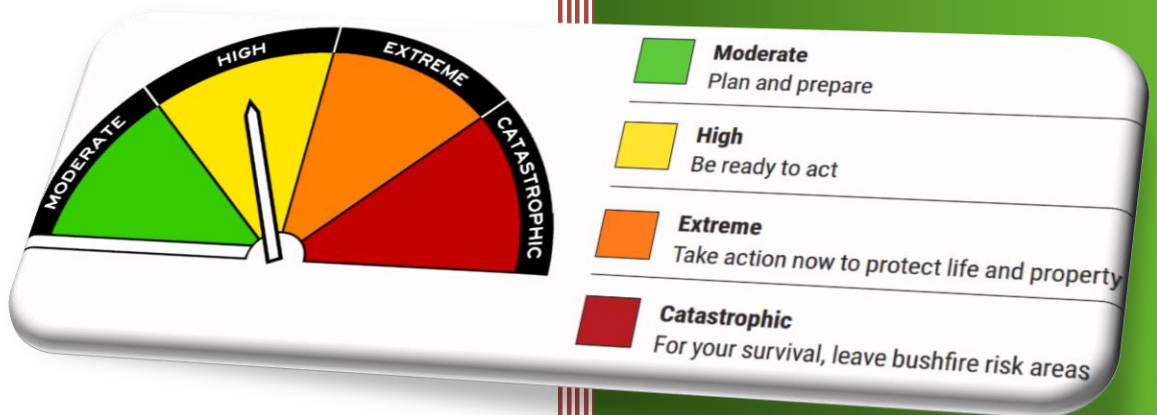




Bushfire Emergency Plan

An Information Document for Premises Without Onsite Personnel Responsible for Emergency Management



PREVENT | PREPARE | RESPOND.

Lot 589 Wheatley Street, Bridgetown

Shire of Bridgetown-Greenbushes

Facility/Premises Use: Holiday accommodation

19 August 2023

Associated BMP:

BPP Ref. No. 220478

BPP GROUP PTY LTD T/A BUSHFIRE PRONE PLANNING

ACN: 39 166 551 784 | ABN: 39 166 551 784

**LEVEL 1, 159-161 JAMES STREET
GUILDFORD WA 6055**

**PO BOX 388
GUILDFORD WA 6935**

08 6477 1144 | admin@bushfireprone.com.au



DOCUMENT CONTROL



PREPARATION					
Author:	Kathy Nastov (BPAD Level 3 No. 27794)				
Co-Author:	Louise Stokes (BPAD Level 1 No. 51589)				
VERSION HISTORY					
Version	Details			Date	
1.0	Original			19 August 2023	
-	-				
BEP Template (Unsupervised Site) v9.2					
DISTRIBUTION					
Destination		Version	No. Copies	Hard Copy	Electronic Copy
Person	Email				
Jesse Horley	jesse@designrenovate.com.au	1.0	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Limitation of Liability: The procedures and their associated actions contained in this Bushfire Emergency Plan do not guarantee that, in the event of a bushfire, buildings or infrastructure will not be damaged, persons injured, or fatalities occur either on the subject site or off the site while evacuating. This is substantially due to the unpredictable nature and behaviour of fire and fire weather conditions. Additionally, the correct implementation of the required procedures will depend upon, among other things, the ongoing actions of the landowners and/or operators over which Bushfire Prone Planning has no control.</p> <p>Any representation, statement, opinion, or advice expressed or implied in this document is made in good faith based on information available to Bushfire Prone Planning at the time. Bushfire Prone Planning will not, except as the law may require, be liable for any loss or other consequences whether or not due to the negligence, lack of care or otherwise of their consultants, their servants or agents, arising out of the services provided by their consultants.</p> <p>Copyright ©2022 BPP Group Pty Ltd: All intellectual property rights, including copyright, in format and proprietary content contained in documents created by Bushfire Prone Planning, remain the property of BPP Group Pty Ltd. Any use made of such format or content without the prior written approval of Bushfire Prone Planning, will constitute an infringement on the rights of the Company which reserves all legal rights and remedies in respect of any such infringement.</p>					

TABLE OF CONTENTS

1. STEPS FOR USING THE BUSHFIRE EMERGENCY PLAN	3
2. EMERGENCY CONTACTS	4
2.1. EMERGENCY SERVICES.....	4
2.2. UTILITIES / MEDICAL / ASSISTANCE.....	4
3. EMERGENCY INFORMATION SOURCES – USE TO INFORM DECISION MAKING	5
4. THE BUSHFIRE EMERGENCY PROCEDURES AND ACTIONS	6
4.1. PREVENT AND PREPARE PROCEDURES – NO BUSHFIRE EXISTS	6
5.1.1 PRE-SEASON PREPARE.....	6
4.1.2 MAINTENANCE	10
4.2. RESPONSE PROCEDURES – BUSHFIRE EXISTS.....	11
5. DISPLAY POSTER – BUSHFIRE EMERGENCY INFORMATION	13
5.1. THE SAFE (EARLY) EVACUATION PROCEDURE.....	14
A. AN ‘ADVICE,’ ‘WATCH AND ACT’ OR ‘EMERGENCY WARNING’ ALERT HAS BEEN ISSUED BY AN EMERGENCY SERVICE AUTHORITY.....	14
B. A BUSHFIRE HAS BEEN IDENTIFIED NEAR YOUR LOCATION. YOU ARE CONCERNED FOR YOUR SAFETY.	14
5.2 THE SHELTER-IN-PLACE PROCEDURE	15

LIST OF ADDITIONAL INFORMATION

APPENDIX 1: BUSHFIRE WARNINGS – WHEN A BUSHFIRE IS IDENTIFIED	16
APPENDIX 2: FIRE DANGER RATINGS - FORECAST BUSHFIRE RISK	17
APPENDIX 3: BUSHFIRE RISKS AND DANGERS	18
APPENDIX 4: GUIDELINES FOR TRAVELLING IN CARS DURING A BUSHFIRE	19
APPENDIX 5: INDICATIVE BUSHFIRE BEHAVIOUR TO IMPACT THE FACILITY/PREMISES.....	20
APPENDIX 6: LANDSCAPING DESIGN & CONSTRUCTION PRINCIPLES TO APPLY.....	24

1. STEPS FOR USING THE BUSHFIRE EMERGENCY PLAN

This Bushfire Emergency Plan (BEP) is an information document whose intent is to appropriately inform two independent types of persons who will be associated with the premise. These persons requiring bushfire emergency management information relevant to their situation are:

1. The owner and/or operator of the premises, who, in most case, will not reside or work on the site and will have no responsibility for actively managing the safety of occupants during a bushfire emergency event; and
2. Those persons who will typically be short stay occupants of the premises.

FOR THE OWNER/OPERATOR: This BEP provides the 'prevention' and 'preparation' procedures and the associated actions that must be conducted and maintained prior to and during the bushfire season. Additional reference information is included as appendices.

FOR THE OCCUPANTS: This BEP provides the 'Bushfire Emergency Information Poster' that will be displayed within the premises to inform the occupants, in the event of a bushfire emergency, of the appropriate 'response' procedures for a given scenario, the associated actions that need to be conducted and identifies the designated evacuation destinations.

Note: When necessary, the specific site/use data and consultant considerations applied in developing the BEP are included as an addendum to explain and justify (support) the actions established by this BEP.

STEP	THE ACTIONS - OWNER/OPERATOR	PAGE
1	Be aware of all content in this Bushfire Emergency Plan.	All Pages
2	Prior to and during the bushfire season (October to April) conduct the Pre-Season Prepare and Maintenance procedures.	6

2. EMERGENCY CONTACTS

2.1. EMERGENCY SERVICES

AGENCY/AUTHORITY	SERVICES	CONTACT
Department of Fire and Emergency Services / Police / Ambulance	Will respond to life threatening emergencies. Use to report a fire.	Phone call: triple zero '000' Phone app: EMERGENCY PLUS
State Emergency Service (SES)	Emergency assistance - securing your property, rescuing persons.	13 2500

2.2. UTILITIES / MEDICAL / ASSISTANCE

AGENCY/ORGANISATION	SERVICES	CONTACT
Bridgetown Hospital	Emergency medical services	(08) 9782 1222
Manjimup Hospital	Emergency medical services	(08) 9772 5100
Western Power	Response to electricity supply outages and damage.	13 1351
Crisis Care	Crisis accommodation	1800 199 008
Australian Red Cross	Humanitarian assistance	1800 733 276 Website: redcross.org.au/emergencies
Salvation Army	Social services care	13 72 58 (13 SALVOS) Website: salvationarmy.org.au/need-help/disasters-and-emergencies/

3. EMERGENCY INFORMATION SOURCES – USE TO INFORM DECISION MAKING

IMPORTANT - AWARENESS OF YOUR SURROUNDINGS

Know the types of vegetation that grow on surrounding land. Be aware of the potential behaviour of a fire in this vegetation and the threats it can present under different conditions.

Relevant information is included in **Appendix 5**.

Knowledge and current environment awareness is a valuable source of information that will assist with decision making. Stay alert to current and immediate past weather conditions (hot/dry presenting the worst conditions). Lookout for any evidence of fire (smoke) within your surrounding landscape, for as far as you can see. Be aware of the current and forecast wind direction as any fire will be likely to spread in the direction to which the wind is blowing.

SOURCE	INFORMATION	CONTACT
Emergency WA	Alerts & Warnings. Incidents, fire danger ratings, total fire bans, prescribed burns, preparation, and recovery information.	Website: emergency.wa.gov.au
Department of Fire & Emergency Services	General public emergency information.	Information Line: 13 3337 (13 DFES)  dfes_wa  dfeswa Website (during a bushfire): dfes.wa.gov.au/hazard-information/bushfire/during Website (recovering from a bushfire): dfes.wa.gov.au/hazard-information/bushfire/recovery
Local Radio	Bushfire alerts, warnings, and information.	Local Radio Stations: ABC (AM) 1044 Website: abc.net.au/radio/stations
Emergency Alert on Phone	Voice messages (landline) and text messages (mobile) can be sent within a defined area under an immediate threat.	An automated government telephone warning system.
Bushfire.IO	Map based bushfire warnings, bushfire incidents and wind forecasts. Good visual tool run privately – crosscheck with other sources.	Website: bushfire.io
Bureau of Meteorology	Current / forecast fire weather and fire danger ratings.	Website: bom.gov.au/wa/index.shtml
Parks and Wildlife Service	Bushfire alerts and warnings, prescribed burns in national parks.	Website: dpaw.wa.gov.au
Main Roads WA	Incidents, issues and roadworks.	13 8138 Website: travelmap.mainroads.wa.gov.au/Home/Map

4. THE BUSHFIRE EMERGENCY PROCEDURES AND ACTIONS

4.1. PREVENT AND PREPARE PROCEDURES – NO BUSHFIRE EXISTS

5.1.1 PRE-SEASON PREPARE

PRE-SEASON PREPARE PROCEDURE - REQUIRED ACTIONS

TO BE CONDUCTED PRIOR TO THE BUSHFIRE SEASON WHICH EXTENDS FROM OCTOBER TO APRIL

1. ANNUAL REVIEW OF THE BUSHFIRE EMERGENCY PLAN

Update and amend the Bushfire Emergency Plan as required. Assistance from a bushfire consultant is advised.	
<input type="checkbox"/>	Make required changes to emergency contacts and emergency information sources. Ensure that any changes are also applied to the bushfire emergency information displayed within the facility/premises.
<input type="checkbox"/>	Ensure the designated assembly area, off-site safer locations and nominated evacuation routes are still the best options. Otherwise incorporate the changes into the Bushfire Emergency Plan and associated displayed information.
<input type="checkbox"/>	Where an offsite safer destination is an identified building(s), contact relevant persons to confirm continued availability for potential use during a bushfire emergency.
<input type="checkbox"/>	Account for any change to buildings or equipment onsite that has implications for emergency management.
<input type="checkbox"/>	Incorporate any improvements or additions to the emergency management procedures/actions that have been identified by staff, emergency services because of either experience with a bushfire event or changes in best practice bushfire emergency management that are developed over time.
<input type="checkbox"/>	In the event any part of this BEP is amended as part of its annual review, replace old copies and destroy them.

2. AVAILABILITY & DISPLAY OF BUSHFIRE EMERGENCY INFORMATION

Bushfire Emergency Information is to be available and displayed in prominent position/s and readily accessible to all persons.	
<input type="checkbox"/>	<p>Ensure the display poster 'Bushfire Emergency Information' (updated as necessary) is displayed (framed or laminated) within the premises.</p> <p>Additional information can be displayed when considered appropriate. Examples are contained within the appendices. Copies of these resources are available for download on the DFES website.</p>
<input type="checkbox"/>	Ensure bushfire water supply, bushfire emergency assembly area, evacuation route indicators all emergency signage is in place and legible).

3. BUILDING PREPARATION

<p>These actions address the required maintenance of the buildings that comprise the facility/premises, prior to and during the bushfire season to ensure:</p> <ul style="list-style-type: none"> Continued compliance with the construction standards that correspond to its Bushfire Attack Level (as determined in the Bushfire Management Plan); The vulnerability of exposed building elements and associated items are minimised; and That any installed firefighting infrastructure is operationally ready. 	
<input type="checkbox"/>	<p>If the facility/premises is constructed to BAL-12.5 requirements or higher, ensure any external gaps continue to be blocked or screened with non-combustible material (e.g. rock wool, sealant, mesh – maximum aperture of 2mm) to prevent ember entry. This includes under eaves, external cladding, roofs, external vents, skylights etc. Otherwise it is recommended that this action is applied.</p>
<input type="checkbox"/>	<p>Check that all required window and door screening is in place (prevents ember entry to internal spaces and reduces radiant heat load).</p>
<input type="checkbox"/>	<p>If installed, ensure all installed bushfire shutters are operational.</p>
<input type="checkbox"/>	<p>Where additional construction of attached structures (decks, stairs, patio, carport etc.) or adjacent structures (dwelling, shed, carport etc.) have been built, ensure bushfire resistant (including non-combustible) materials have been used to the greatest extent possible (at least corresponding to construction standards for the BAL rating).</p>
<input type="checkbox"/>	<p>If evaporative air coolers are installed ensure it is either constructed to a BAL rating or is fitted with an appropriate ember protection screen.</p>
<input type="checkbox"/>	<p>All gas cylinders to be installed and maintained in accordance with AS 1596. This standard includes requirements for small portable cylinders and larger cylinders used for domestic house supply. These include:</p> <ul style="list-style-type: none"> Safety release valve shall be directed away from the building and persons access/egress routes; Metal piping and fittings shall be used on all piping inside the building's cavities and enclosable occupied spaces and the high pressure side of any gas regulators; and Tethers securing cylinders are to be non-combustible. <p>The objective is to reduce the risk of local fire against a building and reduce the risk of death or injury, from gas flaring or explosion. The rationale is gas cylinders which have either flared or ruptured are commonly found in post bushfire surveys. The heat from the bushfire or consequential local fire has been sufficient to cause their pressure to reach critical levels beyond which their pressure release valve releases large quantities of LP gas. If these gas cylinders fall over, this pressure release valve may no longer function correctly, meaning that the gas cylinder may continue to increase in pressure with continued heating until the cylinder ruptures. The resulting explosion includes a pressure wave and large ball of flame which can threaten nearby life and buildings.</p>
<input type="checkbox"/>	<p>Around building(s), including verandahs and decks, remove or relocate away from the facility/premises those combustible items that may be seldom used or able to be stored more appropriately in the bushfire season. This includes furniture and mats. Refer to Action List No. 5 'LANDSCAPING DESIGN & CONSTRUCTION PRINCIPLES TO APPLY' for further information regarding consequential fire fuels and recommended separation distances.</p>
<input type="checkbox"/>	<p>Ensure all emergency lighting including pathway lighting and signage lighting is fully functional.</p>

4. GROUNDS PREPARATION

<p>These actions address the required management of onsite combustible items/materials (fuels) around, on or in buildings. By removing or reducing fuels, the likelihood and intensity of consequential fire is significantly reduced. Fuel management must be completed prior to the start of the bushfire season and maintained during the season.</p> <p>For additional guidance, refer to:</p> <ul style="list-style-type: none"> • The <i>Guidelines for Planning in Bushfire Prone Areas within the Explanatory Notes for Element 2 of the Bushfire Protection Criteria and Schedule 1: Standards for Asset Protection Zones (WAPC 2021)</i>; • The DFES 'Bushfire Preparation Toolkit' publication. Website: publications.dfes.wa.gov.au/?hazard=Bushfire; and • Where initial or renovation landscaping of grounds surrounding the facility/premises is being conducted, apply the directions and principles of the measures presented in Appendix 6 to the greatest extent possible. 	
<input type="checkbox"/>	<p>The Firebreak Notice: Maintain compliance with the local government's annual firebreak and fuel load notice issued under section 33 of the Bush Fires Act 1954. Where the requirements are additional to or provide a greater level of bushfire protection than those established in this Emergency Plan, they must be complied with.</p>
<input type="checkbox"/>	<p>Accessibility:</p> <p>Ensure all property access/egress routes are kept clear and easily trafficable.</p>
<input type="checkbox"/>	<p>The Asset Protection Zone(s) (APZ) Dimensions:</p> <p>Ensure the APZ dimensions established by the BMP are installed and maintained to the required standard (as established by the Bushfire Management Plan), and including the requirements in this action list:</p> <ul style="list-style-type: none"> • The Shire of Bridgetown-Greenbushes requires a 20m APZ around buildings.
<input type="checkbox"/>	<p>Vegetation in the APZ – trimming and removal of accumulated debris:</p> <p>Trees (greater than 6 metres in height):</p> <ul style="list-style-type: none"> • Remove branches overhanging buildings and powerlines; • Remove lower branches to a height of 2m above the ground or any surface vegetation; and • Remove loose bark (rake) to at least a height of 2m above the ground or any surface vegetation. <p>Shrubs (0.5 metres to 5 metres in height) and ground covers (greater than 0.5 metres in height):</p> <ul style="list-style-type: none"> • Ensure location and clump sizes remain in accordance with guidance in Action List No. 6; and • Remove all dead plant material. <p>Grass to be reduced and maintained at a height of 50 mm.</p> <p>Fine Fuels (i.e., less than 6 mm in thickness):</p> <ul style="list-style-type: none"> • Ensure combustible dead vegetation matter is reduced to and maintained at less than 2 t/ha on average. Collecting and weighing an indicative 1m² of this litter above the mineral earth will indicate the fuel load (100g/m² = 1 t/ha); and • Remove all debris piles. <p>Heavy Fuels (i.e., greater than 6 mm in thickness):</p> <ul style="list-style-type: none"> • Such as fallen branches, timber, firewood, packaging materials, building materials, outdoor furniture, garbage bins, debris piles. • To be removed from the APZ or be separated from buildings/structures in accordance with guidance in

	<p>Action List No. 6.</p> <p>Applied mulches:</p> <ul style="list-style-type: none"> • Should be non-combustible e.g., stone, gravel and crushed rock. Where wood mulch is used it should be greater than 6mm in thickness.
<input type="checkbox"/>	<p>Buildings and Removal of Accumulated Debris:</p> <p>Remove and maintain at low levels, accumulated vegetation debris (fine fuels) in proximity to buildings and structures, including:</p> <ul style="list-style-type: none"> • In construction crevices, gaps, on horizontal / shallow angle surfaces and at re-entrant corners in access ways, at wall/floor, wall/ground, roof/wall junctions and around doors, vents, windows; • In roof gutters and valleys; and • Adjoining/adjacent drains, culverts and pits.

4.1.2 MAINTENANCE

MAINTENANCE PROCEDURE - REQUIRED ACTIONS

TO BE CONDUCTED DURING THE BUSHFIRE SEASON WHICH EXTENDS FROM OCTOBER TO APRIL

1. MAINTAIN BUILDINGS

<input type="checkbox"/>	Around building(s), including verandahs and decks, remove or relocate away from the facility/premises those combustible items that may be seldom used or able to be stored more appropriately in the bushfire season. This includes furniture and mats. Refer to Action List No. 5 'LANDSCAPING DESIGN & CONSTRUCTION PRINCIPLES TO APPLY' for further information regarding consequential fire fuels and recommended separation distances.
<input type="checkbox"/>	Refer to the 'Action List No. 3 in the 'Pre-Season Prepare' procedure to identify any actions that may not have been conducted or completed and ensure they are actioned.

2. MAINTAIN ASSET PROTECTION ZONES

<p>Maintain Asset Protection Zones (APZ) around all buildings in accordance with the associated Bushfire Management Plan (BMP) which establishes the dimensions of the APZ for the relevant buildings on this site. Refer to the 'Action List No. 4 in the 'Pre-Season Prepare' procedure for dimension details.</p> <p>The required actions remove/reduce accumulated onsite vegetative materials (fuel) and other fuels, thereby reducing the likelihood and intensity of consequential (local) fire which is the most significant cause of building/structure damage/loss in bushfire events.</p>	
<input type="checkbox"/>	Remove all accumulated vegetation debris from the land surface within the APZ, including any stored piles of debris.
<input type="checkbox"/>	Remove all accumulated vegetation debris from on, in and against buildings/structures.
<input type="checkbox"/>	<p>Ensure heavy consequential fire fuels (i.e., greater than 6 mm in thickness) are removed from the APZ or are separated from buildings/structures in accordance with guidance in 'Action List No. 5 in the 'Pre-Season Prepare' procedure.</p> <p>These fuels include fallen branches, timber, firewood, packaging materials, building materials, outdoor furniture, garbage bins etc.</p>
<input type="checkbox"/>	Refer to the 'Action List No. 4 in the 'Pre-Season Prepare' procedure to identify any actions that may not have been conducted or completed and ensure they are actioned.
<input type="checkbox"/>	Ensure Grassland vegetation in the broader landscape than the APZ is managed to less than 10cms in height during the fire season.

4.2. RESPONSE PROCEDURES – BUSHFIRE EXISTS

A premises that has no personnel onsite who have formal emergency management responsibilities, is considered an unsupervised premises.

Consequently, the required response actions are simplified, and all necessary information is presented as the Bushfire Information Poster (below).

On days of Extreme or Catastrophic fire danger, or if there is a fire in the vicinity, guests must depart for a place of safer refuge for the day or until it is safe to return.

This poster must be displayed within the premises.

Emergency Response - Triggers

TRIGGER	PROCEDURE TO BE INITIATED	
	Safe (early) Evacuation	Shelter-in-Place
	PRIMARY	SECONDARY
<p>A BUSHFIRE IS IDENTIFIED – An Alert has been Issued. Listen to the Local Radio (ABC - 684 AM). Monitor your information Sources. A bushfire 'EMERGENCY', 'WATCH AND ACT' or 'ADVICE' warning is in place for the area. Early evacuation should almost 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.</p> <p>AN extreme FIRE DANGER DAY IS FORECAST. Advise guests staying to be aware of their environment, children are not to be left unattended at the property, and no activities on bush trails or tracks permitted.</p> <p>A CATASTROPHIC FIRE DANGER DAY IS FORECAST. Guests staying or arriving must be advised that they must not be at the property during the day. It is the responsibility of the Property owner to ensure that guests are notified of this.</p>	<p>✓</p>	<p>Immediately contact the DFES (000) if you are considering this option. In some limited circumstances such as in remote locations or facilities with people with mobility issues, early evacuation may be difficult to implement, and sheltering-in-place may be the safest action.</p>
<p>A BUSHFIRE IS IDENTIFIED – No Warnings in Place. You are Concerned for your safety. Listen to the Local Radio (ABC - 684 AM). Monitor your information Sources. Early evacuation should almost 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.</p>	<p>✓</p>	<p>Immediately contact the DFES (000) if you are considering this option. In some limited circumstances such as in remote locations or facilities with people with mobility issues, early evacuation may be difficult to implement, and sheltering-in-place may be the safest action.</p>

BUSHFIRE EMERGENCY INFORMATION

Lot 589 Wheatley Street, Bridgetown

THE PRIMARY EMERGENCY PROCEDURE TO FOLLOW FOR THIS PREMISES IS SAFE (EARLY) EVACUATION

Trigger to Evacuate: A bushfire is identified relatively close, and a bushfire EMERGENCY or WATCH AND ACT warning may or may not be issued., You are concerned for your safety.

Procedure: Call 000 to report bushfire if no warnings current. Cease all activities, shut all doors/windows, turn off air conditioners, turn off bottled gas and move to assembly area designated on the adjacent map. Prepare vehicles. Check information sources for latest updates, dial 000 if unsure. Re-evaluate the situation to ensure evacuation routes remain available (if not, follow shelter in place procedure below). Follow emergency services instructions if they are present.

ELEVATED THREAT PROCEDURE

Trigger to Act: A bushfire is identified a considerable distance away, and a bushfire ADVICE warning may or may not be issued but you are concerned for your safety.

Procedure: Call 000 to report bushfire if no warnings current. Ensure everyone at the premises is aware of the situation, closely monitor the information sources and the changes outside. If the current Fire Danger Rating is Catastrophic or Extreme or persons have health conditions, consider pre-emptively leaving the accommodation and travel to a lower threat area for the day.

SHELTER-IN-PLACE PROCEDURE

Trigger to Shelter: Impact from bushfire is imminent, evacuation routes are threatened and there is no time to perform a safe (early) evacuation or emergency services have instructed you to shelter in place.

Procedure: Call 000 to report the bushfire and tell them you are sheltering in place. Shut all doors/windows, turn off air conditioners, turn off bottled gas, move all combustible materials away from windows, wet materials to block gaps around door. Drink plenty of water, stay aware of what is happening, and monitor information sources.

The detailed emergency management procedures for this premises are established in the Bushfire Emergency Plan located in the Guest compendium with the provided Guest Information.

000
Fire or Life Threatening
Emergencies



Alerts and Warnings
emergency.wa.gov.au

13 3337
DFES Emergency
Information

132 500
SES Emergence
Assistance

13 13 51
Western Power

@dfeswa
DFES Facebook

Radio
Local ABC

Bridgetown Hospital (08) 9782 1222

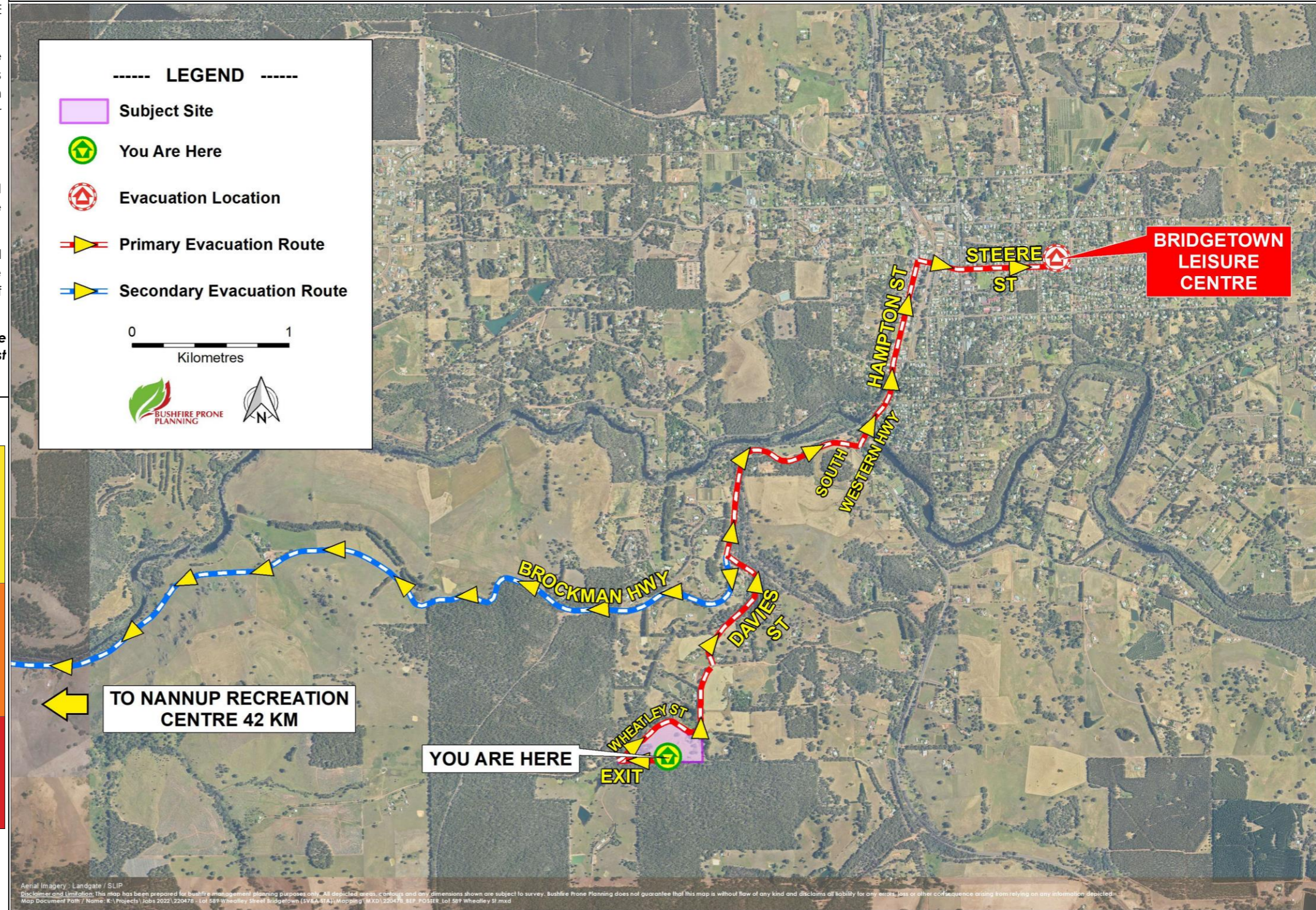
Manjimup Hospital (08) 9772 5100

Primary Evacuation Route: Bridgetown Recreation Centre:

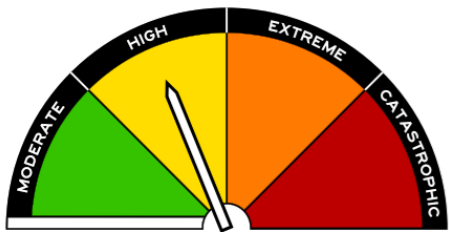
Turn right onto Wheatley Street, and veer left onto Davies Street, which becomes Farrell Street. Turn right onto Brockman Highway. At the T junction turn left onto Hampton Street. Turn right onto Steere Street and the Recreation Centre will be on your left.

Secondary Evacuation Route: Nannup Recreation Centre:

Turn right onto Wheatley Street, and veer left onto Davies Street, which becomes Farrell Street. Turn left onto Brockman Highway and travel to Nannup (41.7kms). Turn left onto Warren Road and right into Centenary Drive. The Recreation Centre will be on your right.



FORECAST FIRE DANGER RATINGS



The higher the rating, the more dangerous the conditions and the greater the consequences if a fire starts.

No Rating	No Action Required
Moderate	Plan and Prepare
High	Be Ready to Act
Extreme	Take Action Now to Protect Your Life and Property
Catastrophic	For Your Survival, Leave Bush Fire Risk Areas

BUSHFIRE EVENT WARNINGS

ADVICE
A fire has started but there is no immediate threat to lives or homes.
Be aware and keep up to date.

WATCH AND ACT
There is a possible threat to lives or homes.
You need to leave or get ready to defend – do not wait and see.

EMERGENCY WARNING
There is a threat to lives or homes.
You are in danger and need to take immediate action to survive.

Aerial Imagery: Landgate / SLIP
Disclaimer and Limitation: This map has been prepared for bushfire management planning purposes only. All depicted roads, contours and any dimensions shown are subject to survey. Bushfire Prone Planning does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequences arising from relying on any information depicted.
Map Document Path: Name: K:\Projects\Jobs\2022\220478 - Lot 589 Wheatley Street Bridgetown (SV&A-STA)_Mapping\MXD\220478_BEP_POSTER_Lot 589 Wheatley St.mxd

5.1. THE SAFE (EARLY) EVACUATION PROCEDURE

- A. An 'Advice,' 'Watch and Act' or 'Emergency Warning' alert has been issued by an emergency service authority.**
- B. A Bushfire has been identified near your location. You are concerned for your safety.**
- C. An Extreme or Catastrophic fire danger day is forecast.**

Refer to the BUSHFIRE EMERGENCY INFORMATION Poster

1. Monitor the **ABC local radio (Bridgetown - 1044 AM)** and other information sources regularly for local bushfire information (weather trends, warnings, locations).
2. Call 000 if you are concerned for your safety.
3. Evaluate if the evacuation routes remain available.
4. Occupants must identify the appropriate evacuation route to use.
5. Be aware of your ongoing ability to evacuate safely and base the decision to evacuate on this ability or any emergency services directives received.
6. Take with you any medications you may require if there is a road closure and you can't return promptly.

If the Evacuation Routes are determined to no longer be safe, then SHELTERING-IN-PLACE will be the required action.

Shelter in the Dwelling (Last Resort)

Note: *Sheltering in the existing dwelling differs vastly from a Refuge Building or Refuge Open space. Early evacuation before a bushfire starts should always be the priority.*

Immediately notify DFES by dialling 000 and give the following details:

1. Nature of the incident and state that people are sheltering in place;
2. Location (street address);
3. Nearest cross roads (names and distance);
4. Where sheltering;
5. Number of people sheltering;
6. Can you see the fire front /estimate distance away; and
7. Can you see spot fires / are spot fires around the shelter?

If the nominated Emergency Assembly Building is deemed unsafe or to be under direct threat, occupants must evaluate the situation and make informed decisions. The choice will be to continue to stay and defend or proceed to an area of minimal fuel vegetation as a last resort and if it is safe to do so. The latter action is not recommended but is an alternative if the current refuge is deemed to be not safe for occupants and vehicle evacuation routes remain unsafe.

APPENDIX 1: BUSHFIRE WARNINGS – WHEN A BUSHFIRE IS IDENTIFIED



EMERGENCY WARNING

An out of control fire is approaching fast and you need to take immediate action to survive. If you haven't prepared your home it is too late.

You must seek shelter or leave now if it is safe to do so.



WATCH AND ACT

A fire is approaching and there is a possible threat to lives or homes. Put your plan into action. If your plan is to leave, make sure you leave early. If your plan is to stay, check all your equipment is ready.

Only stay and defend if you are mentally and physically prepared.



ADVICE

A fire has started but there is no immediate danger. Stay alert and watch for signs of a fire.

Be aware and keep up to date.

Where can I get information during an emergency?

emergency.wa.gov.au 13 DFES (13 33 37)

@dfeswa @dfes_wa Local ABC Radio



APPENDIX 2: FIRE DANGER RATINGS - FORECAST BUSHFIRE RISK

THE HIGHER THE RATING, THE MORE DANGEROUS THE CONDITIONS AND THE GREATER THE CONSEQUENCES IF A FIRE STARTS.



<p>Moderate: Plan and prepare. Most fires can be controlled. Stay up to date and be alert for fires in your area.</p>	
<p>High: Be ready to act. Fires can be dangerous. Decide what you will do if a fire starts. Leave bushfire risk areas if necessary.</p>	
<p>Extreme: Take action now to protect your life and property. Fires will spread quickly and be extremely dangerous. Put your bushfire plan into action. If you and your property are not prepared to the highest level, plan to leave early.</p>	
<p>Catastrophic: For your survival, leave bushfire risk areas. These are the most dangerous conditions for a fire. If a fire starts and takes hold, lives are likely to be lost. Homes cannot withstand fires in these conditions.</p>	



When there is minimal risk, Fire Danger Ratings will be set to 'No Rating'. On these days you still need to remain alert and abide by local seasonal laws and regulations.



Monitor conditions and [emergency.wa.gov.au](https://www.emergency.wa.gov.au) for ratings and bushfire warnings. If a fire starts near you, take action immediately to protect your life. Do not wait for a warning.



Your life may depend on the decisions you make, even before there is a fire. Create or review your bushfire plan at mybushfireplan.wa.gov.au



APPENDIX 3: BUSHFIRE RISKS AND DANGERS



BUSHFIRE RISKS AND DANGERS



BUSHFIRES HAPPEN EVERY SUMMER; THEY CAN START SUDDENLY AND WITHOUT WARNING.
 If you live in or near bushland you need to understand the risks and dangers that bushfires cause.
 Remember that flames are not the only risk you face in a bushfire.



EMBER ATTACK

Ember attack occurs before, during and after a fire front passes.

Embers are pieces of burning bark, leaves or twigs that are carried by the wind around the main fire creating spot fires.

Spotting can be carried over half a kilometre from a fire.

Embers can land in areas around your home such as your garden, under or in the gutters of your home and on wooden decks.

If not extinguished, your house could catch fire.

RADIANT HEAT

The hotter, drier and windier the day, the more intense a bushfire will be and the more radiant heat it will generate.

Radiant heat can cause injury and death from burns and cause the body's cooling system to fail, leading to heat exhaustion and possible heart failure.

It is important that you include water and appropriate clothing in your emergency kit and consider where you will shelter during a bushfire to protect yourself from radiant heat.

SMOKE

Lung injuries and suffocation can occur where the body is exposed to smoke and super-heated air.

It is important to seek shelter when heat and smoke are most intense.

Your nose and mouth should be covered with a dust mask, wet towel or scarf.

A special filter mask should be included in your survival kit for people in your family who suffer respiratory conditions such as asthma.



For more information visit
dfes.wa.gov.au/bushfire
 or contact DFES Community Preparedness:
Community.Preparedness@dfes.wa.gov.au
 or 9395 9816

The information contained in this material is provided voluntarily as a public service by the Department of Fire and Emergency Services (DFES). This material has been prepared in good faith and is derived from sources believed to be reliable and accurate at the time of publication. Nevertheless, the reliability and accuracy of the information cannot be guaranteed and DFES expressly disclaims liability for any act or omission done or not done in the reliance on the information and for any consequences whether direct or indirect, arising from such act or omission. This publication is intended to be a guide only and viewers should obtain their own independent advice and make their own necessary inquiries.



APPENDIX 4: GUIDELINES FOR TRAVELLING IN CARS DURING A BUSHFIRE



TRAVELLING DURING A BUSHFIRE



BUSHFIRES CAN START WITHOUT WARNING. People have been killed or seriously injured during bushfires. If you are travelling or staying near bushland, fire is a real risk to you. **Pack an emergency kit including important items such as woollen blankets, drinking water and protective clothing.**



IF THERE IS A LOT OF SMOKE

- Slow down as there could be people, vehicles and livestock on the road.
- Turn your car headlights and hazard lights on.
- Close the windows and outside vents.
- If you can't see clearly, pull over and wait until the smoke clears.

IF YOU BECOME TRAPPED BY A FIRE

- Sheltering inside a vehicle is a very high risk strategy. It is unlikely that a person will survive in all but the mildest circumstances.**
- Park the vehicle off the roadway where there is little vegetation, with the vehicle facing towards the oncoming fire front.
- Turn the engine off.
- Close the car doors, windows and outside vents, **and call 000.**
- Stay in the car until the fire front has passed. Stay as close to the floor as possible and cover your mouth with a damp cloth to avoid inhalation of smoke.
- Stay covered in woollen blankets, continue to drink water and wait for assistance.
- Once the front has passed and the temperature has dropped, cautiously exit the vehicle.

IMPORTANT INFORMATION

- Find the local ABC radio frequency in the area. Stay up to date in a major emergency, when lives and property are at risk, ABC radio will issue broadcast warnings at a quarter to and a quarter past the hour.
- Main Roads provides updated information on road closures throughout WA. Call 138 138 or www.mainroads.wa.gov.au
- Check the weather forecast and current fire restrictions. Be aware of the Fire Danger Rating for the area you are travelling to and be prepared to reassess your plans.
- Download the Bushfire Traveller's Checklist at www.dfes.wa.gov.au

For more information visit dfes.wa.gov.au/bushfire

or contact DFES Community Preparedness: Community.Preparedness@dfes.wa.gov.au or **9395 9816**



The information contained in this material is provided voluntarily as a public service by the Department of Fire and Emergency Services (DFES). This material has been prepared in good faith and is derived from sources believed to be reliable and accurate at the time of publication. Nevertheless, the reliability and accuracy of the information cannot be guaranteed and DFES expressly disclaims liability for any act or omission done or not done in the reliance on the information and for any consequences whether direct or indirect, arising from such act or omission. This publication is intended to be a guide only and viewers should obtain their own independent advice and make their own necessary inquiries.



HOW FIREPROOF IS YOUR PLAN?

APPENDIX 5: INDICATIVE BUSHFIRE BEHAVIOUR TO IMPACT THE FACILITY/PREMISES

Information Relevance: This information is included in the Bushfire Emergency Plan to inform and assist the decision making of those persons onsite who have the responsibility to manage a bushfire emergency for the subject facility/premises.

The information establishes the key factors to be considered in understanding the types and scale of key bushfire behaviours that can be expected to impact the facility/premises on a given day. These factors are the type of vegetation that exists on the land surrounding the subject premises/facility, the relevant surrounding terrain, and the forecast Fire Danger Rating (FDR) that applies to the locality.

Information Source: The information is taken from the bushfire behaviour modelling applied within the **Australian Fire Danger Rating System (AFDRS)**. Within this system, eight accepted bushfire behaviour models, describing mathematically the way fire moves and spreads through different vegetation types, are currently available and are applied to twenty two different vegetation types across Australia.

The modelling is used to derive the Fire Behaviour Index (FBI) that assists firefighting operational decision making. From the FBI, Fire Danger Ratings (FDR) are derived which provide the broad categories needed to communicate fire danger to the community. The determination of the daily FDR considers the vegetation types present and the forecast fire weather conditions. The higher the rating, the more dangerous the conditions and the greater the consequences if a fire starts. (Source: AFDRS project led by NSW RFS, Australian Bureau of Meteorology and AFAC).

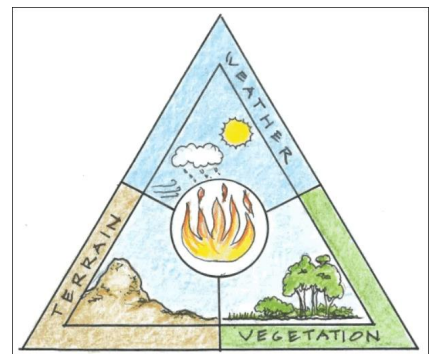
The Fire Behaviour Triangle

The behaviour of a bushfire, including the types of threats, intensity and how quickly it moves, depends on the three factors of vegetation, weather and terrain.

This is known as the fire behaviour triangle – because all three factors combine to shape the characteristics of the bushfire (source: CSIRO 'Bushfire best practice guide' at ... research.csiro.au/bushfire/).

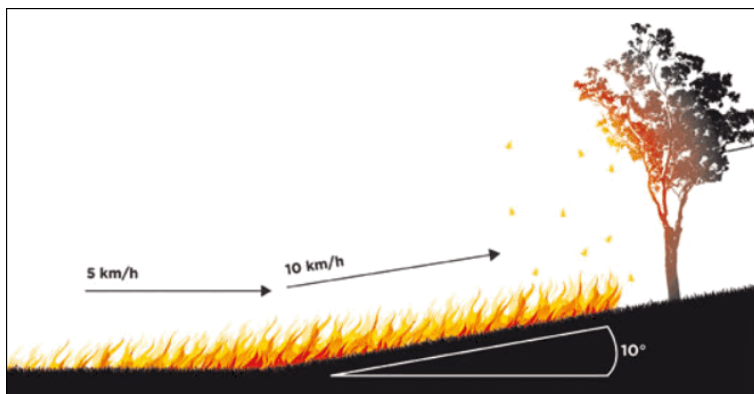
The influence of fire weather (FDR) and vegetation types (as per AFDRS) on the potential bushfire impact to the subject facility/premises, can be derived from the tables presented on the following page(s). Greater fuel loads will result in behaviours at the higher end of stated values.

The influence of terrain can be derived by considering the existence and degree of sloping ground and changes in changes in relief (e.g., flat, undulating or rugged land), surrounding the subject facility/premises and particularly under the vegetation.



The Influence of Terrain (topography)

A fire will burn faster uphill. This is because the flames can easily reach more unburnt fuel in front of the fire. Radiant heat pre-heats the fuel in front of the fire, making the fuel even more flammable.



(source: Country Fire Authority, Victoria).

For every 10° slope, the fire will double its speed. For example, if a fire is travelling at 5 km per hour along flat ground and it hits a 10° slope it will double in speed to 10 km per hour up the hill. By increasing in speed the fire also increases in intensity, becoming even hotter.

The opposite applies to a fire travelling downhill. The flames reach less fuel, and less radiant heat pre-heats the fuel in front of the fire. For every 10° of downhill slope, the fire will halve its speed. Fires tend to move more slowly as the slope decreases.

Terrain should be considered for its potential to increase adverse fire behaviour including flame heights, forward rates of spread and ember production (in relevant vegetation i.e., primarily bark fuels). Essentially, where vegetation exists on sloping land near your site, assume that the higher end of adverse fire behaviours is much more likely to apply.

VEGETATION TYPES IDENTIFIED SURROUNDING THE SUBJECT FACILITY/PREMISES		
As Applied in the AFDRS		Vegetation Location Relative to the Facility/Premises
Fire Behaviour Model (short name)	Fuel Types / Description	
Forest	Dry eucalypt forests, shrubby understorey/litter surface fuel. Forests with high moisture content due to structure, topography or inundation.	Forest vegetation located to the north, west and south of the property.
Grassy Woodland (Savanna)	Woodland and shrubland with a continuous grass understorey. Arid woodland/shrubland with short lasting (seasonal) grass understorey. Perennial woody horticulture with grass understorey (orchard/vineyard). Rural/Urban residential areas of grass with variable tree cover.	
Shrubland	Temperate shrublands and heathlands of varying heights. Includes wet heathlands.	
Grassland	Continuous/tussock grasslands. Modified/native pasture (grazing). Non-irrigated cropping. Low shrublands (wet or arid) with no overstorey.	Vegetation located directly to the north of the buildings
Mallee-Heath	Semi-arid woodland and shrubland with shrub understorey.	
Spinifex	Woodland and shrubland with a hummock grass understorey. Includes mallee if spinifex understorey.	
Pine	Pine plantations	

FOREST

THE INDICATIVE FIRE BEHAVIOUR CORRESPONDING TO THE FIRE BEHAVIOUR INDEX (0-100) AND THE ASSOCIATED FIRE DANGER RATING (FDR)

Source: AFDRS v. 2022_6

FDR	INDICATIVE BUSHFIRE BEHAVIOUR		
NO RATING	<p>MAX FLAME HEIGHT <1 m</p> <p>0-5</p> <p>RATE OF SPREAD 0-40 m/hr</p>	<p>Fire difficult to ignite and sustain. Fires generally unlikely to spread and likely to self-extinguish.</p>	<p>SPOTTING POTENTIAL Potential for any spotting is very limited and likely <150 m</p>
	<p><4 m</p> <p>6-11</p> <p>20-110 m/hr</p>	<p>Slow spreading fires, typically involving surface and near-surface fuels and sometimes bark and elevated fuels. Spotting is sporadic and limited to short-distances.</p>	<p>Potential for spotting is limited with short distance spotting possible up to 400 m</p>
MODERATE	<p>2-8 m</p> <p>12-23</p> <p>60-600 m/hr</p>	<p>Actively spreading fires typically involving surface, near-surface, elevated and bark fuel layers and occasionally canopy fuels. Low-moderate spotting frequency; isolated medium range spotting can occur.</p>	<p>Short distance spotting occurring with increasing frequency with possible medium distance spotting up to 2 km</p>
HIGH	<p>7-14 m</p> <p>24-49</p> <p>0.3-1 km/hr</p>	<p>Rapidly spreading fires with potential for development into large burn areas within burning period. Fires typically involving most fuel layers. Short-range spotting is prevalent, with possibility of medium range and occasional long-range distance spotting.</p>	<p>Short and medium distance spotting occurring with increasing frequency with possible long distance spotting up to 4 km</p>
EXTREME	<p>11 m - approx. double forest</p> <p>50-99</p> <p>0.7-3 km/hr</p>	<p>Fires likely to quickly transition to crowning. Possibility for fire behaviour to become erratic and plume driven. Strong convective column formation. Wind speed and direction likely to be erratic at times.</p>	<p>High ember density in short and medium range with possible long distance spotting up to 12 km</p>
CATASTROPHIC	<p>>30 m (approx. double forest height)</p> <p>100+</p> <p>>2 km/hr can be expected, possibly >3 km/hr</p>	<p>Fires likely to quickly transition to crowning. Possibility for fire behaviour to become erratic and plume driven. Strong convective column formation. Wind speed and direction likely to be erratic at times.</p>	<p>High ember density in short and medium range with possible long distance spotting occurring 20-30 km ahead of the main fire front</p>

GRASSLAND

THE INDICATIVE FIRE BEHAVIOUR CORRESPONDING TO THE FIRE BEHAVIOUR INDEX (0-100) AND THE ASSOCIATED FIRE DANGER RATING (FDR)

Source: AFDRS v. 2022_6

FDR	INDICATIVE BUSHFIRE BEHAVIOUR				
NO RATING	MAX FLAME HEIGHT <1 m	0-5	RATE OF SPREAD 0-30 m/hr	Fire difficult to ignite and sustain. Fires generally unlikely to spread and likely to self-extinguish.	SPOTTING POTENTIAL Potential for any spotting is very limited.
	<1.5 m	6-11	<13 km/hr	Fire easily sustained. Typically wind driven fires that can spread quickly.	Potential for spotting Potential for short distance spotting is limited.
MODERATE	1.5-2.5 m	12-23	0.5-6 km/hr	Typically wind driven and rapidly spreading fires with the potential to gain size quickly.	Possible short distance spotting occurring.
HIGH	2-3 m	24-49	2.5-10 km/hr	Wind driven, rapidly spreading fires with potential for development into large fire area/size and with the potential for short distance spotting and long flame lengths.	Short distance spotting occurring with increasing frequency.
EXTREME	2.5-3.5m	50-99	5-16 km/hr	Extremely rapid fire growth and increasing likelihood of large final fire area/size. Possibility for fire behaviour to become erratic and plume driven. Strong convective column formation. Wind speed and direction likely to be erratic at times.	Likely short distance spotting occurring with increasing frequency.
CATASTROPHIC	>3m	100+	>8 km/hr can be expected, possibly >16 km/hr	Extremely rapid fire growth and high likelihood of large final fire area/size. Possibility for fire behaviour to become erratic and plume driven. Strong convective column formation. Wind speed and direction likely to be erratic at times.	Likely short distance spotting occurring with increasing frequency.

APPENDIX 6: LANDSCAPING DESIGN & CONSTRUCTION PRINCIPLES TO APPLY

Where initial or renovation landscaping of grounds surrounding the facility/premises is being conducted, apply the directions and principles of the following measures to the greatest extent possible.

For additional guidance, refer to:

- The *Guidelines for Planning in Bushfire Prone Areas within the Explanatory Notes for Element 2 of the Bushfire Protection Criteria and Schedule 1: Standards for Asset Protection Zones (WAPC 2021)*; and
- The DFES 'Bushfire Preparation Toolkit' publication. Website: publications.dfes.wa.gov.au/?hazard=Bushfire

Use of Non-Vegetated Areas and/or Public Open Space:

Reduce the exposure of the facility/premises to the direct and indirect threats of bushfire by incorporating low threat uses of land adjoining the facility/premises and/or the bushfire hazard. These uses create robust and easier managed asset protection zones and include:

- Non-vegetated areas e.g. footpaths, paved areas, roads, driveways, parking, drainage, swimming pools;
- Formally managed areas of vegetation (public open space and other recreation areas), including irrigated areas; and
- Services installed in a common section of non-vegetated land.

Landscaping – Non-Combustible Construction: Ensure non-combustible materials are used for fencing and any other landscaping construction, including retaining walls.

Landscaping – Tree and Plant Species Selection

Utilise trees and plants with characteristics that are more resistant to burning. Refer to *Guidelines for Planning in Bushfire Prone Areas, Appendix 4 'Explanatory Notes E2: Plant Flammability' (WAPC 2021)* for initial guidance.

Avoid planting trees with ribbon or stringy barks (ember/firebrand production). Preference for smooth bark.

Landscaping – Tree and Plant Separation from the Facility/Premises (Location):

Trees (greater than 6 metres in height): Minimise the potential for tree strike damage (falling or blown) to the facility/premises (allowing flame, radiant heat and ember entry to internal spaces), and debris accumulation on, in and around the facility/premise. Principles to apply are:

- Ideally trees will be separated from buildings/structures by a distance of at least 1.5 times the height of the tallest tree;
- As a minimum, trunks at maturity should be at least 6 metres from all elevations of the building, branches at maturity should not touch or overhang a building or powerlines. Mature tree canopies should be separated at least 5m with total canopy cover not exceeding 15% and not connected to tree canopy outside the APZ;
- Species of trees that produce significant quantities of debris (fine fuels) during the bushfire season should be located a sufficient distance away from vulnerable exposed elements to ensure debris cannot drop and accumulate within at least 4m of buildings/structures or be likely to be relocated by wind to closer than 4m to buildings / structures.

Shrubs and scrub (0.5 metres to 6 metres in height):

- Should not be located under trees or within 3 metres of buildings;
- Should not be planted in clumps greater than 5m² in area;

- Clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres (unless they can be classified as low flammability plants); and
- Shrubs greater than 6 metres in height are to be treated as trees.

Ground covers (less than 0.5 metres in height):

- Can be planted under trees but and no closer than two metres from a structure but 3 metres from doors or windows if greater than 100 mm in height; and
- Ground covers greater than 0.5 metres in height are to be treated as shrubs.

Grass: Where possible utilise irrigated perennial species.

Mulches should be non-combustible e.g., stone, gravel and crushed rock. Where wood mulch is used it should be greater than 6mm in thickness.

Separation Between the Facility/Premises and the Consequential Fire Fuels of Stored Flammable Products (Fuels / Other Hazardous Materials):

If applicable. establish sufficient separation distance between the consequential fire fuels and the facility/premises. The required separation distance will be dependent on the fuel and storage type and will need to be determined.

Separation Between the Facility/Premises and the Consequential Fire Fuels of Stored and Constructed Combustible Items:

These consequential fire fuels include:

- Stored Combustible Items - Heavy Fuels (greater than 6mm diameter) e.g. building materials, packaging materials, firewood, branches, sporting/playground equipment, outdoor furniture, garbage bins etc:
- Stored Combustible Items – Large Heavy Fuels e.g. vehicles, caravans, boats, trailers and large quantities of dead vegetation materials stored as part of site use.
- Constructed Combustible Items – Heavy Fuels e.g. landscaping structures including fences, screens, walls, plastic water tanks.
- Constructed Combustible Items – Large Heavy Fuels e.g. adjacent buildings/structures including houses, sheds, garages, carports. (Note: If the adjacent structure is constructed to BAL-29 requirements or greater and can implement a significant number of additional bushfire protection measures associated with reducing exposure and vulnerability, these minimum separation distances could be reduced by 30%).

Apply the rule of thumb “assume flames produced from a consequential fire source will be twice as high as the object itself ... where the consequential fire source is a structure, then the maximum eave height is a reasonable measure of maximum height”.

Apply the following separation distances from the subject building/structure as a multiple of the height of the consequential fire source and dependent on the bushfire construction standard applied to the building/structure:

- At least six times the height when the facility/premises construction incorporates design and materials that is only intended to resist low levels of radiant heat up to 12.5 kW/m² and no flame contact (BAL-12.5);
- Between 4 and 6 six times the height when the facility/premises construction incorporates design and materials intended to resist radiant heat up to 29 kW/m² and no flame contact (BAL-29).
- Between 2 and 4 times the height when the facility/premises construction incorporates design and materials intended to resist up to 40kW/m² and potential flame contact (BAL-40).
- Less than 2 times the height when the facility/premises construction incorporates design and materials intended to resist extreme levels of radiant heat and flame contact (BAL-FZ).

- Zero separation distance is required if the facility/premises is separated by a non-combustible FRL 60/60/60 rated wall, or the potential consequential fire source is fully enclosed by the facility/premises.

- Constructed Barriers to Shield Facility/Premises from Bushfire:** Where applicable, install walls, fences and/or landforms to shield the facility/premises (or any identified consequential fire fuels – refer to previous item) from direct and indirect bushfire attack mechanisms and reduce the potential impact of these threats.

These barriers should be constructed using appropriate fire resistant / non-combustible construction materials (e.g. masonry, steel, earthworks). These are to withstand the impact of direct bushfire attack mechanisms for the required period.

- Constructed Barriers to Shield Facility/Premises from Consequential Fire:** Applicable to all identified consequential fire fuel sources. Install a non-combustible barrier (including complete enclosure when appropriate), of required robustness, that will reduce the exposure of the facility/premises to the threats of consequential fire.

- Planted Vegetation Barrier to Shield Facility/Premises:** Use appropriate species (lower flammability) of hedges and trees strategically to reduce the facility/premises exposure to radiant heat, to filter/trap embers and firebrands, and to lower wind speeds (prevailing synoptic and/or fire driven).

- Shield Non-Structural Essential Elements:** These are vulnerable elements essential to the continued operation of the facility/premises which are potentially exposed to the fire attack mechanisms of both bushfire and consequential fire. They include electricity cabling and water plumbing and also applies to any installed firefighting equipment / water storage.

When the use of fire rated materials to the degree necessary is not possible or practical, the application of non-combustible shielding can be applied to reduce exposure to the bushfire threats. Shielding includes underground installation.

- Constructed Barrier to Shield Persons on Pathways to Safer Onsite Area/Building:** Where possible, alongside the relevant pathways, utilise walls / fences / landforms as shielding structures constructed using fire resistant / non-combustible construction materials (e.g. masonry, steel, earthworks).

These are to withstand the impact of direct bushfire attack mechanisms for the required period and provide the required reduction in threat levels to persons (including firefighters) traversing the pathway.