: Bushfire Protection Criteria assessment.

✓	Acceptable solution provided	C	An Acceptable Solution to be conditioned
N/A	Not Applicable	P	Performance Principle solution see 5.2

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
Element 1: location To ensure that strategic planning proposals, subdivision, and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property, and infrastructure	A1.1 Development location The strategic planning proposal, subdivision, and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL-29 or below.	✓		In accordance with the WAPC Position Statement: <i>Planning in bushfire prone areas – Demonstrating Element 1: Location and Element 2: Siting and design</i> , the consideration of the bushfire hazard level is not relevant to a development application. Element 2 addresses the matter of compliance with SPP 3.7 cl.6.7 to achieve BAL-29 upon completion at the development site.

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
Element 2: Siting and Design To ensure that the siting and design of development minimises the level of bushfire impact	A2.1 Asset Protection Zone Every habitable building is surrounded by, and every proposed lot can achieve, and APZ depicted on submitted plans, which meets the following requirements: <ul style="list-style-type: none"> 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 bushfire does not exceed 29kW/m² (BAL-29) in all circumstances. Location: 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 (see explanatory notes). Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones.' (see Schedule 1). 	✓		<p>The Acceptable solution A2.1 requires that the development site can achieve on completion a BAL not exceeding BAL-29, by an APZ within the boundaries of the lot.</p> <p>The site is large and enables an Asset Protection Zone to be established within the site that is commensurate to BAL-29 at the face of the proposed building, south elevation.</p> <p>This will require the modification of vegetation on site, by the establishment of non-flammable surfaces, low threat surfaces, and the vertical and horizontal separation of vegetation.</p> <p>The arrangement is illustrated in the Asset Protection Zone standard from the Guidelines and by reference to low threat vegetation in AS3959:2018 at cl.2.2.3.2(f).</p> <p>A carpark has been provided at the south boundary to utilise the APZ separation space. Vehicles parked adjacent to vegetation can be ignited by a bushfire and potentially transfer ignition to a nearby building. In this instance however the building is separated by a 6 m carriage way from the vehicles parked adjacent to the classified vegetation. This is compatible with AS 3969:2018, which requires a minimum separation of 6 m from a habitable building.</p>
Element 3: Vehicular Access To ensure that the vehicular access serving a subdivision/ development is available and safe during a bushfire event	A3.1 Two access routes Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations, and are available to all residents/the public at all times and under all weather conditions.	✓		<p>Acceptable Solution 3.1 requires development be provided with a safe access and egress to two different destinations.</p> <p>The site adjoins Lake Road at its north boundary and San Jacinta Road at its east boundary.</p> <p>Both roads are located within the City of Perth urban network and offer multiple destination options.</p> <p>The site is compliant with A3.1.</p>

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies																																																						
	<p>A3.2 Public road</p> <p>A public road is to meet the requirements in Table 6, Column 1.</p> <p>Table 6: Vehicular access technical requirements</p> <table><tr><th>TECHNICAL REQUIREMENTS</th><th>1 Public road</th><th>2 Cul-de-sac</th><th>3 Private driveway</th><th>4 Emergency access way</th><th>5 Fire service access routes</th></tr><tr><td>Minimum trafficable surface (m)</td><td>6*</td><td>6</td><td>4</td><td>6*</td><td>6*</td></tr><tr><td>Horizontal clearance (m)</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td></tr><tr><td>Vertical clearance (m)</td><td>4.5</td><td>N/A</td><td>4.5</td><td>4.5</td><td>4.5</td></tr><tr><td>Maximum grade <50 metres</td><td>1 in 10</td><td>1 in 10</td><td>1 in 10</td><td>1 in 10</td><td>1 in 10</td></tr><tr><td>Minimum weight capacity (t)</td><td>15</td><td>15</td><td>15</td><td>15</td><td>15</td></tr><tr><td>Maximum crossfall</td><td>1 in 33</td><td>1 in 33</td><td>1 in 33</td><td>1 in 33</td><td>1 in 33</td></tr><tr><td>Curves minimum inner radius (m)</td><td>8.5</td><td>8.5</td><td>8.5</td><td>8.5</td><td>8.5</td></tr><tr><td colspan="6">*Refer to E3.2 Public roads: Trafficable surface</td></tr></table>	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						✓		Lake Road and San Jacinta Road are compliant with the DPLH interpretation of Table 6 Column 1.
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*																																																					
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Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5																																																					
*Refer to E3.2 Public roads: Trafficable surface																																																										
	<p>A3.3 Cul-de-sac (including a dead-end road)</p> <p>Requirements in Table 6, Column 2;</p> <ul style="list-style-type: none">Maximum length: 200 metres (if public emergency access is provided between cul-de-sac heads maximum length can be increased to 600 metres provided no more than eight lots are serviced and the emergency access way is no more than 600 metres); andTurn-around area requirements, including a minimum 17.5 metre diameter head.	N/A																																																								
	<p>A3.4 Battle-axe</p> <p>Requirements in Table 6, Column 3;</p> <ul style="list-style-type: none">Maximum length: 600 metres; and Minimum width: six metres.	N/A																																																								

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
	<p>A3.5 Private driveway longer than 50 m</p> <p>Requirements in Table 6, Column 3;</p> <ul style="list-style-type: none"> Required where a house site is more than 50 metres from a public road; Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres); Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house; and Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes. All-weather surface (i.e. compacted gravel, limestone or sealed)  <p>Figure 22: Design requirements for a private driveway longer than 50 metres Turning areas should allow type 3.4 fire appliances to turn safely</p>	N/A		The proposed Childcare building is located within 50 m from a public road.

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
	A3.6 Emergency access way Requirements in Table 6, Column 4; <ul style="list-style-type: none"> No further than 600 metres from a public road; Provided as right of way or public access easement in gross to ensure accessibility to the public and fire services during an emergency; and Must be signposted. 	N/A		
	A3.7 Fire service access routes (perimeter roads) Requirements Table 6, Column 5; <ul style="list-style-type: none"> Provided as right of ways or public access easements in gross to ensure accessibility to the public and fire services during an emergency; Surface: all-weather (i.e. compacted gravel, limestone or sealed) Dead end roads are not permitted; Turn-around areas designed to accommodate type 3.4 appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres); No further than 600 metres from a public road; Allow for two-way traffic and; Must be signposted 	N/A		
	A3.8 Firebreak width,	N/A		The site is less than 0.5 ha and not required to provide fire breaks. The City of Armadale fire break notice requires sites less than 0.5 ha to be maintained with grass not exceeding 50 mm and tree canopies trimmed 2 m from buildings and the ground.

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
Element 4: Water To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire	A4.1 Reticulated areas The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services. E4.1: The Water Corporation's 'No. 63 Water Reticulation Standard' is deemed to be the baseline criterion for developments and should be applied unless local water supply authorities' conditions apply.	✓		The site is connected to a reticulated water supply. Hydrants are available immediate to the site from both Lake Road and San Jacinta Road.
	A4.2 Non-reticulated areas <ul style="list-style-type: none"> Volume: minimum 50,000 litres per tank; Ratio of tanks to lots: minimum one tank per 25 lots (or part thereof); Tank location: no more than two kilometres to the furthestmost house site within the residential development to allow a 2.4 fire appliance to achieve a 20 minute turnaround time at legal road speeds; Hardstand and turn-around areas suitable for a type 3.4 fire appliance (i.e. kerb to kerb 17.5 metres) are provided within three metres of each water tank; and Water tanks and associated facilities are vested in the relevant local government 	N/A		
	A4.3 Individual lots within non-reticulated areas (Only for use if creating 1 additional lot and cannot be applied cumulatively) Single lots above 500 square metres need a dedicated static water supply on the lot that has the effective capacity of 10,000 litres.	N/A		

5.2 Bushfire management strategies

5.2.1 Vulnerable Development Emergency Evacuation (CI 6.6)

Appendix 2 includes the BEEP. This plan has followed the WA Department of Planning Lands and Heritage *A Guide to Developing a Bushfire Emergency Evacuation Plan 2019*.

The attached Emergency Evacuation Plan has also incorporated the requirements listed under section 5.5.2 V1.3 *Guidelines for Planning in Bushfire Prone areas*.

Assumptions

- The childcare centre will be staffed and children supervised.
- The occupants are able bodied, but require guidance, appropriate support and availability of transport if evacuation is required.
- The supervisors can see and smell smoke and can see a fire.

Key features to achieve occupant life safety include:

- Establishing monitoring of emergency public notifications;
- Establishing alert triggers;
- Establishing evacuation procedure;
- Evacuation transport and alternative destination; and
- Communication with parents and carers.

Compliance with CI. 5.5.2 Guidelines for Planning in Bushfire Prone Areas

The emergency evacuation plan should be concise and consider:	Addressed in Emergency Evacuation Plan <i>The plan has followed AS3745-2010</i>
the number of people at the facility	18 staff 99 children.
whether the occupants are permanent or transient	Visiting
whether there is a caretaker onsite	Hosted
whether there are people with a disability, medically dependent, young children or the elderly	Special transport needs for children.
identification of a safe alternative location if there was a need for evacuation/relocation	Armadale Arena located at 4 Townley Street Armadale is identified as one of several evacuation centres in the City of Armadale Local Emergency Management Arrangements (LEMA) .
a proposed method of movement of occupants to safe location(s)	Children will arrive by private vehicle. A priority emergency transport arrangement should be entered into with a transport company.

details of suitable access/egress routes for the expected type/volume of traffic, including alternatives when suitable roads are inaccessible, insufficient or inappropriate	<p>Armadale Arena located at 4 Townley Street Armadale.</p> <p>Route: Lake Road, Poad Street, Seville Drive, Armadale Road, Seventh Road, Forrest Road Townley Street.</p>
transport options for those without access to private vehicles	Transport arrangements will be in place.
options to shelter in place as a last resort	Evacuation from the facility is recommended into the adjacent BAL Low area east of the site.
roles and responsibilities of facility personnel and emergency services.	The landowner and/or childcare centre manager will have responsibility for seasonal preparations and daily preparations.
The emergency evacuation plan should consider if actions will change based on a series of triggers, such as:	Addressed in Emergency Evacuation Plan
effective warning methods appropriate for the occupants (including consideration of at-risk persons and the demographics of the occupants)	<p>Centre managers and personnel are expected to recognise smoke, smell of fire and the site of fire.</p> <p>Warning is through monitoring of public resources DFES</p> <p>Emergency WA website</p> <p>ABC Local radio 720</p> <p>and by observation.</p>
closure of facility and early relocation of occupants appropriate to the fire danger rating (FDR) and bushfire warnings	<p>Not required. The facility is part of the built-up urban area, with ready opportunity to access areas with safer places where the radiant and convective heat will be below harm levels. Evacuation in an event is recommended due to the risk of minor injury from smoke or embers.</p> <p>It would be prudent to consider advising parents and guardians of children with respiratory conditions to avoid attendance on Extreme + FDR days. If in attendance such children should be placed as a priority for evacuation.</p>
any local government bushfire requirements (for example, harvest and vehicle movement bans).	Nil
a suitably qualified emergency management professional should prepare the emergency evacuation plan in collaboration with relevant stakeholders including the landowner/developer and the local government (refer to section 6.14 of the Guidelines).	<p>Anthony Rowe</p> <p>Accreditation Level 3</p> <p>Accreditation Number: 36690</p>

5.2.2 Bushfire Management Measures

In addition to the measure of compliance with the Acceptable Solutions in section 5 above, the following measures are recommended as appropriate treatments to the bushfire risk identified by the investigations of this BMP.

Occupant safety

The most intense bushfire is likely to arrive in the afternoon between December and March each year (fire season), although the risk can extend from November to April. The direct effect of a bushfire will be experienced from the south, although ember attack from a bushfire can come from sources up to 5 km away and building losses have occurred within 700 m of a firefront.

The building is not constructed to a refuge standard and is not expected to act as a place of refuge.

The building should be evacuated immediately if a fire is observed to the south of the site. The site evacuations should be taken, on foot and into the adjacent BAL Low residential area away from the heat of the fire.

Upon emergency services advice to evacuate because the site is expected to be impacted by a fire, then evacuation should be taken to Armadale Arena at 4 Townley Street Armadale or as otherwise directed by emergency services (directly or through publicly broadcast information warnings).

Asset Protection

It is recommended the building be constructed and maintained comparable to BAL-29 (south exposed building elevation) and BAL-19 (shielded elevations) as described in AS 3959:2018, to provide protection from radiant heat and ember attack. Attachments or future additions to the building should either be constructed in accordance with maintaining the buildings BAL level (BAL-29 or BAL-19 at a shielded side) or flammable objects should be separated from the building by a minimum of 6 m.

Facilitating intervention

During a bushfire event, buildings can be lost to initially small fires as a result of litter accumulating against a building becoming ignited by burning embers. The ability of able-bodied people, present either shortly after the fire front has passed or if operating in low heat during an ember attack, to extinguish small fires can save buildings. This action is assisted by the provision of clearly identified external fire hoses sufficient to reach and apply water to all parts of the building.

As a contingency, personnel at the child care facility should be trained to use the equipment if in the circumstance it is safe to do so, however childcare workers should not be expected to be firefighters and their priority remains the protection and safety of the children not the asset.

Governance

It is important that the City actively enforces its Fire Break Notice (grasses kept below 50 mm) until the adjoining vacant residential lots are developed.

5.3 Spatial Representation of Bushfire Management Measures

The *Spatial Representation of the Bushfire Management Measures* is a simplified summary of the key features demonstrating compliance with the bushfire protection measures, for ease in monitoring compliance.

The Spatial representation of the bushfire management strategies is provided in Figure EX1.

6. RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF BUSHFIRE MEASURES

The responsibilities for implementation and management of the bushfire measures, summarises the measures identified to achieve compliance with the bushfire protection measure following SPP 3.7. This has been provided in the Executive Summary. The details contained within the planning application authorised by the responsible decision maker are enforceable under section 214 of the *Planning and Development Act 2005*. The items addressed in the table responsibilities for implementation and management of the bushfire measures form part of the planning authorisation and where there is conflict supersede the detail of the planning application.

The responsibilities assigned to the City of Armadale reflect associated current activities of the City, under other legislation. They provide context and are not to be relied upon nor are binding upon the City as a consequence of this Bushfire Management Plan.

APPENDIX 1 - BAL Assessment

Bushfire Attack Level Assessment Report

Prepared by a BPAD Accredited Practitioner



Fire Protection Association Australia Life Property Environment



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 (Incorporating Amendment Nos 1, 2 and 3). 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.

Property Details and Description of Works

Address Details	Unit no	Street no	Lot no	Street name / Plan Reference		
		573	89	Lake Road		
	Suburb			State	Postcode	
	Seville Grove			WA	6112	
	City of Armadale					
Local government area						
Main BCA class of the building	9b	Use(s) of the building		Child Care		
Description of the building or works	Building constructed to operate as a childcare (Vulnerable)					

Report Details

Report / Job Number	Report Version	Assessment Date	Report Date
	V1	25 August 2020	24 September 2020

BPAD Accredited Practitioner Details

Name ANTHONY ROWE – BPAD 36690	
Company Details Envision Bushfire Protection Ph - 0439 112 179 Email - admin@envisionbp.com.au ABN 90958370365 	

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 on 25 August 2020 by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2018 Simplified Procedure (Method 1).

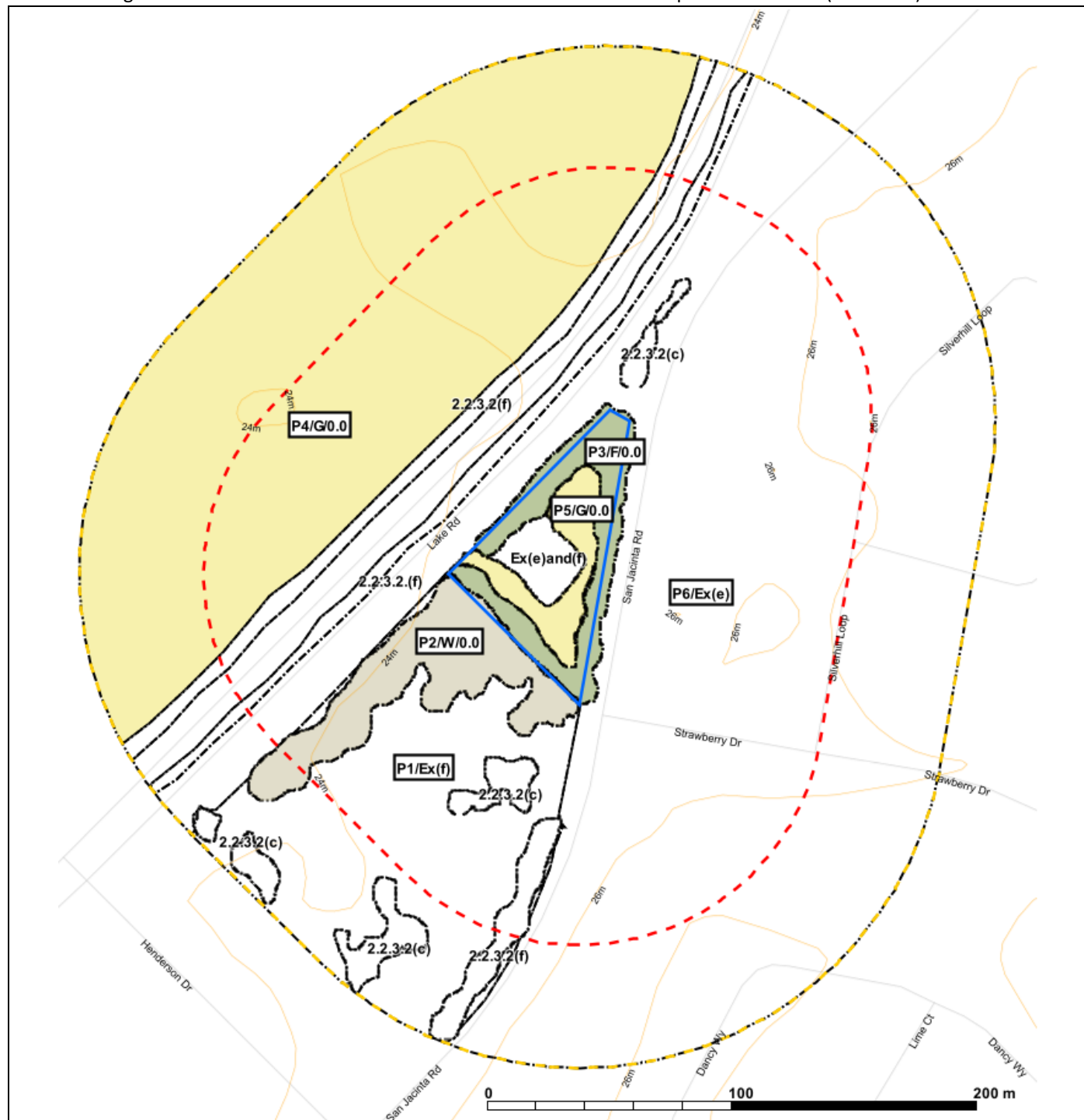


Figure 1: Location and Topography

Address: Lot 89 Lake Road Seville Grove

Assessment Date: 25 August 2019
Prepared: Anthony Rowe
Accreditation Level: BPAD L3
Accreditation Number: 36690
Accreditation Expiry: Dec 2020
FPAA FIRE MAP 2020
GADA 1994 MGA Zone 50

Building	150m area assessment	Class A Forest	Class D Scrub
Site boundary	Photo point	Class B Woodland	Class G Grassland
100m area assessment	Plot / Veg Class/Slope	Class C Shrubland	Excluded



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Figure 2: Vegetation Classification

Address: Lot 89 Lake Road Seville Grove

Assessment Date: 25 August 2019
 Prepared: Anthony Rowe
 Accreditation Level: BPAD L3
 Accreditation Number: 36690
 Accreditation Expiry: Dec 2020
 FPA FIRE MAP 2020
 GADA 1994 MGA Zone 50

Building	150m area assessment	Class A Forest	Class D Scrub
Site boundary	Photo point	Class B Woodland	Class G Grassland
100m area assessment	Plot Label	Class C Shrubland	Excluded



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Figure 2: Vegetation Classification Post Development

Address: Lot 89 Lake Road Seville Grove

Assessment Date: 25 August 2019
 Prepared: Anthony Rowe
 Accreditation Level: BPAD L3
 Accreditation Number: 36690
 Accreditation Expiry: Dec 2020
 FPAA FIRE MAP 2020
 GADA 1994 MGA Zone 50

Building	APZ Boundary	Class A Forest	Class D Scrub
Site boundary	Site Managed	Class B Woodland	Class G Grassland
100m area assessment	Plot Label	Class C Shrubland	Excluded
	Plot / Veg Class/Slope		



© 2020 Any conclusions drawn, or recommendations made in this report are made in good faith. No responsibility is taken for how this information and the report are used subsequently by others.

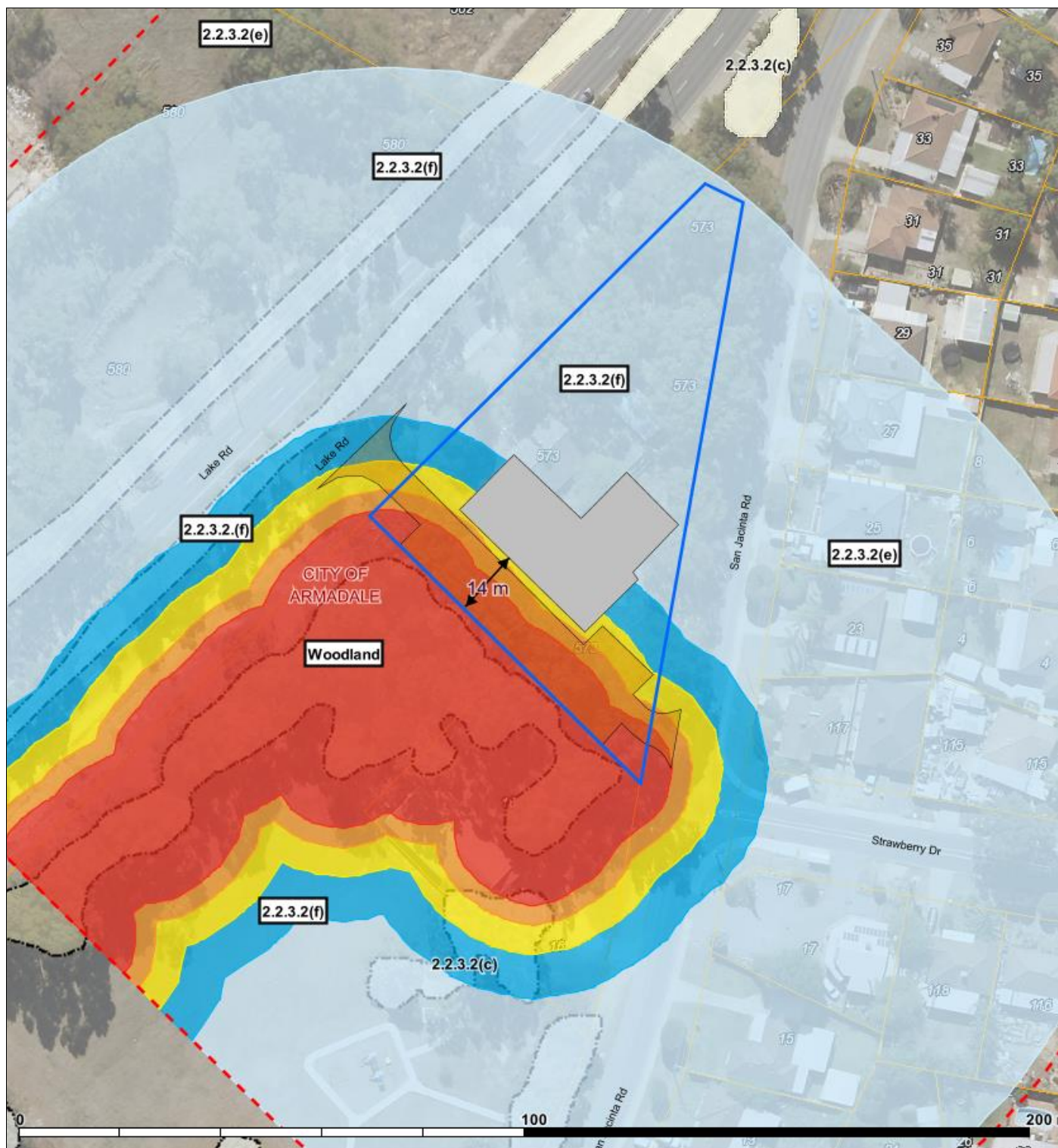














Figure 3a: BAL Contour - Post Development
Address: Lot 89 Lake Road Seville Grove

Assessment Date: 25 August 2019
 Prepared: Anthony Rowe
 Accreditation Level: BPAD L3
 Accreditation Number: 36690
 Accreditation Expiry: Dec 2020
 FPAA FIRE MAP 2020
 GADA 1994 MGA Zone 50

	Building		150m area assessment		BAL FZ		BAL 19
	Site boundary		Photo point		BAL 40		BAL 12.5
	100m area assessment		Plot / Veg Class. & Slope		BAL 29		BAL Low







© 2020 Any conclusions drawn, or recommendations made in this report are made in good faith. No responsibility is taken for how this information and the report are used subsequently by others.

Vegetation Classification



All vegetation within 150m 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.

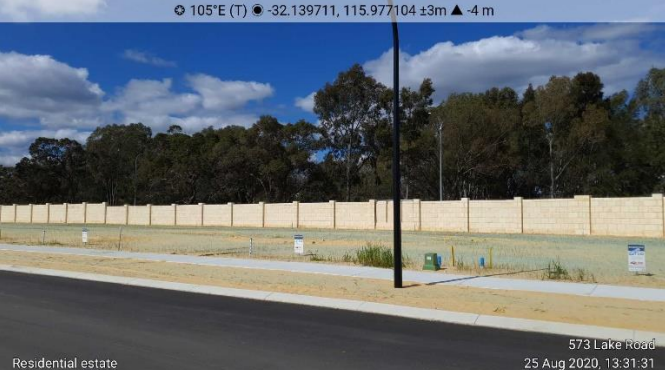
Plot: 1	
PHOTO ID: 1	PHOTO ID: 2
 <p>Comment: View north into reserve Woodland Plot 2 and single tree row inside the northern boundary of the site</p>	 <p>Comment: View north, into reserve</p>
PHOTO ID: 3	PHOTO ID: 4
 <p>Comment: View north, into reserve and playground, single row trees in foreground, managed lawn.</p>	 <p>Comment: View east, into reserve and playground, managed, with single row trees on park perimeter</p>
Vegetation Classification	
Excludable - 2.2.3.2(f) Low Threat Vegetation	
Slope under vegetation	Flat
Description / Justification for Classification	
Grasses nominally less than 100 mm, managed site with single tree row (Excluded (f)) on the park perimeter.	
Post development	Unchanged


Plot: 1	
PHOTO ID: 5	PHOTO ID: 6
	
Comment: Isolated vegetation within park.	Comment: View north, Isolated vegetation within park.
Vegetation Classification	
Excludable - 2.2.3.2(c) Multi Areas < 0.25Ha	
Slope under vegetation	Flat
Description / Justification for Classification	
Isolated vegetation less than 0.25 ha and > than 20 m separation.	
Post development	Unchanged

Plot: 2	
PHOTO ID: 7	PHOTO ID: 8
	
Comment: View north of Woodland	Comment: View north, Woodland and through to the tree row within the site boundary
Vegetation Classification	
Class B Woodland - Woodland B-05	
Slope under vegetation	Flat
Description / Justification for Classification	
Mixed Eucalypt trees up to 30 m high over low threat ground conditions. Canopy cover up to 30%	
Post development	Unchanged

Plot: 3	
PHOTO ID: 9	PHOTO ID: 10
	
Comment: View north, central median single tree row	Comment: View east, immediate area to become APZ
PHOTO ID: 11	PHOTO ID: 12
	
Comment: View north, roadside trees single row	Comment: View south, trees to unmanaged grassland to become APZ
Vegetation Classification	
Class A Forest - Open forest A-03	
Slope under vegetation	Flat
Description / Justification for Classification	
Mixed Eucalypt trees up to 30 m high over unmanaged ground conditions. The trees are located as a single row, within the site boundary on the perimeter	
Canopy cover < 30%	
Post development	To become APZ

Plot: 3	
PHOTO ID: 13	PHOTO ID: 14
 <p>229°SW (T) • -32.139173, 115.978913 ±3m ▲ -3 m</p> <p>573 Lake Road 25 Aug 2020, 13:39:35</p> <p>Site single row perimeter trees</p>	 <p>330°NW (T) • -32.140457, 115.978456 ±4m ▲ -4 m</p> <p>573 Lake Road 25 Aug 2020, 13:44:40</p> <p>Site</p>
Comment: View south to site, apex of perimeter trees	Comment: View south in site, perimeter tree row and unmanaged grounds. Trees to be removed and carpark installed.
Vegetation Classification	
Class A Forest - Open forest A-03	
Slope under vegetation	Downslope 0-5
Description / Justification for Classification	
Eucalypt trees up to 30 m high over unmanaged ground conditions. The trees are located as a single row, within the site boundary on the perimeter	
Canopy cover < 30%	
Post development	To become APZ

Plot: 4	
PHOTO ID: 15	PHOTO ID: 18
 <p>350°N (T) -32.140015, 115.97736 ±4m ▲ -4 m</p> <p>573 Lake Road 25 Aug 2020, 13:30:29</p>	 <p>355°N (T) -32.13985, 115.977137 ±3m ▲ -4 m</p> <p>573 Lake Road 25 Aug 2020, 13:31:11</p>
Comment: View north residential estate, formerly Mapped as Bushfire Prone Area.	Comment: Site works undertaken for housing development.
PHOTO ID: 19	PHOTO ID: 20
 <p>105°E (T) -32.139711, 115.977104 ±3m ▲ -4 m</p> <p>573 Lake Road 25 Aug 2020, 13:31:31</p>	
Comment: Site works undertaken for housing development, separated from the site by a masonry wall 2.4 m high.	
Vegetation Classification	
Excludable - 2.2.3.2(e) Non Vegetated Areas	
Slope under vegetation	Flat
Description / Justification for Classification	
Mineral earth surface, treated for sand drift, grasses not exceeding 10%	
Post development	Excluded

Plot: 5	
PHOTO ID: 18	PHOTO ID: 18
 <p>357°N (T) ● 32.140293, 115.978552 ±8m ▲ -4 m</p> <p>573 Lake Road 25 Aug 2020, 13:44:07</p>	
Comment: View south, across site with grassland. Single row of trees along San Jacinta Road (left)	
Vegetation Classification	
Class G Grassland – Sown pasture G-26	
Slope under vegetation	Flat
Description / Justification for Classification	
Grasses exceeding 100 mm > than 10%	
Post development	Asset Protection Zone

Plot: 6	
PHOTO ID: 19  <p>61°NE (T) -32.138925, 115.978964 ±4m ▲ -3 m</p> <p>573 Lake Road 25 Aug 2020, 13:37:36</p>	PHOTO ID: 20  <p>43°NE (T) -32.140018, 115.978651 ±4m ▲ -5 m</p> <p>573 Lake Road 25 Aug 2020, 13:19:48</p>
Comment: View north to established residential area.	Comment: View east to established residential area.
PHOTO ID: 21  <p>125°SE (T) -32.140484, 115.97857 ±3m ▲ -3 m</p> <p>573 Lake Road 25 Aug 2020, 13:21:03</p>	
Comment: View south east to established residential area and local shopping centre	
Vegetation Classification	
Excludable - 2.2.3.2(e) Non Vegetated Areas	
Slope under vegetation	Flat
Description / Justification for Classification	
Non vegetated area	
Post development	Unchanged

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

FDI 40 ☐

Table 2.7

FDI 50 ☐

Table 2.6

FDI 80 ☒

Table 2.5

FDI 100 ☐

Table 2.4

Potential Bushfire Impacts – post available clearing

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

Plot	Vegetation Classification Post Development	Effective Slope	Separation (m)	BAL
1	Excludable – Clause 2.2.3.2(f)	Flat	0	BAL – LOW
2	Class B Woodland	Flat	14	BAL – 29
3	Excludable – Clause 2.2.3.2(f)	Flat	0	BAL – LOW
4	Excludable – Clause 2.2.3.2(f)	Flat	0	BAL – LOW
5	Excludable – Clause 2.2.3.2(f)	Flat	0	BAL – LOW
6	Excludable – Clause 2.2.3.2(e)	Flat	0	BAL – LOW

Table 1: BAL Analysis

Indicative Bushfire Attack Level (BAL) – post available clearing

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.

Indicative Bushfire Attack Level

BAL – 29

Appendix 2: Additional Information / Advisory Notes

CONSTRUCTION REQUIREMENTS

AS 3959 – 2009 has six (6) levels of BAL based on the radiant heat flux exposure to the building, and identifies the relevant sections for building construction, as detailed below;

Bushfire Attack Level (BAL)	Classified vegetation within 100m of the site and heat flux exposure thresholds	Description of predicted bushfire attack levels of exposure	Construction Section (within AS 3959)
BAL-LOW	See clause 2.2.3.2	There is insufficient risk to warrant specific construction requirements	Nil (s.4)
BAL-12.5	$\leq 12.5 \text{ kW/m}^2$	Ember Attack	3 & 5
BAL-19	$> 12.5 \text{ kW/m}^2$ to $\leq 19 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux	3 & 6
BAL-29	$> 19 \text{ kW/m}^2$ to $\leq 29 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux	3 & 7
BAL-40	$> 29 \text{ kW/m}^2$ to $\leq 40 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of exposure to flames	3 & 8
BAL-FZ	$> 40 \text{ kW/m}^2$	Direct exposure to flames from the fire front in addition to heat flux and ember attack	3 & 9

BAL CONSTRUCTION LEVELS IN CONTEXT



BAL-FZ
Direct exposure to flames, radiant heat and embers from the fire front.

BAL-40
Increasing ember attack and windborne debris, radiant heat between 29 kW/m² and 40 kW/m². Exposure to flames from fire front likely.

BAL-29
Increasing ember attack and windborne debris, radiant heat between 19 kW/m² and 29 kW/m².

BAL-19
Increasing ember attack and windborne debris, radiant heat between 12.5 kW/m² and 19 kW/m².

BAL-12.5
Ember attack radiant heat below 12.5 kW/m²

BAL-LOW
There is insufficient risk to warrant any specific construction requirements but there is still some risk.

APPENDIX 2 - Emergency Evacuation Plan

SCOPE OF PROJECT

The following Emergency Evacuation Plan Assessment and Emergency Evacuation Plan have been prepared pursuant to clause 6.6 in the State Planning Policy 3.7, Planning in Bushfire Prone Areas.

In accordance with the Department of Planning Lands and Heritage *A Guide to developing a BUSHFIRE EMERGENCY EVACUATION PLAN*, and the Emergency Evacuation Plan Template, compliance with clause 6.6, has been provided in the following documents comprising the

- Emergency Evacuation Plan Assessment; and
- Emergency Evacuation Plan

These documents follow the Bushfire Management Plan prepared **28 August 2020** by Anthony Rowe L3 BPAD 36690 in accordance with the FPA Guidelines.

PLANNING FOR EMERGENCIES IN FACILITIES

The Department of Planning Lands and Heritage *A Guide to developing a BUSHFIRE EMERGENCY EVACUATION PLAN*, and the Australian Standards (AS): AS 3745:2010 – *Planning for emergencies in facilities should be read together in preparing an Emergency Evacuation Plan (bushfire) and an Emergency Plan (AS3745:2010)*. They are generally consistent and require a documentation of emergency arrangements consisting of preparedness, prevention, response and recovery arrangements.

Typically, the AS 3745:2010 is a response to escaping a hazard from **within** a building, where as a *Bushfire Emergency Evacuation Plan* is a response to a hazard initially **outside** of the building, and includes the ability to move safely within the locality or alternatively use the building for protection - Shelter. The triggers for evacuation may be preventative, based upon direction from emergency services or by observation of an external danger.

Whilst Planning for emergencies in facilities, will incorporate many similarities, the triggers and subsequent response will be different.

A notable difference between the *Guide* and AS 3745:2010, is the description of the management structure. AS 3745:2010, and its Emergency Plan, separates the management duties into the Emergency Planning Committee, responsible for preparation of the facility, and the Emergency Control Organisation, responsible for supervising and undertaking the actions during a bushfire. Whilst the functions are separated in AS 3745:2010, they are instead to be undertaken by the Emergency Management Team, as a single management entity, in a Bushfire Emergency Evacuation Plan.

Typically, at the time of seeking Development Approval, the final building design and its internal arrangements will not be determined. At development approval the Bushfire Emergency Evacuation Plan serves to demonstrate the suitability of the proposed land use and preserve life and therefore precedes the preparation of the facility Emergency Plan.

This Bushfire Emergency Evacuation Plan should therefore be incorporated within or as an addendum to the overall Emergency Plan (AS 3745:2010) for the facility when it is prepared.

Both the emergency evacuation diagram for the facility, and the emergency evacuation plan (bushfire), are required to be displayed, and the distinction between an internal threat and response and an external threat and response should be clearly illustrated.

LIMITATIONS STATEMENT.

Envision Bushfire Protection

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Version Control

Proposed childcare - 573 Lake Road, Seville Grove			
Version	Date	Author	
V1	28 August 2020	Anthony Rowe	Draft
V2	24 September 2020	Anthony Rowe	Submission

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Disclaimer

In undertaking this work the authors have made every effort to accurately apply the available information **at the time of writing** following the instructions of the regulatory authorities and applying best practice as described by the Fire Protection Association Australia. Any conclusions drawn or recommendations made in the report are done in good faith and the consultants take no responsibility for how this information and the report is subsequently used.

Envision Bushfire Protection accepts no liability for a third party's use of, or reliance upon, this specific report.

Importantly the measures contained in this report cannot guarantee, human safety or an absence of harm, or that the building will not be damaged or would survive a bushfire event on every occasion. This is due to the unpredictable nature of fire behaviour (knowledge in this field continues to develop) and the unpredictable nature of extreme weather conditions.

Client relationship

I was engaged to provide expert bushfire safety and planning advice. My relationship with the client is a standard commercial contract and no private, personal, or other matter has influenced the content of the:

- Emergency Evacuation Plan Assessment; and
- Emergency Evacuation Plan

STATEMENT OF CONFORMITY – PLANNING AND DEVELOPMENT ACT 2005



Anthony Rowe Level 3 - BPAD36690

BUSHFIRE EMERGENCY EVACUATION ASSESSMENT

573 Lake Road, Seville Grove

This assessment has been prepared having regard to:

The Department of Planning Lands and Heritage: A Guide to developing a BUSHFIRE EMERGENCY EVACUATION PLAN

AS 3745-2010: Planning for emergencies in facilities

This assessment has been prepared in accordance with the Guidelines for preparing a bushfire emergency evacuation plan an accredited bushfire practitioner was engaged (Anthony Rowe BPAD L3 36690).

This assessment does not form part of the BUSHFIRE EMERGENCY EVACUATION PLAN.

STEP 1. THE EMERGENCY MANAGEMENT TEAM

For the purpose of a Childcare Centre the Emergency Management Team shall comprise of the owner/s of the facility.

In accordance with the Guidelines for preparing a bushfire emergency evacuation plan an accredited bushfire practitioner was engaged (Anthony Rowe BPAD L3 36690).

The bushfire planning practitioner has been responsible for assisting the emergency management team with

- The establishment and implementation of emergency plans and procedures
- Formulation of emergency procedures
- Consultation with local government and local emergency services

Following the development of the emergency plan, the owner / operator is responsible to

- Maintain the emergency plan and ensure resources are provided for its implementation. The childcare centre should be provided with;
 - Alarm control for signalling of assembly
 - Emergency kit
 - Communication equipment
 - Hi vis vests for staff
 - First aid equipment
 - Water for hydration
- Ensure the childcare centre is compliant with the building's bushfire safety measures, in liaison with the property owner.
- Nominate staff to key positions who will be on site whenever the centre is operating
 - Identify and assign duties and responsibilities
 - Chief Warden
 - Deputy Chief Warden
 - Evacuation Wardens
 - Ensure the training of staff and a demonstrated understanding of respective roles prior to the commencement of the bushfire season
- Ensure priority is given to the safety of children in its care during a bushfire event.
- Ensure parents are informed of preparations, response actions (evacuation) and recovery (child collection) during the bushfire season.
- Maintain awareness of local government and emergency services initiatives in planning for emergencies, bushfire alerts, and evacuation places and safe routes which may change with the circumstance of the bushfire event.

The emergency management team (owner) should regularly review the emergency evacuation plan to ensure it remains practical and current.

STEP 2. FACILITY DETAILS, SITE ANALYSIS AND LOCAL CHARACTERISTICS

The emergency plan applies to the childcare centre at Lot 573 Lake Road, Seville Grove (the site). The facility is located in an urban area and is within an area identified as bushfire prone.

The childcare centre provides care for up to 99 children from 0-5 years of age in a repurposed dwelling that predates contemporary bushfire construction standards AS 3959:2018.

The proposed Childcare Centre has direct frontage to Lake Road and San Jacinta Road and was assessed as BAL-29.

The site is within a reticulated area and there are hydrants on Lake Road and San Jacinta Road accessible to the site.

The area has full mobile phone coverage in addition to land lines, a resilient communication infrastructure.

The BMP dated **24 September 2020**, describes the sites vulnerability to bushfire.

Key positions and responsibility

Chief Warden

- At regular intervals during the bushfire season the Chief Warden will monitor the DFES Alerts and Warnings web page <https://www.emergency.wa.gov.au>
- Responsible for determining the need to evacuate through communication with DFES or Police and overseeing the evacuation.
- initiate the evacuation transport arrangement.
- Ensure parents are informed of the emergency response, and the arrangements for safe collection of children.
- Responsible to prepare post emergency reports documenting the actions taken and any difficulties with following the emergency plan before, during and after the evacuation.

Deputy Chief Warden

- Fulfills the responsibilities of the Chief Warden in the absence of the Chief Warden.

Evacuation Wardens

- Follows directions from the Chief Warden (or deputy) to ensure all children, staff and other visitors are accounted for.

An arrangement is to be entered into with a transport company to provide a priority attendance to transport children in an emergency.

STEP 3. PRIMARY AND SECONDARY EMERGENCY ACTIONS

The **primary action** in response to bushfire threat is early evacuation to an off-site location at a distance away from the effects of a bushfire.

Evacuation destination

Armadale Arena located at 4 Townley Street Armadale (or as otherwise directed by emergency services).

Route: Lake Road, Poad Street, Seville Drive, Armadale Road, Seventh Road, Forrest Road Townley Street.

Smoke and particles, including embers can fall a distance greater than the heat experienced from the fire and can cause harm.

Evacuation from the area, by transport is therefore recommended.

Whilst it is not considered necessary to close the facility on extreme or catastrophic fire danger rating days, it would be prudent to advise parents that children susceptible to breathing difficulties, should not attend as a precaution.

STEP 4. REQUIREMENTS FOR EVACUATION AND SHELTER-IN-PLACE

This assessment of requirements for evacuation and shelter has been guided by the questions provided in The Department of Planning Lands and Heritage: *A Guide to developing a BUSHFIRE EMERGENCY EVACUATION PLAN*. These have been addressed in Appendix 1

The City of Armadale has a number of leisure centres, community centres and halls available for use as evacuation centres in a bushfire emergency. The closest of these to the Childcare Centre is the Armadale Arena located at 4 Townley Street Armadale.

Upon being alerted to a fire approaching the Chief Warden (Manager) will

1. Alert staff (calmly) and initiate their undertaking of assigned responsibilities
2. Confirm evacuation destination and route with DFES
3. Contact the transport company
4. Locate children to the common area close to the exit
5. Close windows and doors
6. Account for all children (verify against daily registration log)
7. Keep children hydrated and calm
8. Locate fire extinguishers
9. Observe external conditions
10. Monitor condition of the building
11. Upon arrival of arranged transport, evacuate the building taking the emergency kit and daily attendance log (inclusive of parent/guardian contact information).
12. Advise parents/guardians the childcare centre has been evacuated and the evacuation destination for collection of children

Notes:

The location may be subject to smoke and ember attack. It is best to remain in the building until transport arrives in order to reduce the likelihood of minor injury and upsetting of children.

STEP 5. DEVELOP PRIMARY AND SECONDARY EMERGENCY PROCEDURES

PREPAREDNESS

Prior to the commencement of the bushfire season the Emergency Evacuation Plan must be reviewed ensuring all information, procedures, contact details and any attached publications are current.

The A3 size evacuation diagram must include current information and be displayed at all exit doors within the childcare centre

Fire extinguishers must be checked to ensure they are charged and in working order.

Fire hoses should be checked to ensure all are in good condition and capable of reaching all surfaces of the building.

Flammable materials should be removed from within 3 m of the building.

Externally located rubbish bins, storage areas, should have closing lids.

No flammable materials should be attached to the building, ie shade sails should not be of a flammable material.

Ensure employees and other occupants are informed and familiar with the procedures laid out in the Emergency Evacuation Plan.

Contact off-site location(s) for potential use during a bushfire emergency.

Contact transport suppliers for potential use during a bushfire emergency.

Ensure property access is kept clear and easily trafficable.

Ensure an emergency evacuation kit including first aid kits and adequate levels of drinking water has been prepared and is easily accessible by staff.

AWARENESS

Maintain situational awareness through a range of information sources including local ABC radio 720, the Emergency WA website (emergency.wa.gov.au), DFES Facebook or Twitter, 13 DFES (13 33 37) information line and local emergency services.

Maintain observation of external condition for signs, and smell of smoke.

Alert parents and carers to expected Extreme and Catastrophic conditions, to give them the opportunity to keep children at home if preferred.

Parents and carers contact details are to be confirmed at sign in.

EMERGENCY RESPONSE

Evacuate when:

- A 'Watch and Act' or 'Emergency Warning' alert is issued from the Department of Fire and Emergency Services. Direction to evacuate from an emergency service authority.
- There is awareness of fire in the locality with a likelihood of reaching the site
- Smoke or fire has been identified nearby.

Evacuate by prearranged private transport to City Community Centres located at:

- Armadale Arena located at 4 Townley Street Armadale.

Check and communicate:

- Confirm building is clear and all children and staff visitors are accounted for.
- Inform DFES and parents and carers of evacuation and destination.

Recovery

- Maintain communication (appointed responsibility) with parents and carers and arrange collection of children.
- On all clear, the Chief Warden is to check building is suitable for occupation.
- Advise parents/carers when the centre will re-open
- Review incident for improvement and incorporate into the Emergency Plan and training.

STEP 6. TRAINING AND EDUCATION ON EMERGENCY PROCEDURES

Staff and volunteers will be provided with information outlining emergency management procedures and bushfire protection measures. The childcare centre manager will practice procedures and ensure that delivery of education and training for staff and any volunteers occurs. The manager will be trained in where to find official emergency information. For example, Emergency WA website, 13 DFES information line, and local ABC Radio 720 for the purpose of monitoring conditions.

As part of the registration process notice must be provided to the responsible parent or guardian that the childcare centre is located within a bushfire prone area and precautionary or emergency evacuation may be required during the fire season.

Staff and volunteers must acknowledge that they have sighted and understood the emergency evacuation procedures and understand their role and responsibilities.

- Individual roles and responsibilities.
- Access and egress routes.
- Assembly point location.
- Firefighting equipment locations
- The written procedures applicable to the site.

The following exercise drills should be practiced

- assembly and evacuation procedures
- site preparation procedures and post fire inspections
- firefighting techniques to create a familiarity with the firefighting equipment (which might be used by staff to address small fires)
- the debrief process (which would follow any bushfire event) to identify and discuss any issues that could occur with the emergency plan

Appendix 1

Step 4 Evacuation or Shelter Analysis

The following questions will assist developing or reviewing the Emergency Evacuation Plan to identify an off-site location - EVACUATION.

If there are occupants with support needs that require a similar facility to support them, is the off-site location suitable?

Yes ☒

No ☐

- Occupants with support needs are people with physical, intellectual, visual, or auditory disability or impairment, either temporary or permanent. It also includes aged persons and juveniles who are dependent on others for their care and wellbeing.

Comment:

The facility provides the care of children who will require supervision and support

Is the off-site location in an area away from the effects of a bushfire?

Yes ☒

No ☐

- Have you considered locations such as community centres, clubs etc. as possible places to go?

Comment: City provided emergency shelter

Are there amenities (toilets, food, water etc.) available at the off-site location? (if applicable)

Yes ☒

No ☐

Can the off-site location accommodate the number of occupants?

Yes ☒

No ☐

- Remember that other persons may wish to utilise the same facility as their shelter for evacuation.
- Accommodation for more than one day may be required.

Comment: City provided emergency shelter

Does an available route to the off-site location avoid transporting through bushfire affected areas or areas that may be affected by an approaching bushfire?

Yes ☒

No ☐

Depending on the extent of the bushfire hazard around the site, the location of a bushfire and the safest route from the site, there may be a need to have two or three off-site locations.

Comment:

The building is within an urban area, surrounded by residential lots however evacuation from the facility to a confirmed location for the collection of children is recommended.

Has the owner of the off-site location advised that they are happy to accommodate occupants if evacuation from a bushfire emergency occurs?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment: The City promotes the availability of the facility, which is a community recreation centre operating at times that the childcare centre is in operation.		

Consider the following questions to assist planning transport arrangements.		
Do you have your own transport for all occupants?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If no, what transport provider will you use?	No <input checked="" type="checkbox"/>	
Comment: Sufficient transport for all children and staff is required to be arranged at the commencement of each season. Verification of transport availability must be confirmed on days of Extreme or Catastrophic conditions.		
Are you going to use private vehicles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment: Private transport will be arranged.		
If using private vehicles, will they be available when you need them and will there be drivers available?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If no, consider another mode of transport	No <input type="checkbox"/>	
Comment: The availability of pre-arranged transport will be verified on days of Extreme on Catastrophic conditions. In addition, taxis and other forms of hire transport may be used.		
Will there be sufficient vehicles to transport all the occupants?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment: The bushfire aspect is comparatively isolated, it is not expected to have a broad effect, such as to absorb the availability of private transport suppliers.		
Have occupants with support needs been considered when determining transport types and necessary timing to evacuate?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment: Supervisors will accompany the children to the evacuation destination.		
Is disabled transport required, and is this sufficient to move the number of occupants from the facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment: An individual plan should be determined for children with reduced physical ability, which may include ambulance support.		

Do you require ambulances? If yes, St John Ambulance Australia needs to be consulted.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Comment: This will be subject to the individual needs of the child but a bushfire is only one circumstance where emergency support by ambulance may be required and will be part of an individual plan.	
Is a community bus available?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Comment: Augmented transport arrangements will be negotiated with private transport suppliers.	
Will community buses be available when you need them and will drivers be available?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Comment: Not required	
Are other means of transport available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Comment: Not required	
Do you need any other type of special transport?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Comment: Evacuation will be provided across sealed public roads, only 2wd road going vehicles are required.	
The following questions will assist developing the Emergency Evacuation Plan to identify an on-site building. SHELTER	
Is the property well maintained and kept free from a build-up of fuel and leaf litter in gutters and around buildings?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> Refer to Standards for Asset Protection Zones in the Guidelines for Planning in Bushfire Prone Areas. 	
Comment: The building should be inspected prior to the bushfire season, particularly those aspects that are not readily observable or accessible such as elevated ledges and the roof. During the bushfire season rubbish bins should be self-closing, and material accumulated against the building should be removed.	

Is there a building on-site that is away from bushland and is unlikely to be impacted by bushfire?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Consider the potential for any adjoining structures, vegetation or combustibles to ignite and impact on the building. For facilities where occupants are located in numerous buildings or rooms, it may be appropriate to remain in those rooms under supervision. 	
Comment: On site refuge is not sought. The building is a single building with a carpark (low threat surface) provided to the west of the building occupying the remainder of the site.	
Is the building constructed in a manner that minimises bushfire attack with appropriate Asset Protection Zones?	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>
To determine standards of construction, consult Australian Standard AS3959 Construction for buildings in bushfire prone areas.	
Comment: The building predates bushfire construction standards. Practical measures to be taken to make the building commensurate to the BAL rating of BAL 19 are conditioned in the BMP 28 August 2020.	
Can the building accommodate the number of occupants and visitors?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Comment: The building capacity required is 1.4 m ³ per person, as a minimum shelter standard ABCB Handbook 2014	
Is there ease of accessibility to the building and is it easily identifiable?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Comment: The main access to the building is from the carpark on the opposite aspect from an approaching fire, providing an exit shielded from radiant heat.	
Is there access to amenities (toilets, food, water etc) away from the effects of a bushfire?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Comment:	

EMERGENCY EVACUATION PLAN

Name of facility: CHILDCARE CENTRE

Address: 573 Lake Road, Seville Grove

Prepared by: (Bushfire Planning Practitioner) Anthony Rowe, L3 BPAD 36690

Owner/operator: Red Cardinal Holdings Pty Ltd

Date: (date/month/year) 24 September 2020 Plan version: 2

Document Control

Version	Date	Details	Undertaken by
1	28/08/2020	DRAFT	Anthony Rowe
2	24/09/2020	Submission	Anthony Rowe

Emergency Management Team

Name	Organisation	Contact Details
	Owner	
	Childcare centre manager	

Preface

This Bushfire Emergency Evacuation Plan has been prepared in accordance with Department of Planning Lands and Heritage *EMERGENCY EVACUATION PLAN Template*.

This Bushfire Emergency Evacuation Plan should be incorporated within or as an addendum to the Emergency Plan prepared in accordance with AS 3745:2010.

Both the emergency evacuation diagram (AS 3745:2010) for the facility and the emergency evacuation plan (bushfire) are required to be displayed, clearly distinguishing the response to a threat from within the facility and a threat external to the facility (bushfire).

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FACILITY DETAILS

This Plan is for: Childcare centre

and has been designed to assist management to protect life and property in the event of a bushfire.

The plan outlines procedures for both evacuation and shelter-in-place to enhance the protection of occupants from the threat of a bushfire.

The primary action to follow in a bushfire emergency is to (tick which is applicable):

EVACUATE



SHELTER-IN-PLACE



Name of on-site contact person:

Position/role of contact person:

Centre Manager

Phone number:

Type of facility:

Childcare centre

Number of buildings:

1

Number of employees:

18

Number of occupants:

99 children

Number of occupants with support needs:

99

Provide description of support needs:

Children will require staff to support and provide assistance appropriate to their age and development.

RESPONSIBILITIES

The following outlines who has responsibility for implementing the emergency procedures in the event of a bushfire.

Position	Name of person	Building/area of responsibility	Responsibilities	Mobile phone number
Childcare Centre Manager		Emergency Planning for facilities	Preparation <ul style="list-style-type: none"> • Daily - check the DFES website for any alerts and monitor conditions on Severe plus FDR days • Ensure adequate transport is arranged for evacuation • ensure mobile phone is charged and on hand • Consider any special needs of the children that may affect the decision and capability to evacuate • Determine whether to evacuate or stay in place • Oversee evacuation 	

EMERGENCY CONTACTS

Name or organisation	Office/contact	Contact details
Fire, Police, Ambulance	Fire or Emergency	000
Department of Fire & Emergency Services	Emergency information	13 DFES (13 33 37)
EmergencyWA	Warnings and incidents	www.emergency.wa.gov.au

Secondary Contacts

Name or organisation	Office/contact	Contact details

PREPAREDNESS

Ongoing, just prior and during the bushfire season

Bushfire season: (date/month) **1st December to 12th May** or as otherwise advised

Actions	Frequency	Responsible person
Ongoing		
1. Update contact details of the emergency management team and employees		
2. Ensure staff are aware of their responsibilities as assigned by this plan and have received training on procedures and in the use of firefighting equipment		
3. All objects attached to the buildings are non-combustible or easily removable, and the removing mechanism is in working order		
4. Ensure defensible spaces around buildings and assembly points are maintained.		
5. Ensure first aid kits, fire extinguishers, emergency lighting and other emergency resources are current, serviceable and accessible		
To be completed just prior to the bushfire season: by 1 November		
1. Review Emergency Evacuation Plan to ensure details, procedures and contact phone numbers are correct. <ul style="list-style-type: none"> a. Contact off-site location(s) for potential use during a bushfire emergency. b. Contact transport suppliers for potential use during a bushfire emergency. 		
2. Affirm employees are familiar with the procedures laid out in the Emergency Evacuation Plan.		
3. Affirm parents and carers are have been informed of facilities emergency response procedures for the coming bushfire season.		
4. Ensure the site layout diagram and emergency evacuation diagrams are current and in visible location(s).		
5. Ensure the off-site location is available and the routes to both are a safe option.		
6. Ensure any firefighting equipment (hoses etc.) are serviceable and available.		
7. Ensure property access is kept clear and easily trafficable.		
8. Ensure roof and gutters are free from leaf litter and debris		

To be completed during the bushfire season between: 1st December to 12th May		
1. Check the Emergency WA website for any alerts www.emergency.wa.gov.au		
2. Ensure visitors upon arrival and children's parents/guardians are aware and familiar with the evacuation procedures		
3. The daily log book (registration of attendance) is kept on hand and includes parent / guardian contact details in case of evacuation		
4. Emergency communication equipment (mobile phone) is charged and on hand		
5. The emergency evacuation kit is readily accessible if evacuation is required and includes a complete first aid kit and sufficient water for each child.		
6. Access to the building is clear of obstruction		
7. The building is clear of flammable materials, no flammable attachments, no litter has accumulated against walls and ledges, bin lids are self-closing and storage areas are enclosed.		
8. Check that Fire Extinguishers are accessible, charged, in working order and have the instructions on use attached		

AWARENESS AND ALERTS

Actions	Frequency	Responsible person
Days forecast Very High or Severe Fire Danger rating		
1. Maintain awareness of warnings via www.emergency.wa.gov.au	In the morning and again in the early afternoon	Chief Warden (Manager)
Days forecast Extreme or Catastrophic Fire Danger rating		
1. Contact the transport company (that agreements are in place with) and ensure adequate transport is available for evacuation	On opening in the morning	Chief Warden (Manager)
2. Maintain awareness of warnings via www.emergency.wa.gov.au	In the morning and again in the early afternoon	Chief Warden (Manager)
3. Ensure staff are aware that evacuation may be required	On opening in the morning	Chief Warden (Manager)
An 'Advice,' 'Watch and Act' or 'Emergency Warning' alert or other communication has been issued by an emergency service authority		
<p>ALERT An 'Advice' is issued that a fire has started but there is no immediate danger. Contact DFES for advice on availability of safe evacuation.</p> <p>EVACUATE A 'Watch and Act' or 'Emergency Warning' has been issued advising to leave early. Direction has been received from an emergency authority to evacuate. Smoke or fire is observed in close proximity</p> <p>METHOD OF ALARM The building is a single building. To avoid distress to the children, the alert condition or condition to evacuate will be verbally communicated to all staff members and procedures followed. Any staff member who observes smoke or a fire nearby, is to advise the Chief Warden immediately or the acting senior member of staff to in turn implement the Bushfire Emergency Evacuation Plan. Parents and Carers are to be contacted by mobile phone and advised of implementation of the Bushfire Emergency Evacuation Plan.</p>		Chief Warden (Manager)
<p>NOTE The location may be subject to smoke and ember attack. It is best to remain in the building until transport arrives in order to reduce the likelihood of minor injury and minimise distress to children. Parents and carers are to be informed early and requested to follow an orderly process for the safe collection of children, and importantly enable management to maintain accountability and certainty for the location of each child. The circumstance of a parent acting upon a public notice and collecting their child without appropriate record must be avoided.</p>		

ALERTS FOR EVACUATION

The Department of Fire and Emergency Services provides community and emergency advice about predicted and current conditions that advise about the level of bushfire threat.

The Fire Danger Rating (FDR) is based on the forecast weather conditions, the higher the rating the higher the threat.

Extreme or Catastrophic ratings are the highest level and represent unsafe conditions.

Fire Danger Rating (DFES)		Emergency Warnings
CATASTROPHIC	EXTREME	EMERGENCY WARNING
<i>The worst conditions for a fire. Homes are not designed or built to withstand a fire in these conditions. The only safe place is away from bushfire risk areas.</i>		<i>An out of control fire is approaching very fast. You need to act immediately to survive. If you haven't prepared your home it is too late. You must leave now if it is safe to do so.</i>
SEVERE	VERY HIGH	WATCH AND ACT
<i>Seek out information and be ready to leave or stay and actively defend your property if a fire starts. Only stay if you are 100% prepared.</i>		<i>A fire is approaching and is out of control. Put your plan into action. If your plan is to leave, make sure you leave early. Only stay if you are mentally, physically and emotionally prepared to defend your property and you have all the right equipment.</i>
HIGH	LOW - MODERATE	ADVICE
<i>Be vigilant. Check your fire plan and continue to monitor conditions as they can change quickly.</i>		<i>A fire has started but there is no immediate danger. Stay alert and watch for signs of a fire.</i>

The table on the following page outlines actions to be undertaken to ensure the facility maintains situational awareness of a possible bushfire approaching and pre-emptive procedures (if applicable). This will assist with the assessment of the bushfire situation and whether the triggers identified in the evacuation/sheltering-in-place procedures have occurred.

EMERGENCY RESPONSE

Note: Early evacuation should always be the primary action – you should never ‘wait and see what happens’. Sheltering-in-place during a bushfire should be a last option when there is insufficient time to evacuate.

The **primary action** to follow with an imminent bushfire threat is to

EVACUATE



SHELTER-IN-PLACE



Trigger	Action	Responsible person
1. Extreme or Catastrophic FDR conditions	<ul style="list-style-type: none"> Contact the transport company and confirm availability of transport Ensure emergency kit is prepared and on hand 	Chief Warden (Manager)
2. If requested to do so by DFES (Emergency Services) or the Police.	<ul style="list-style-type: none"> Alert staff to implement the Emergency Plan Contact transport company Locate children to the common area of the building close to the exit 	
3. If a bushfire is reported within 3-5 Km of the site OR If smoke is observed OR If you see fire Check with DFES it is safe to leave and confirm destination and route	<ul style="list-style-type: none"> Close windows and doors Account for all children (verify against daily registration log) Obtain the emergency evacuation kit Keep children calm Locate fire extinguishers Monitor external conditions and the condition of the building Upon arrival of arranged transport evacuate the building taking the emergency kit, the daily attendance log, and water for each child. Advise DFES the childcare centre has been evacuated. Check building has been cleared; all children and staff /visitors accounted for. Evacuate to determined destination Contact parents / guardians and advise the collection point for children Upon all clear, Chief Warden to determine the suitability of the building for re-occupation. Review event and refine the Emergency Evacuation Plan and training. <p>Notes: The location may be subject to smoke and ember attack. It is best to remain in the building until transport arrives in order to reduce the likelihood of minor injury and minimise distress to children.</p>	

EMERGENCY PROCEDURE - EVACUATION - LOCATION, AND TRANSPORT DETAILS

Designated evacuation assembly point/s

1. Common area inside the childcare centre (ground floor)

Primary off-site location

Name of venue	Armadale Arena		
Address of venue	4 Townley Street Armadale.		
Nearest cross street	Forrest Road	Map reference	R2R3+Q6 Armadale
Venue phone number	(08) 93945840		
Primary route to location	Lake Road, Poad Street, Seville Drive, Armadale Road, Seventh Road, Forrest Road Townley Street.		

Secondary route to location

Primary transportation arrangements

An arrangement is to be entered into with a transport company to provide a priority attendance to transport children in an emergency.

Estimated travelling time to destination 11 minutes

Secondary transportation arrangements

An arrangement is to be entered into with a transport company to provide a priority attendance to transport children in an emergency.

Parent/Guardian Communication

- Advise parent guardians of pre-emptive closure of the facility, the day before if there is the potential for the building to be affected by a bushfire (for example a bushfire is distant but may affect the building)
- Advise parent guardians of pre-emptive evacuation, collection from the facility
- Advise parents / guardians of evacuation and ensure they understand they should not attend the childcare centre. Advise the location for collection of children

Shelter in Place

Not applicable, survival only.

RECOVERY

Procedures following the bushfire if EVACUATED

Actions	Responsible person
1. When the all clear is announced, Chief Warden to return to the building if safe to do so.	Chief Warden (Manager)
2. If the site has been directly impacted by bushfire, do not return to the building until it has been determined to be safe	
3. Inspect the building for any damage and ensure there are no material burning or smouldering – extinguish if safe to do so	
4. Check for signs of smoke. If satisfied there is no threat open the building and monitor for 24 hours following the bushfire event.	
5. Advise staff and parents / guardians of the date when operation will recommence.	
6. Arrange debrief with staff and parents, review and refine the Bushfire Emergency Evacuation Plan, training requirements and facility improvements.	

Procedures following the bushfire if SHELTERED-IN-PLACE

Not applicable

Attachment 1 – Emergency Plan and Evacuation Map

		EMERGENCY WARNINGS (DFES)	
<p align="center"><u>FACILITY DETAILS</u></p> <p>Location Lot 573 Lake Road, Seville Grove</p> <p>Facility Childcare Centre</p> <p>Visitors Maximum 99 children (18 staff)</p> <p>CHIEF WARDENS ROLE</p> <p>Remain informed of DFES Emergency Warnings by monitoring the website, information line, or ABC Local Radio 720. Contact Priority Transport provider to confirm availability of transport should it be required.</p> <p>PRIORITY TRANSPORT COMPANY NAME AND PHONE NUMBER</p> <p>FACILITY CONTACT INFORMATION</p> <p>MANAGER NAME</p> <p> MOBILE NO.</p> <p>OWNER NAME</p> <p> MOBILE NO.</p> <p>EMERGENCY INFORMATION CONTACTS</p> <p>DFES 13 33 37 ABC LOCAL RADIO 720</p> <p>EMERGENCY WA WEBSITE www.emergency.wa.gov.au</p>		<p align="center">ADVICE</p> <p>An ADVICE warning has been issued across telecommunications media.</p> <p>The Chief Warden to determine when to evacuate:</p> <ul style="list-style-type: none"> • The severity of a bushfire incident. • The approximate time for the bushfire to impact the building. • DFES and Police advice. • Preparation of the facility. 	<p align="center">WATCH AND ACT (Response)</p> <p>DFES or Police have advised Evacuation Is Required</p> <ul style="list-style-type: none"> • Contact transport company. • Turn off air conditioning. • Close all doors and windows. • Account for all children, staff and other visitors. • Evacuate to Armadale Arena 4 Townley Street Armadale, or as otherwise advised by DFES. • Advise Parents and Carers of evacuation and the location for collection of children.
		<p align="center">EMERGENCY (Response)</p> <p>DFES or Police have advised Evacuation by vehicle is not available and it is not safe to take pedestrian evacuation to the local residential area.</p> <p>Fire is observed on the site</p> <ul style="list-style-type: none"> • Close all doors and windows and turn off air conditioning • Wet towels. • Have Fire Extinguishers close by. • Block smoke ingress with soaked towels. • Observe the fire's passing • Monitor building condition, for smoke and heat – stay low. <p>If the building is no longer safe</p> <ul style="list-style-type: none"> • Keep a wet towel over your head. • Take drinking water and stay hydrated. 	<p align="center">ALL CLEAR (Recovery)</p> <p>When the area has been deemed safe by emergency services the Chief Warden should return to the building:</p> <ul style="list-style-type: none"> • check grounds for any smouldering or burning objects and continue to monitor for 24 hours following the bushfire event. • Advise staff and parents / guardians of the date when operation will recommence.
<p>FIRE REPORTING</p> <p>POLICE</p> <p>AMBULANCE</p>	<p align="center">000 (112 from mobile)</p>		

EMERGENCY EVACUATION DIAGRAM

YOUR LOCATION IS

573 Lake Road, Seville Grove

EVACUATE

if DFES or Police advise evacuation is required or

if you see an uncontrolled fire contact

Follow instructions from the Emergency Services Incident Controller (the DFES officer managing the fire).

Advise DFES (ph 13 33 37) of your location and the number of children present

- Contact the pre-arranged transport company
- Assemble in the common area and account for all children, staff, and other visitors.
- Evacuate to Armadale Arena at 4 Townley Street Armadale (or as otherwise directed by Emergency Services).
- Confirm your safe arrival at the evacuation destination (with DFES incident controller)
- Advise parents/guardians that the childcare centre has been evacuated and confirm the location for collection of children.

SURVIVAL

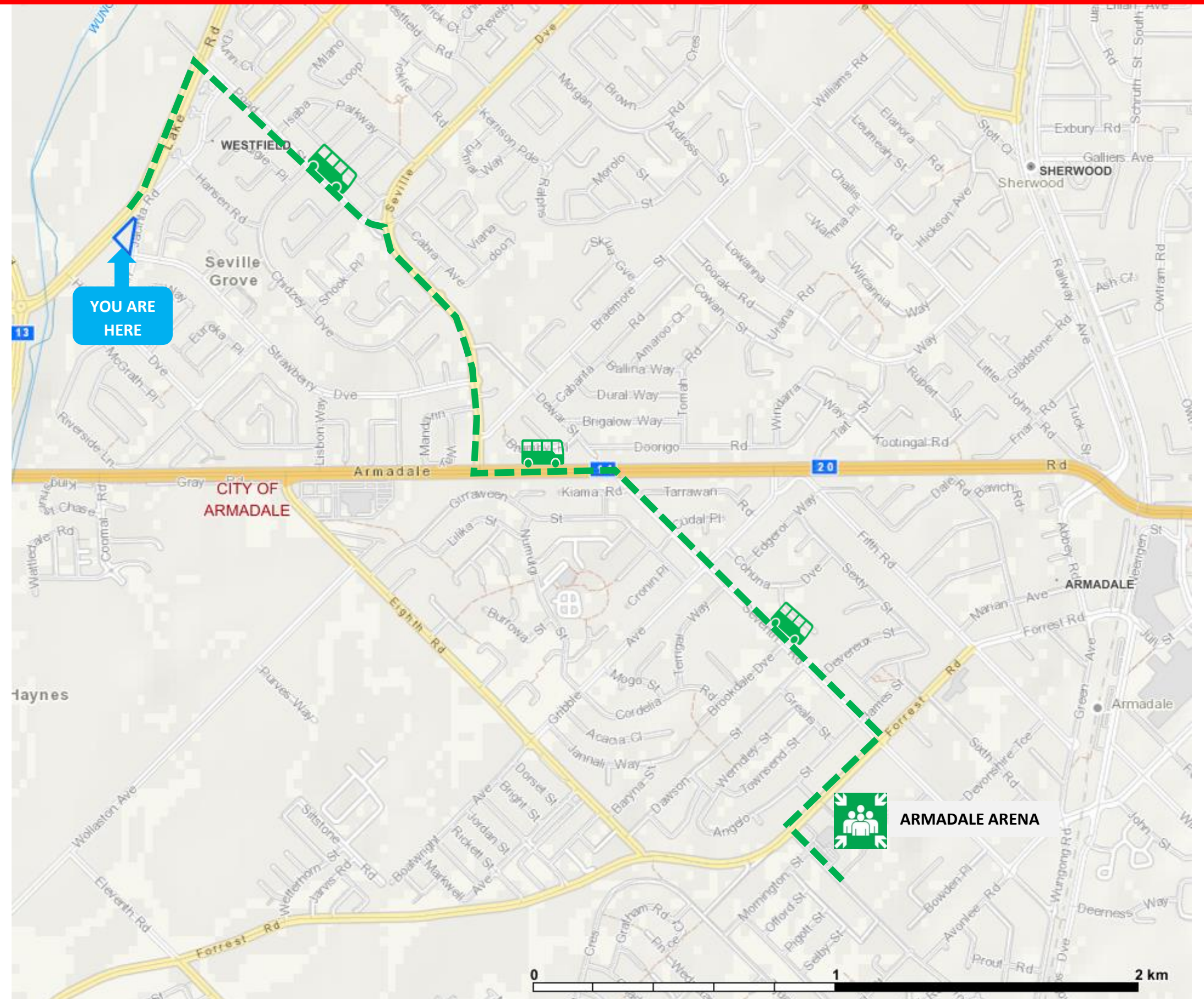
If it is not safe to leave

- keep the Fire Extinguisher close by.
- Soak towels.
- Block smoke ingress with soaked towels.
- Monitor the building condition for smoke and heat and stay low.
- Keep hydrated
- Monitor the Fire's passing
- Leave building when safe, shelter to avoid heat

Do not stay in a burning building

AFTER THE FIRE HAS PASSED

- when safe to do so, the warden is to undertake an external inspection of the building
- when safe to do so, the warden is to undertake an internal inspection of the building
- if it is safe return to the building, continue to monitor it for small fires for up to 24 hours after the bushfire has passed



APPENDIX 3 – References

General References

SA Department of Environment and Natural Resources, Government of South Australia, 2012 *Overall Fuel Hazard Guide for South Australia*

WA Department of Planning 2016, *Visual Guide for bushfire risk assessment in Western Australia*

Standards Australia 2010, *Australian Standard AS 3745:2010 Planning for emergencies in facilities*

Standards Australia 2009, *AS 3959-2018-Construction of buildings in bushfire-prone areas*, Sydney

Standards Australian and Standards New Zealand 2009, *Australian Standard / New Zealand Standard ISO 31000:2009 Risk management – principles and guidelines*

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

Western Australian Planning Commission and Department of Fire and Emergency Services (WAPC and DFES) 2017, *Guidelines for Planning in Bushfire Prone Areas Version 1.3*, Western Australia

Online references

Office of Bushfire Risk management (OBRM), Map of Bush Fire Prone Areas, viewed August 2020, <
<https://maps.slip.wa.gov.au/landgate/bushfireprone/>>

Office of Bushfire Risk Management (OBRM), Bushfire Risk Management (BRM) Plan Guidelines, viewed August 2020