BUSH FIRE EMERGENCY MANAGEMENT AND OPERATIONS PLAN

Hume Highway, Holbrook, 2644

RING

'000'

for all emergencies

BRONZE MEMBER
Fire Protection Association Australia

BPAD Bushfire Planning & Design
Accredited Practitioner Level 3

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Title	Bush Fire Emergency Management and Evacuation Plan			
Description	Distribution Battery Energy Storage System-BESS Hume Highway, Holbrook, 2644			
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1	SJ	Draft	19/02/2023	Completed
2	DSL	Final	23/02/2023	Completed
3	DSL	Update final plans	06/03/2024	Completed

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GLOSSARY AND ACRONYMS

Table 1 Glossary and Acronyms

Term	Meaning
Assembly Area / Point	The designated place or places where people assemble during an evacuation.
Asset Protection Zone (APZ)	Area between the bush fire threat (vegetation) and the asset (humans or buildings) that is managed to reduce vegetation, bush fire ignition and propagation.
Bush Fire	A general term used to describe fire in vegetation, includes grass fire.
District Emergency Management Officer (DEMO)	For emergency management purposes, NSW is divided into emergency management districts. Each Emergency Management District has a District Emergency Management Committee. The Committee is chaired by the District Emergency Operations Controller (DEOCON), supported by the District Emergency Management Officer (DEMO). The DEMO is also responsible for assisting local committees and communities within the relevant District on emergency management matters.
Emergency	An event that arises internally, or from external sources, which may adversely affect the occupants or visitors in a facility, and which requires an immediate response.
Emergency Planning Committee (EPC)	Persons responsible for the documentation and maintenance of an emergency plan.
Emergency Control Organisation (ECO)	Group of people responsible for planning and implementation of emergency management arrangements.
Emergency Management Plan (EMP)	Planning document that sets out the procedural elements of emergency management for a site.
Emergency Warning System (EWS)	A system of alarms and alerts to trigger emergency response.
Emergency warning and intercommunication system (EWI)	A combined emergency warning and intercommunication system that facilitates both way communications and control during an emergency.
Evacuation	The orderly movement of people from a place of danger.
FDI	A quantitative number (zero to 100) that predicts the chance of a fire starting, its rate of spread, its intensity, and the difficulty of its suppression. Higher the number the more intense and speed of the wildfire.
Local Emergency Management Officer (LEMO)	The State is divided into Local Government areas with a Local Emergency Management Committee for each area. This Committee is chaired by a senior representative of the council and is supported by a Council appointed Local Emergency Management Officer (LEMO).
Neighbourhood Safer Place (NSP)	A location of last resort providing a greater chance of survival for human life during the onset and passage of a bush fire.
Occupant	A person attending a facility on a permanent or temporary basis, such as an employee, contractor, student or resident, but not a visitor.
On-site refuge	A building within the premises that can accommodate the people that will shelter. The place is not under threat from a bush fire.
Off-site refuge	A venue at another location some distance away that can accommodate all the people being evacuated. The place is not under threat from a bush fire.
Off-site evacuation point	A venue at another location some distance away that can accommodate all the people being evacuated. The place is not under threat from a bushfire.
Relocation	Movement of persons and/or organisations to an alternate area.
Sheltering	Procedures for a relevant situation where the safest course of action is to remain in a building or location.
Support needs	People with physical, intellectual, visual, or auditory disabilities or impairments, either temporary or permanent who require support. It also includes aged persons and juveniles who are dependent on others for their care and wellbeing.

EMERGENCY CONTACTS

The facilities Emergency Management Plan identified the Incident management team, wardens and chief wardens as well as other key stakeholders for emergency management response.

This list forms a sub list to the key stakeholder contacts within the facilities Emergency Management Plan and is specific to bush fire emergency management and evacuation.

Table 2 Site Contacts

Name / Organisation	Position / Office	Contact	Responsibility
Emergency	General emergency number	000	General emergency
NSW Rural Fire Service	Head Office	1800 679 737 **1800 NSW RFS**	Emergency Management
Site manager			
Albury Lakes Police Station	Duty Officer	02 6023 9299	Facility evacuation, post incident security
Local Rural Fire Control Centre (Albury)	Operations Officer	02 6033 4550	Facility evacuation, wildfire suppression, post incident recovery
Albury NSW Fire and Rescue	Duty Officer	02 6043 8603	Facility evacuation, wildfire suppression, post incident recovery
NSW SES	Operations Officer	132 500	Post incident recovery
Ambulance	Operations Officer	000	Treatment of Vulnerable people
Health Direct	Nurse	1800 022 222	Treatment of Vulnerable people
Department of Community Services	Case worker	02 4983 4300	Post incident recovery
Lifeline	Operations Officer	13 11 14	Port incident recovery
Energy industry contacts			
Contractors			

1 PLAN AUTHORISATION AND REVIEW

Responsibility for enacting, testing and implementing the document rests with Chief warden. This document does not include evacuation arrangements for specific hazards (e.g., floods, storm, active shooter, internal structure fire etc) which are contained within individual plans and site specific policies.

This document is to be reviewed through consultation with stakeholders affected by this document:

- No less than every three years.
- Following an emergency resulting in significant evacuations.

The Chief warden is responsible for authorisation of the plan and review as per **Table 1**. The Plan is to be reviewed and signed by 1 August in each year, prior to the start of the Bushfire Danger Period on 1 October.

Table 3 Plan Authorisation and Review

	Name	Signature	Date
2021 Authorised by			

The Chief warden is responsible to ensure a copy is available to visitors and for distributing a current 'Evacuation Plan' in August each year to:

- Staff at the facility.
- Local Emergency Management Committee (LEMC through Council).
- Other appropriate authorities. (e.g., NSW Rural Fire Services, NSW Police, Fire and Rescue NSW).

2 THE SUBJECT SITE

BEMC Pty Ltd was engaged by ACEnergy to complete a Bush Fire Emergency Management and Operations Plan for the Battery Energy Storage System (BESS) facility at Hume Highway, Holbrook. The Bushfire Emergency Management and Operations Plan has been designed to assist facility management to protect life in the event of a bushfire.

At risk developments, such as this lifestyle parks require a greater degree of planning and coordination to ensure the facility is protected from a wildfire event and does not contribute to wildfire ignition and spread.

This Bush Fire Emergency Management and Evacuation Plan has been prepared in accordance with:

- NSW RFS document: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan.*
- *Australian Standard AS 3745:2010 Planning for emergencies in facilities*.
- *NSW RFS Facility Program Guide*
- *FM Global Data sheets*

The structure of this report is divided into three parts:

1. Bush fire introductory (awareness).
2. Bush fire emergency management (planning and preparation).
3. Bush fire evacuation and operation plan (response and recovery).

The plan is concise and succinct to allow the reader to absorb the salient elements and focus on the operational practicality of the emergency arrangements.

2.1 OBJECTIVES OF BUSHFIRE EMERGENCY MANAGEMENT AND EVACUATION PLAN

The aim of this document is to inform and enhance emergency management arrangements during forecast bad fire weather and provide for evacuations during actual and or forecast bushfires. This document will also identify the operations that may be carried out on days of Total Fire Ban and any prohibited activities or exemptions that are notified by the Commissioner of the NSW RFS under the *Rural Fires Act s.99*. and requirements to notification of the local NSW RFS Fire Control.

This Bush Fire Emergency Management and Operations Plan is developed to meet the bushfire planning requirements NSW Rural Fire Service, Planning for Bushfire Protection 2019 with two elements.

1. In detailing the measures to prevent and mitigate, a series of strategies will be established to protect the facility and neighbouring landowners from a bushfire ignition off and on the site. This includes:
   - Igniting management and prevention.
   - Strategies to reduce ignition.
   - Strategies to suppress unplanned fires.
   - Strategies to minimise potential spread of bushfires.
   - Bushfire Mitigation treatments.
   - Appropriate woks programming on fire danger days.

2. To establish Bush fire ongoing operations and emergency management procedures in the event of a bush fire, the following objectives are determined:
   - Ongoing operational requirements to maintain bushfire protection measures.
   - Notification procedures and Key Stakeholders.
   - Decision triggers for shelter-in-place and evacuation.

Specific building evacuations for internal structure fires are not within the scope of this Plan. A separate Fire Engineering Report sets out the evacuation procedure from an internal fire which complies with the NCC & BCA requirements.

2.2 SITE CHARACTERISTICS

This plan is for electrical components include 10 battery containers <5MW; an MPVS and high voltage switchgear and Ancillary electrical sub-transmission lines to connect the BESS to the existing powerlines. The key project infrastructure includes new driveway to a gated entry to the BESS, Security fencing and landscaping around the BESS.

The project will be designed to provide grid flexibility services and will support the efficiency of the electrical network by charging from the grid during periods of low demand and discharging back to the grid during periods of higher demand. It would also have the capacity to charge or discharge when power system services are required to maintain the stability of the broader electricity grid. The BESS strengthens the power network by providing greater flexibility in grid management.

Table 4 Site Characteristics

Element	Comment
Name of Facility	Holbrook BESS
Address	Hume Highway, Holbrook
Latitude / Longitude (oval)	-35.75 / 147.29
Location Description	Approximately 5km south by road from Holbrook Village
Hours of Operation	24 hours
Number of staff	Maximum number 6
Overnight accommodation	No
Year of Construction	Current
Size of Land	0.5ha
Wildfire perimeter	300m

2.3 EMERGENCY MANAGEMENT SYSTEM

The site has not developed site emergency management systems.

2.4 TRAFFIC ISSUES

Facilities are particularly prone to traffic-generated congestion on roads at start and finish times. This facility will not have high occupation (maybe 2 or 3 vehicles) and traffic congestion will not be an issue for this site.

Research completed by Aaron Tomlins *The Traffic Impacts of Short Notice Bushfire Evacuations in Australia (UNSW, 2019)* illustrated the use of microsimulation methodology when identifying bushfire behaviour, evacuation zones, do-nothing approach, pinch-points, give-way intersections, traffic light signalling, driver behaviour, theoretical traffic demand, departure profile, route choice and performance metrics. This research illustrated that without human intervention to support traffic management during short notice evacuation (Police or Road services managing traffic) the most effective mechanism to facilitate traffic evacuation is the increase in signalling time at near-by traffic lights. It is beyond the scope of the report, although, site management should approach the NSW Roads and Waterways to discuss the mechanisms they will apply during an emergency to facilitate evacuation of the facility/precinct during a bushfire.

2.5 Additional Uses

Land management contractors, such as vegetation, fencing and trail maintenance contractors are considered external operators and additional uses. This Bushfire Management and Emergency Evacuation Plan extends to the approved additional users.

The person with authority relating to the additional uses within the facility is ultimately responsible for enacting the Evacuation Plan. The person with authority will perform the role as designated throughout this document as the *Chief Warden*. The "facility" definition includes all associated uses including additional users.

Where the *Chief Warden* has decided to enact aspects of this Plan, it shall apply to all uses, both internal and external for the day that the action is implemented. If the facility is temporarily closed due to bushfire considerations, all ancillary operations will be cancelled.

2.6 Vulnerable People

This section identifies the vulnerable people within the facility that will require specific attention during a wildfire event. Operational planning is required to consider worst-case scenario and what primary actions will be undertaken in the event of a wildfire to support vulnerable people. Occupants can be considered vulnerable through age, health, and limited awareness of these surroundings.

Due to the type of facility, it is unlikely any staff/visitors will be considered vulnerable.

Table 5 Vulnerable people list

Name and contact	Organisation	Condition and assistance required

3 BUSH FIRE ANALYSIS

3.1 BUSHFIRE RISK

Bushfire is a normal part of Australia's natural environment, particularly in eucalypt forests. However, the frequency and intensity of bushfires varies throughout the landscape and seasons. Bushfires are a common occurrence during drier parts of the year.

Climate change is expected to bring longer bushfire seasons to parts of Australia, an increasing number of extreme fire weather days, and increasing fire intensity.

Bushfires of low or moderate intensity often pose little threat to life, property, and community assets, but the potential for changes in wind direction can be a significant hazard. However, bushfires that burn in heavy fuels, steep terrain or on hot, dry, and windy days often spread rapidly, crown in forests, produce powerful convection columns and create extensive spot fires ahead of the fire front, often making their control impossible until weather conditions moderate.

As the fire danger reaches "extreme', bushfires are often described as firestorms and become impossible to control. When the fire danger reaches 'Catastrophic", the risk of serious injury or death to people in the path of a bushfire increases significantly, and many properties and other community infrastructure can become difficult or impossible to defend.

The intensity of a bushfire, which largely determines how much damage it will do, is a product of the fuels burning (quantity, arrangement, size, moisture content), the weather at the time (temperature, wind speed and direction, relative humidity, atmospheric stability) and the topography of the land where the fire is burning (slope and aspect).

Vulnerability to bushfire risk is a combination of the physical location of the persons under threat and the understanding and ability that person has that enables them to deal with the risk. It is the position of Australian fire agencies that the safest action to protect life is for people to be away from the bushfire or threat of bushfire as early as possible.

The risk of wildfires was assessed and considers bush fire threat from all direction surrounding the site which determined a moderate risk of wildfires impacting on the site, with the most likely being a fast-moving grass fire during extended periods of drought, with the principal bush fire attack mechanisms being radiant heat and short-range ember attack.

Figure 1 illustrates the potential wildfire runs towards the site.

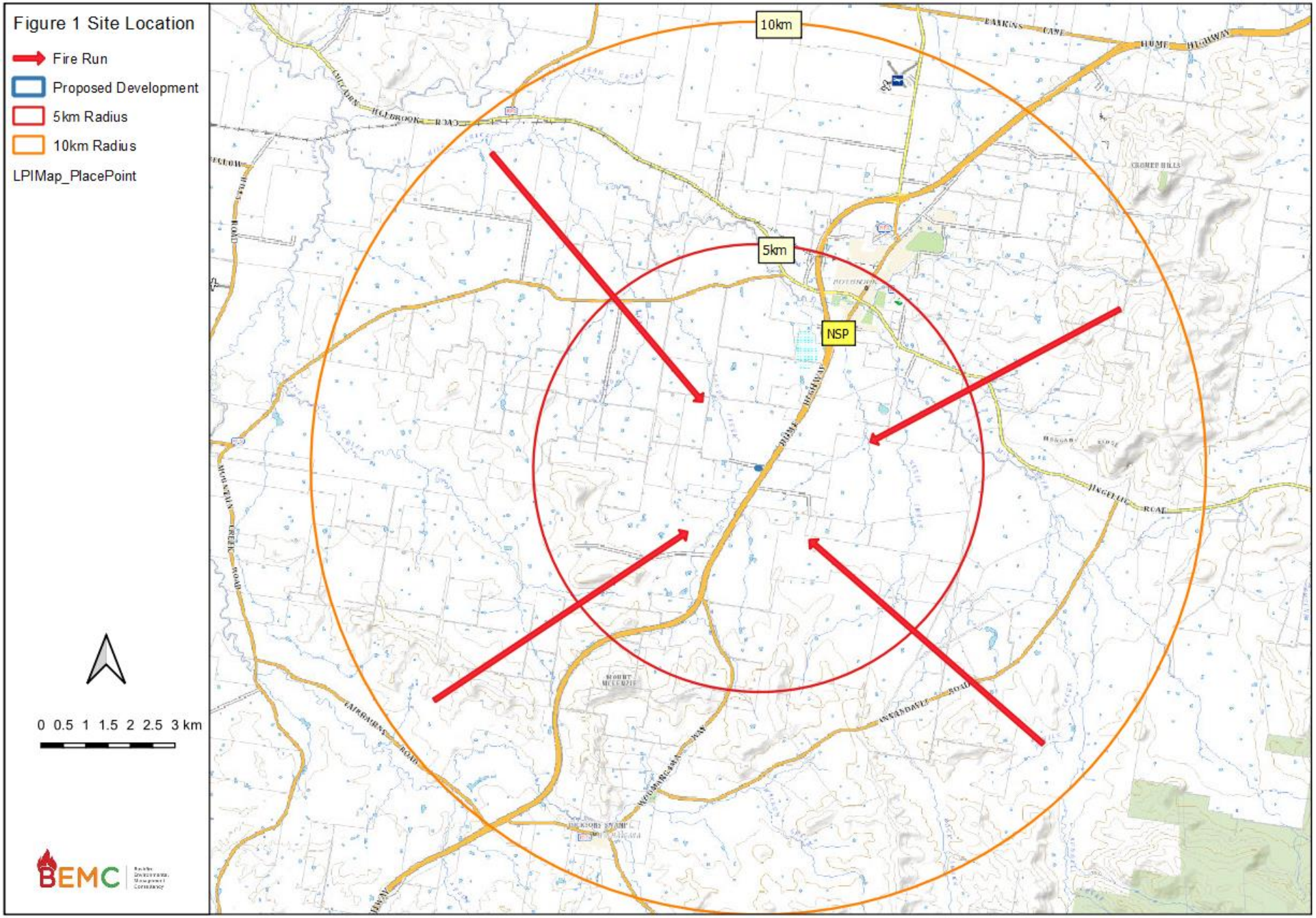


Figure 1 Site Location
Fire Run
Proposed Development
5km Radius
10km Radius
LPIMap_PlacePoint
10km
5km
NSP
0 0.5 1 1.5 2 2.5 3 km
BEMC

3.2 Fire Danger Ratings

The chief warden objective of the new Australian Fire Danger Rating System (AFDRS) is to implement a more accurate and nationally consistent system that will enable improved decision-making by response agencies and industry and provoke the desired community response to messaging in order to improve public safety. More information at https://www.rfs.nsw.gov.au/news-and-media/newfdr and eLearning at https://www.afac.com.au/initiative/afdrs/afdrs-training .

The AFDRS uses the latest scientific understanding about weather, fuel and how fire behaves in different types of vegetation to improve the reliability of fire danger forecasts. This strengthens the ability of those working in emergency services to be better prepared, make improved decisions, and provide better advice to the community.

It is aimed at a simplified, action-oriented Fire Danger Rating System.

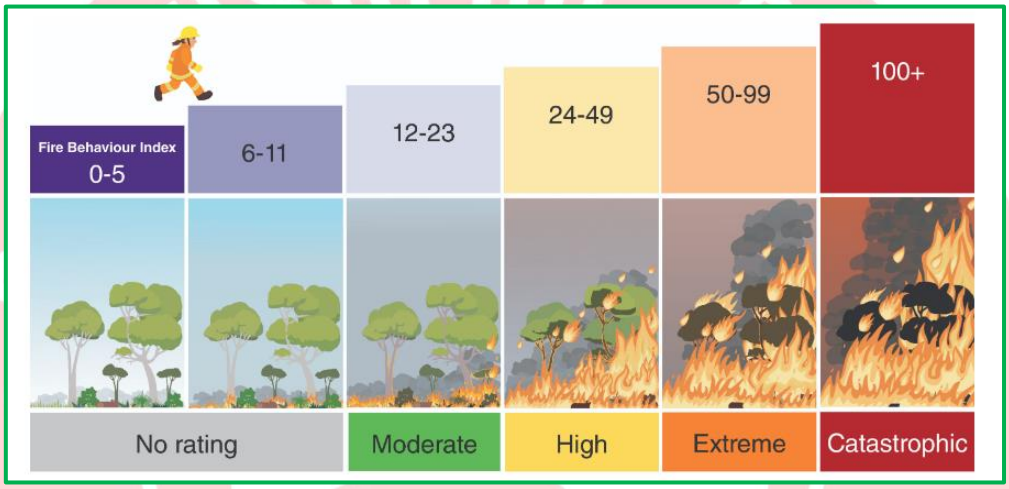


Figure 2 Accessed from AFAC: https://www.afac.com.au/initiative/afdrs/afdrs-faqs

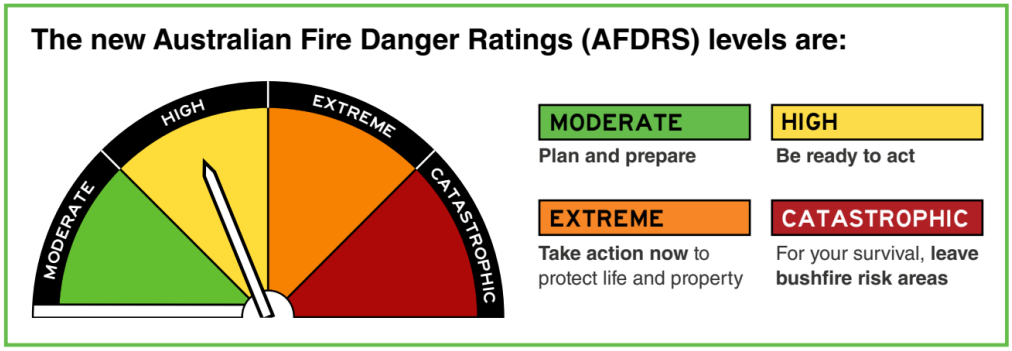


Figure 3 Accessed from AFAC: https://www.afac.com.au/initiative/afdrs/afdrs-faqs

MODERATE: *Plan and Prepare* - Have a plan and be ready to act if a fire starts.

HIGH: *Be ready to act* - Be alert for fires in your area and be ready to leave or be ready to defend.

EXTREME: *Take action* - Act before a fire starts

CATASTROPHIC: *Leave high risk areas* - Protect your life, leave early.

3.3 Total Fire Ban and Extreme Fire Weather

A Total Fire Ban (TOBAN) is:

- A day of elevated bushfire danger potential.
- Declared by the RFS on days when fires are likely to spread rapidly and will be difficult to control.
- Fire Danger Ratings are updated twice daily by the RFS at 6.00am and 4pm.

Total Fire Bans are normally declared by 5pm on the day before a ban but can be declared or revoked at any time. Always check the RFS web page for latest information at:

http://www.rfs.nsw.gov.au/fire-information/fdr-and-tobans

Given the remote location of the facility and the single accessway into and out, the facility may consider closing when a Total Fire Ban has been declared by the Commissioner of the NSW Rural Fire Service.

The *Chief Warden* may choose to temporarily cease on-site operations (see section 6 of this report) due to an emergency or potential emergency or based on advice issued by fire agencies.

3.4 Bushfire Alert Levels

During a bush fire, Alert Levels are used to give an indication of the level of threat from a fire.

Don't wait for a warning. Some fires start and spread so quickly there may not be any time for a warning. If you get a Bush Fire Alert, you must take it seriously. Failure to take action can result in death or injury.

It is noted that in response to Recommendation 3, in October 2017, the Commissioner's and Chief Officers' Strategic Committee (CCOSC) committed to a consistent 3-level national warnings framework across all states and territories and multiple hazards. In February 2018, the Warnings Group established a project plan, '*Towards a National Warning Framework'*. Following consultation with the states and territories, the project plan was endorsed by CCOSC in May 2018. New hazard icons for bushfire were implemented in December 2020 for all states and territories except Western Australia and the Northern Territory. There are three levels of Bush Fire Alerts as illustrated within A. Clark (2021) Australian Warning System, *Australian Journal of Emergency Management.* pp 11-12.

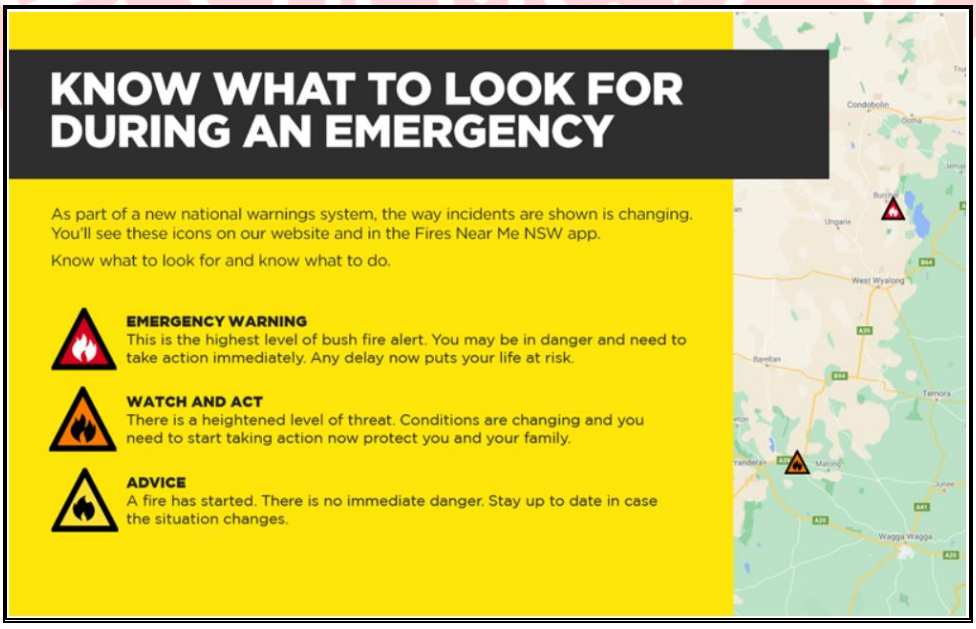


Figure 4 Bushfire Alert Levels (Clark 2021)

3.5 Catastrophic Fire Danger Rating

Accessing the weather forecasts provided below, enables the facility to undertake initial preparation should a Catastrophic Fire Danger Rating be issued, requiring them to modify operations on relevant days. The type of operational modifications is provided in **Table 7. page 23** of this report.

http://www.rfs.nsw.gov.au/fire-information/fdr-and-tobans

3.6 Vulnerable Developments

In NSW, facilities are identified as Special Fire Protection Purpose (SFPP) development under *section 100B of the Rural Fires Act, 1997.* Occupants of SFPP developments require special care and are considered vulnerable uses.

The nature of SFPPs means that occupants may be more vulnerable to bushfire attack for one or more of the following reasons (Planning for Bushfire Protection 2019 p. 50):

- They may be less aware in relation to bush fire impacts.
- They may have reduced capacity to evaluate risk and respond adequately to the bush fire threat.
- They may present operational difficulties for evacuation and or management.
- They may be more vulnerable to stress and anxiety arising from bush fire threat and smoke.
- There may be significant communication barriers.
- Supervision during a bush fire may be difficult; and
- They may be unfamiliar with the area.

Vulnerable occupants within facilities and those who care for them, are likely to need more time, resources, support, and assistance to take the appropriate actions and or to evacuate safely.

3.7 Emergency Management Planning

3.7.1 Emergency Control Organisation

In accordance with *Australian Standard AS 3745-2010*, an Emergency Control Organisation (ECO) is to be established for the planning, preparation and implementation of the on-site evacuation and emergency procedures and may consist of specialist providers with the following skills:

- Physical capability to perform the duties required.
- Strong leadership qualities.
- Maturity of judgement, good decision-making skills and capability to remain calm under pressure.
- Sound knowledge of the local area.
- Ability to be on site during the fire danger period; and
- Ability to complete the required training.

The ECO does not have a 'statutory standing'. It is to follow any instructions or advice from authorised Emergency Service personnel related to evacuation. Each person in the ECO shall have clearly defined duties and responsibilities. The Emergency Control Organisation (ECO) is a group of personnel who have been delegated the authority as '*Wardens'* to make decisions regarding the management of a response to an emergency.

The structure, activation, membership of the ECO is outlined below. During a wildfire event the ECO should establish an Incident Management Team (IMT) implementing an Incident Control System (ICS). Activation of an IMT for every emergency such be undertaken. It will be easier to establish your IMT and

scale down as required, rather than have too few people involved which may impact on your facility's ability to respond.

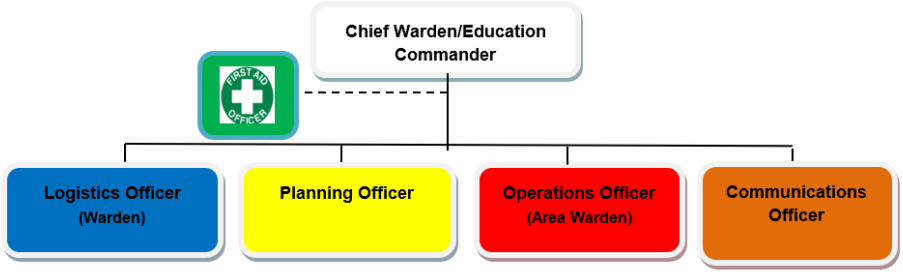


Figure 5 Simplified example of a IMS structure suitable to manage an wildfire incident

3.7.2 Planning Committee

The Emergency Planning Committee (EPC) is a consultative group comprised of a representation of those who may work, live or are occupants at the facility. The group normally consists of site and senior management that act as *Chief Wardens* and *Deputy Chief Wardens.*

3.7.3 Membership, Rols and Responsibilities of the Emergency Planning Committee

The EPC is responsible for the development, implementation, and maintenance of the EMP, emergency procedures and related training and exercise. The membership, roles and responsibilities of the EPC are detailed below.

3.7.4 Planning Committee Roles and Responsibilities

Implementation of the Evacuation Plan is the responsibility of the *Chief Warden* and ECO with assistance and support from staff, NSW RFS and Emergency Services when required.

The appointment of the *Deputy Chief Warden* is to ensure continuity of the *Chief Warden's* functions during absences. The selection of the Deputy should be consistent with the selection criteria for the *Chief Warden*. The deputy should be fully trained and prepared to take over the primary role of the Deputy *Chief Warden.*

The Chief Warden will ensure that:

- The evacuation plan is updated annually.
- All staff are made aware of the existence of the Evacuation and Operations Plan and the Evacuation procedures to be adopted in the event of an emergency. Yearly training is to be provided for all staff in the implementation of the Evacuation Plan.
- The 'Evacuation Procedure' and map are displayed in strategic locations (support building) throughout facility.
- Evacuation procedures are tested regularly. Evacuation Drills conducted once a year and recorded.
- Deficiencies in the Evacuation Plan/evacuation management systems are reviewed, and changes implemented to address these deficiencies.
- A copy of the current plan is distributed to the local emergency management committee and emergency services.

The *Chief Warden* is responsible for the following:

- Implementation of evacuation preparedness procedures.

- Management and overseeing of any evacuation; until relieved of this responsibility by the attending commanding officer of Emergency Services, or the Police.
- Notification emergency service when decisions are made to temporarily cease operations, evacuate, or shelter in place.
- Supervision of the ECO.
- Ensuring the ECO achieves its responsibilities.
- Liaising with Emergency Services and maintaining the Emergency Service contact lists.
- Maintaining and displaying a current list of contact telephone numbers (**Table 2, page 5**).
- Distributing a current 'Evacuation Plan' in August each year to the Local Emergency Management Committee (LEMC), the Local Emergency Management Officer (LEMO) and other appropriate authorities. (e.g., NSW Rural Fire Services, NSW Fire Brigade).
- Maintaining *Chief Warden* and *Deputy Chief Wardens* rosters.

The *Deputy Chief Warden* is responsible for the following:

- Assisting with the notification and implementation of the evacuation.
- Assisting the Emergency Service personnel on their arrival, unless otherwise directed.
- The *Deputy Chief Warden* will also be responsible for onsite evacuation and assembly areas, including setting up evacuee's registration system to check people into and out from Evacuation Areas.

3.8 Training, Annual Reviews, Exercise Schedules

This bush fire emergency plan forms a sub plan to the facilities existing Emergency Management Plans. All training and exercise schedules identified in the EMP are followed within this plan.

Evacuation procedures are tested regularly. Evacuation Drills conducted once a year and recorded.

Consider adding into staff induction packages the completion of the free online e-learning platforms available providing a well-rounded introduction to bushfire emergency management. At a minimum, each member of the EPC should undertake the training/refresher annually.
https://www.cfa.vic.gov.au/plan-prepare/your-local-area-info-and-advice/e-learning
https://elearning.mla.com.au/courses/bushfire-preparation/
https://elearning.mla.com.au/courses/bushfire-recovery/
http://elearning.aidr.org.au/

3.9 Post Fire Activities and Debriefings

The *Chief Warden* decides when to re-open the facility (or part thereof, if closed) in consultation with local emergency services, based on review and confirmation of the safety of the facility including:

- Confirm with NSW Fire and Rescue and associated energy providers/industry those utilities (water, electricity) are safe to use.
- The air quality is safe and does not rigger health issues in occupants.
- A qualified arborist should check impacted (burnt) trees within the facility to certify structural integrity and that they will not fail because of being impacted by fire. In some instances, areas can be marked as unsafe until specialist felling trees have made the area safe.
- All burnt areas and structures should be avoided until they have been checked for safety issues by a qualified person.

General housekeeping should include:

- Review buildings/structure integrity.

- Review tree integrity.
- Telecommunications/IT/equipment checks.
- Advise the facility and surrounding community of plans to recommence operations.
- Implement procedures to resume workplace activities including providing counselling and support to those affected by the incident.
- Review Emergency Management and replenish First Aid stocks.

Debriefing after the event is critical to identify lessons learnt and to tighten procedures that will facilitate a better activation in future. The aim of debriefing is to ensure that lessons learnt (both positive and negative) are applied for future bushfire events, not to lay blame on people for mistakes. Debriefing should be conducted by an independent third party and should include key stakeholders activated during the event.

- The debrief should consider (at minimum).
- Fire behaviour and impact on the facility and evacuation pathways.
- Activation procedures and trigger points.
- Communications.
- Implementation of the Evacuation Plan.
- Logistics.
- Performance of fire systems.
- Identification of training needs.
- Information that can enhance the lessons learnt.

Debriefings should include a discussion of:

1. What you set out to do.
2. What actually happened.
3. Why things happened the why they did.
4. What could be done better next time.
5. What lessons can be applied.

If the fire involved a critical incident, arrange for critical incident counselling through the NSW RFS.

Ensure injuries are recorded and reported.

4 BUSH FIRE EMERGENCY MANAGEMENT

The Bushfire Operations Plan (BOP) sets out the work and activities that will be undertaken within the site to prevent and mitigate bush fire events. Implementing the bushfire management works and activities listed in this plan is dependent upon the financial, human and equipment resources being available.

The facilities estate management plans and procedures should be updated with reference to this Bushfire Operations Plan.

If the implementation of bushfire management activities identified in this BOP are implemented with fewer resources than estimated, the balance of the resources will be allocated to implementing other high priority bushfire management activities not listed in this BOP after discussion with the Emergency Services Agency.

Fire management attempts to coerce fire into a desired regime using three primary strategies:

1. Hazard Reduction through mechanical (slashing) fuel reduction.
2. Fire suppression, and
3. Ignition management and prevention.

Hazard reduction and ignition management and prevention of fire outbreaks are the primary focus of fire control strategies within this document.

4.1 EMERGENCY MANAGEMENT PLANNING

Completing a bush fire survival plan as a family unit is an important step to ensure all family members are aware of the decisions and requirements during a bush fire event. This report will help inform the Bush fire survival plan which can be accessed at https://www.rfs.nsw.gov.au/resources/bush-fire-survival-plan

Assuming communications (mobile phones are not working) develop a notification process that informs neighbours and responding fire agencies that the property has been evacuated. This could be a non-combustible colour signal (star picket painted red) at the front gate when closed. Ensure this is communicated to neighbours and responding fire agencies.

4.1.1 Annual reviews, exercise schedules

Reviewing the passive bushfire protection measures annually prior to bushfire season and undertaking test exercise will assist the family in being aware of the tasks and action if a bush fire emergency developed. This will enable quick and appropriate action to be undertaken within a timely manner.

4.2 PRIMARY EMERGENCY MANAGEMENT ACTION

The primary emergency management action for the estate depends on the location of each of the residential development.

4.3 NSW RFS NEIGHBOURHOOD SAFER PLACE

Neighbourhood Safer Places are a place of last resort during a bush fire emergency. They are to be used when all other options in your bush fire survival plan can't be put into action safely.

NSP have limited capabilities and do not guarantee safety. People need to be aware of the following risks associated with NSPs as a Place of Last Resort:

- Travelling to an NSP is inherently dangerous due to the potential for traffic congestion, poor visibility, fire activity, traffic accidents or fallen trees that may block the route.
- People will need to use judgement and take appropriate action in regard to their personal safety while sheltering at an NSP.
- Sheltering at a NSP may result in physical and/or psychological trauma.
- People are likely to experience extreme conditions including heat, high winds, fire noise, embers, radiant heat, smoke, and ash while sheltering at an NSP.
- Access into a NSP may not be facilitated by emergency services and cannot be guaranteed; › Emergency services may not be present.
- There is no provision for pets.
- There will generally be limited parking. Large numbers of vehicles may further compromise what little protection the area affords.
- There may be limited capacity with no amenities (e.g., food, drink, toilets will not be provided).
- There may be little or no capacity to help people with special needs.
- There is likely to be no communication or first aid facilities at an NSP.

The performance criteria for NSP building are located and constructed to enhance the chance for survival for humans in attendance from the radiant heat of a bush fire. The acceptable solution for the performance criteria is building is situated to prevent direct flame contact, material ignition and radiant heat levels of 10kW/m^2; or provide 139 metres separation distance from a bush fire hazard.

The performance criteria for open space are located to enhance the chance for survival for humans in attendance from the radiant heat of a bush fire, The acceptable solution for the performance criteria is open space is situated and maintained to prevent direct flame contact, material ignition and radiant heat levels of 2kW/m^2; or provide 310 metres separation distance from a bush fire hazard.

Area between bush fire hazard and the site is maintained to a level that ensures the radiant heat levels at the BESS and support building meet the Performance Criteria for Radiant Heat. The site and land adjacent to the site between the BESS and support building and the bush fire hazard is managed land or maintained in accordance with NSW RFS document Standards for Asset Protection Zones.

There are no appropriate on-site NSP, although the RFS delegated NSP is an open space located at Bowler Street, Holbrook, approximately 6mins unobstructed drive travel time (5.2km by road) of the north on the site.

4.4 Preparation for Bush fires

The official Bushfire Danger Period generally starts on 1 October and extends through to the following April. However, the fires season has been starting earlier and finishing latter. During this period, bushfires can occur at any time.

5 BUSH FIRE OPERATIONAL PLANNING

Ensuring the bushfire operational planning is adequately completed will assist in emergency management.

5.1 STANDARD BUSH FIRE PROTECTION MEASURES

The standing bushfire protection measures should be continuously reviewed and implements to provide the buildings within the facility the best opportunity to withstand a bushfire event. These include:

- Construction standards to defend against ember attack, radiant heat, and flame contact.
- Adequate separation between the unmanaged vegetation and the built asset (referred to as Asset Protection Zones),
- Landscaping, gas, electricity supplies and vegetation features within the asset protection zone are critical and should be maintained to prevent ignition and fire spread within the curtilage (APZ) of the building.
- Access to water for firefighting purposes in a location that is accessible.
- Vehicle access is maintained clear and operational.

5.2 SMART HOME TECHNOLOGY

Establishing smart home technology can assist in activating bushfire protection measures when remote from the location. The assumption is that telecommunication equipment is functional to enable this process, which has been found to be unreliable during landscape fire events.

These systems can remotely engage water spray systems if established correctly. Each site is unique on its characteristics and specific systems by specialised service providers should be reviewed to ensure the technology id fit for purpose.

5.3 BUSH FIRE SURVIVAL KIT

A bushfire survival kit gives you easy access to things that will help save your life in a bushfire. Kept together in one place, the kit will save you time whether you're packing to leave.

The basic kits is:

- Portable battery-operated radio.
- Waterproof torch and head torch.
- Spare batteries.
- First aid kit with manual.
- Face masks, P2/N95-rated face masks can filter out the fine particles in smoke.
- Alcohol-based hand sanitiser.
- Manual can opener, cutlery, plates.
- Cooking equipment (e.g., portable stove, fuel, pots, pans).
- Detergent and chlorine bleach.
- Candles with waterproof matches.
- Woollen blankets.
- Emergency contact numbers.
- Waterproof bag for valuables.

If occupants are caught sheltering-on-site follow items will be appropriate:

- Firefighting Pants (AS 4824:2006)
- Wildfire Jacket (AS 4824:2006)
- Fire resistant shirt
- Gloves (AS 2161.6:2003 Type 1)
- Goggles (AS 1337:1992)
- Firefighting Helmet (AS 1801:1997 Type 3)
- Smoke Mask (AS 1716:2003 Class P2)
- Fire boots (minimum AS 4821:2014)
- Oxygen bottle and mask
- Drinking water (camel pack)
- UHF radios
- McLeod tool (Rack-hoe)

5.4 STRATEGIES TO REDUCE IGNITION

The key personnel responsible for reporting and monitoring fire hazards and for the prevention of fire are:

- All Employees and Contractors of the operator have a general duty of care to observe and report fire hazards within the site.
- The Facility Manager is responsible for overall monitoring of fire hazard within site.

The key to minimising fire ignition is to increase the awareness of the risks of ignition.

The NSW RFS Hume Bush Fire Risk Management reports the district has on average 50 bush fires per year, of which very few can be major fires.

The main sources of ignition in the Hume Zone BFMC area are:

- Escapes from legal burning off, lightning and equipment use remain the top three causes of bush fire in the zone. These are mainly confined to rural areas.
- Lightning activity in the Zone is mainly associated with late spring and summer thunderstorm activity, which is normally (but not always) accompanied by rainfall.
- Farm machinery activity early in the summer when cereal crops are being harvested often produce outbreaks of fire across the Zone. Many haystack fires have also been experienced in recent years that appear associated with the unusual rainfall pattern.
- Incendiarism continues as a trend and is most common in the grassland and forested areas adjacent to townships, particularly the suburbs of Albury. Areas of high incidence have been identified by the BFMC.
- The main Melbourne to Sydney railway line passes through the Zone and has been a known ignition source in the past decade.
- The Hume, Riverina and Olympic Highways pass through the Zone with several recorded ignitions occurring each year.

Table 6 documents the actions required concerning the identified ignition causes to help prevent fire ignition. These strategies are especially important during the fire season when weather patterns are conducive to the spread of fire.

Table 6 *Ignition Risk and Actions*

Ignition Risk	Actions
Deliberate / Arson	Promoting cooperative surveillance programs with fire agencies and community. Promoting staff, community education and awareness programs. Limiting public access during severe and catastrophic fire weather conditions. Cooperatively assist NSW Police and the Rural Fire Service to investigate all fires believed to have been deliberately lit.
Campfires	Promoting staff, community education and awareness programs.
Debris Burning	Ensure neighbours obtain appropriate permits to implement Debris burns.
Machinery use	Maintain high level of employee awareness (e.g., toolbox talks). Ensure adequate buffer zone between activities and fuel source. All hot work activities to have a spotter and a fire extinguisher within work zone when required. Hot works to be avoided during total fire bans or on FDR days of Very High or greater. Do not undertake mechanical clearing works on Extreme and Catastrophic fire danger days. Removal of some visual rocks before slashing. Avoid driving on/through long grass (vehicle exhaust systems are known to igniting grass fires).
Electrical & lightning	Liaise with electricity providers to ensure maintenance of powerlines. Further information visit https://www.electricitysafety.com.au/

5.5 STRATEGIES TO SUPPRESS UNPLANNED FIRES

Fire suppression actions start from the time the fire is detected until it is extinguished. The lifestyle facilities priorities in wildfire suppression operations are the safety of all staff and visitors; the effective protection of human life, facility, and community assets; reduces ignition potential on site to acceptable levels. On 'Total Fire Ban' days no vegetation management or hot works will be undertake unless notification and approved through s99 by NSW RFS is obtained. Only general maintenance works that do not require mechanical machinery that can create an ignition source will be permitted during 'Total Fire Ban' days.

Table 7 *Activities and Fire Behaviour ratings*

ELEMENT	NONE	MODERATE	HIGH	EXTREME	CATASTROPHIC
Preparedness for ignition	Assessing the required level of day-to-day preparedness by monitoring Fire Danger Indexes and synoptic conditions on a continuous basis throughout the fire season. Identifying pre-emptive incident management and ensure staff are aware of response procedures. Prior to each fire season an annual and biannual inspection of the fire management requirements.				
Response to ignition	No requirements for specific wildfire preparedness or suppression.	Plan and commence preparation for a wildfire. Check fire equipment.	Fire suppression equipment tested, water ready and ready to act.	Fire suppression equipment tested, water ready and ready to act. Monitor for ignition points, if fire growth	Leave bushfire risk areas.
Minimise hot works through appropriate work scheduling		If deemed appropriate. Hot works should be accompanied by a spotter and a fire extinguisher.	If deemed appropriate. Hot works should be accompanied by a spotter and a fire extinguisher.	No hot works	No hot works
Minimise vegetation maintenance activities through appropriate work scheduling		No requirements	If deemed appropriate. Vegetation management should be accompanied by a spotter and a fire extinguisher/ fire vehicle.	No vegetation maintenance activities.	No vegetation maintenance activities

5.6 STRATEGIES TO MINIMISE POTENTIAL SPREAD OF BUSHFIRES

A range of permanent, natural and point fire control advantages exist to minimise the potential for the spread of bush fires in and around the site. The following sections define the different advantages, their characteristics, and considerations.

Table 8 summarises the control advantages in and around the site. The Operator will ensure the facility effectiveness of fire control advantage infrastructure on site is maintained to minimise the potential for the spread of fires from or into and from the property. In general:

- Priorities the maintenance of Asset Protection Zones and vehicle access trails/roads.
- Maintain Assets Protection Zone to standards in accordance with NSW RFS, specifically management of the ground and shrub growth, and lower tree branches under the tree line for a minimum of 2m height, and
- Point advantages such as water availability and access locations are signposted and maintained.

Table 8 *Summary of Permanent Advantages*

Control Advantage	Type of Zone	Characteristics and Considerations
Asset Protection Zones	Permanent	Cleared areas immediately adjacent to built assets that provided an area of low flammable materials. Undertaken within the first month of fire season. Completed in accordance with NSW Rural Fire Service, Standards for Asset Protection Zones. NSW Rural Fire Service, Sydney.
Access roads and trails	Permanent	Roads, tracks and trails may be used as access ember ignitions. Fire crew safety and probability of success will be assessed against the ability to access along the road and trails.
Other Areas cleared of flammable materials	Permanent	Other cleared areas that act as advantages include roads and boundary cleared areas that will impede the progress of a fire.
Drainage lines and rivers	Natural	The effectiveness of drainage lines depends upon whether it is saturated or has a bed of sand or stones that will impede fire crossing rather than vegetation litter. Drainage lines are unlikely to contain high intensity fires under severe conditions due to the likelihood of ridge top spotting.
Recent (<3yr) fire history	Natural	Recently burnt areas can be used for containment. Their effectiveness is limited by their depth, the level of fuel reduction, the vegetation type, the recovery time for fuel loads, and the spotting distance of approaching fire.
Vehicle water points	Point	Vehicle based firefighting can draw water from numerous hydrants and hose reels within the facility.
Fire detection	Point	Early detection can also be gained from active patrolling during a wildfire event.

5.7 Bushfire Mitigation treatments and Schedule

The bush fire mitigation treatments are strategic in nature as they prioritise protection of life and property undertaken before the impact of bushfire on the site and completed at the commencement of the Bush Fire Danger Period. The chief warden elements of the Bushfire mitigation treatments are:

- Establishing and maintain landscape maintenance schedules.
- Making representations to the District BFMC.
- Implementation of the Bush fire Operations and Evacuation Plan, and
- Establishing a staff and visitors education program.

Table 9 *Bush fire Action statement*

Period	Trigger	Issue	Action	Responsibility
Preparation Prior to bushfire danger period	Planning requirement	Risk assessment and Response capacity	○Ensure Landscape and Vegetation Management Program has considered the application of Bushfire protection, namely Asset Protection Zones and vegetation screen management. ○Ensure Landscape and Vegetation Management Program have been completed prior to 1 October each year. ○Certification should be received prior to October that the work has been completed in accordance with RFS Standards for Asset Protection Zones to Inner Protection Zone standard. ○If Asset Protection Zones have not been maintained by October each year, liaise with facility manager regarding Asset Protection Zones maintenance. ○Communicate the facilities bushfire preparedness arrangements with staff and additional users including their responsibilities at staff/contractor meeting by September each year. ○Communicate the facility's bushfire preparedness arrangements with the surround landowners and any consent authorities as required by September each year. ○Review facilities contact list to communicate during emergency situations (includes communication regarding short-term operational requirements). ○Review and update the facilities Bushfire Emergency Management and Evacuation Plan and contact local rural fire brigades and NSW Fire and Rescue and undertake familiarisation of the facility and emergency procedures. ○Check bushfire emergency kit and equipment are available and operational (battery radio, mobile telephone) and test and verify fire protection systems (fire hydrants, fire extinguishers).	Facility Manager

			○Check operation of any built bushfire protection mechanism, such as bushfire shutters, water spray systems if provided. ○Provide updated contact details including a mobile number for emergency contact after operating hours to local Emergency Services and Police. ○Conduct practice fire evacuation drills. ○Contact off-site assembly area (where applicable). ○Make the Evacuation Plan available to all associated uses within the facility.	
Preparation During bushfire danger period	Planning requirement	Risk assessment and Response capacity	○Display the Emergency Management System information in prominent places throughout the facility (support building). ○Listening to the local radio station, TV and/or monitoring the NSW Rural Fire Service website at www.rfs.nsw.gov.au for information on bushfire activity or fire danger ratings. ○Knowing the Fire Danger Ratings for the area. ○Staying alert for warnings such as Bush Fire Alert Levels issued by the RFS. ○Watching for signs of fire, especially smoke or the smell of smoke ○Calling the RFS Bush fire Information Line on 1800 NSW RFS (1800 679 737). ○Downloading the free iPhone application from NSW Rural Fire Service – Fires Near Me NSW and keeping aware of fire in the vicinity of the facility. ○	Facility Manager

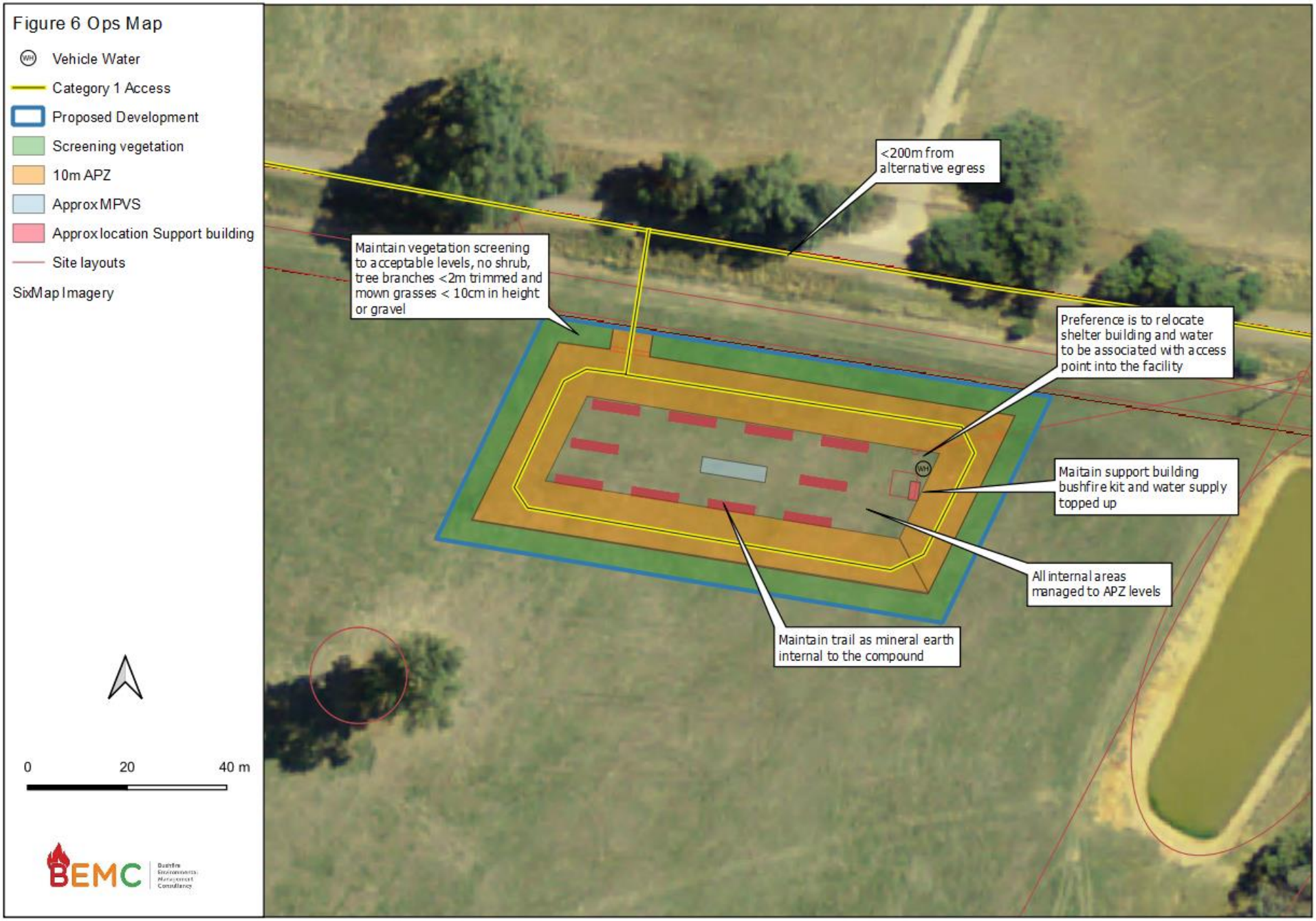


Figure 6 Ops Map
Vehicle Water
Category 1 Access
Proposed Development
Screening vegetation
10m APZ
Approx MPVS
Approx location Support building
Site layouts
SixMap Imagery
0
20
40 m
BEMC
<200m from alternative egress
Maintain vegetation screening to acceptable levels, no shrub, tree branches <2m trimmed and mown grasses < 10cm in height or gravel
Preference is to relocate shelter building and water to be associated with access point into the facility
Maitain support building bushfire kit and water supply topped up
All internal areas managed to APZ levels
Maintain trail as mineral earth internal to the compound

Observations or Situation	Bushfire Danger Period			
	MODERATE	HIGH	EXTREME	CATASTROPHIC
Out of control fire approaching the site 5-10km	➢ Normal operation ➢ Seek instruction from emergency services. ➢ Situational awareness	➢ Seek instruction from emergency services. ➢ Situational awareness ➢ Prepare for Evacuation	➢ Seek instruction from emergency services. ➢ Situational awareness ➢ Prepare for Evacuation	➢ Evacuation triggered if safe to do so. ➢ Seek instruction from emergency services
Out of control fire approaching the site 5km	➢ Normal operation ➢ Situational awareness ➢ Seek guidance from emergency services. ➢ Prepare for Evacuation	➢ Seek instruction from emergency services. ➢ Prepare for Evacuation	➢ Evacuation triggered if safe to do so ➢ Seek instruction from emergency services	➢ Evacuation triggered if safe to do so ➢ Maybe too late to evacuate – shelter-in-place ➢ Seek instruction from emergency services
Bushfires within region but not within Area of Concern	➢ Normal operation	➢ Situational awareness	➢ Situational awareness	➢ Seek instruction from emergency services ➢ Situational awareness
No fires	➢ Normal operation	➢ Situational awareness	➢ Situational awareness	➢ Situational awareness

Decreased Risk ← → **Increased Risk**

Figure 7 *Bush fire risk matrix*

6 BUSH FIRE EVACUATION PLAN

Procedures for both sheltering and evacuation should be developed, with one identified as the Primary Action to be followed during a bush fire. In this case, shelter-on-site is not a feasible emergency management options due to the lack of appropriately designed structure. Furthermore, the site will not be occupied, and people present on-site will be only for maintenance and operational requirements.

Evacuating early is always the safest option and emergency services may decide to evacuate areas for public safety. For this reason, procedures to evacuate are required to ensure the necessary planning and coordination arrangements are in place.

An important factor when planning for emergency procedures is that under intense conditions it is common for people to behave irrationally, and this may increase the time taken to move people.

6.1 EVACUATION PLAN ASSUMPTIONS

The plan is based on the premise that:

1. On Total Fire Ban days and above, the *Chief Warden* will determine the operations of the facility in line with local decision-making provisions.
2. On days of Total Fire Ban and above the NSW RFS will liaise with the *Chief Warden* should the need arise to evacuate or limit occupation.
3. Leaving a high-risk bushfire location is the safest action and evacuating before a bushfire threatens is always safer than remaining until a bushfire starts. Occupants leaving early and becomes increasingly appropriate with extreme and catastrophic Fire Danger Ratings.

6.2 TYPES OF EVACUATION

Evacuation is a risk management strategy that may be used to mitigate the effects of an emergency on a community. It involves the movement of people to a safer location and their return. The types of evacuation and alternatives to evacuation include:

Immediate Evacuation This results from a hazard impact that forces immediate action, thereby allowing little or no warning and limited preparation time.

Pre-Warned/Managed Evacuation This follows the receipt of sufficient and reliable information which prompts a decision to evacuate ahead of a potential hazard impact.

Self-Managed Evacuation/Relocation This is a spontaneous type of evacuation involving the self-initiated movement of people as individuals, families, or community groups. This may include circumstances where residents are advised to leave early ahead of dangerous conditions.

Shelter in Place Shelter in place should be considered as an alternative when the risk associated with evacuation is seen as being greater than that of sheltering in place or as an outcome of an immediate threat to individuals where evacuation cannot be initiated in a safe manner.

6.1 Evacuation Process

The evacuation process has been adopted from AFAC Australian Disaster Resilience – Evacuation Planning (2017). The decision to advise or direct evacuation should be considered whenever there is a potential need to move people to a safer place. This process should be constantly reviewed in changing circumstances.

The decision to evacuate people who are at immediate risk during an emergency is not always straightforward, as it is often based on incomplete or unverified information in a rapidly developing and dynamic situation. Timing of the decision is a significant factor.

The occupants must consider whether the lead warning times they have available to them permit a safe evacuation of a location threatened by bush fire. If sufficient time is available, then properly planned and executed evacuation is the most effective strategy. **Figure 8** shows the evacuation process.

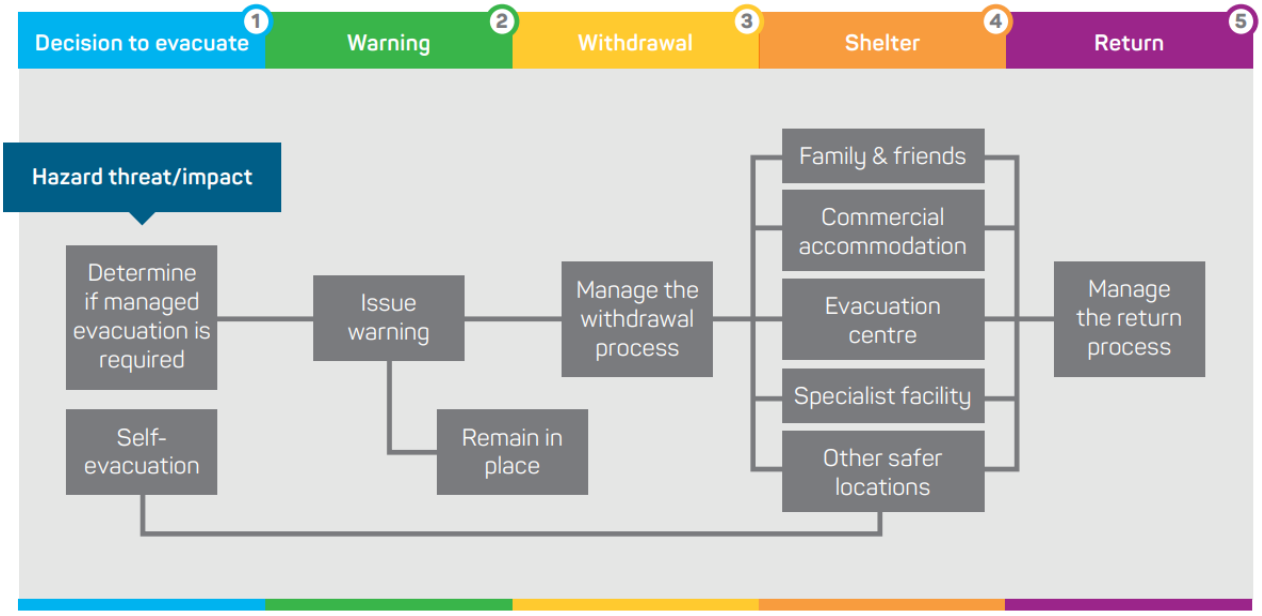


Figure 8 Evacuation Process (AFAC Australian Disaster Resilience – Evacuation Planning, 2017)

6.2 The Need for Early Action

The Evacuation Plan has been completed so it does not rely on the availability of emergency service personnel to undertake the evacuation. As such, the decision to evacuate must be undertaken confidently and without hesitation by the occupants. The occupants will require early advice and decisions to evacuate or close the property.

Early action can lead to family visiting family and friends in a lower bushfire threat area. Communicating this information amongst the family unit is essential to facilitate post-fire recovery and communications.

6.2.1 Pre-Emptive Closure

The lead time for a planned closure varies depending on weather patterns, but every attempt is made to give the facility and attending staff as much notice as possible to prepare and respond.

Once the decision that aspects of the facilities operations is to undertake, information needs to be disseminated quickly and clearly identifying the expectations of staff, occupants, and visitors.

Potentially, between declaration of the closure and the day of closure, weather conditions improve sufficiently to remove the need to close, and the facility can therefore stand down its pre-emptive closure plans. Triggers for these decisions need to be clear and concise.

Due to the location of the site, pre-emptive closure for the facility for non-emergency works during Extreme and Catastrophic FBI is considered a primary bushfire emergency management action.

6.3 DECISION TRIGGERS

Developing a clear set of triggers will increase the ability to react quickly and make decisions when a bush fire event occurs.

Figure 7, page 28, provides emergency considerations within a risk matrix and **Table 10, page 34** provides the triggers to guide management to make the decision to evacuate.

Awareness of triggers are determined by maintaining knowledge of Daily Fire Danger Categories and the predominant weather (specifically wind) conditions. It is essential that occupants maintain daily awareness of these categories to ensure they are informed and aware of trigger requirements.

6.4 AUTHORITY TO EVACUATE

Authority to evacuate can be directed by:

- NSW Police or Fire Authority (NSW Rural Fire Service or Fire and Rescue NSW).

NSW Agencies with legislated authority to order an evacuation are:

a) Combat Agencies with appropriate legislation; and
b) the NSW Police Force.

A Combat Agency generally issues an order to evacuate; consideration should be given to how affected people may respond to such an order. Police Officers generally enforce such orders.

NSW Police may issue an evacuation order under *Section 60L State Emergency & Rescue Management Act* 1989. A senior police officer may, if satisfied that there are reasonable grounds for doing so for the purpose of protecting persons from injury or death threatened by an actual or imminent emergency, direct, or authorise another police officer to direct, a person to do any or all the following once a danger area is declared:

a) to leave any premises and to move outside the danger area,
b) to take any children or adults present in any premises who are in the person's care and to move them outside the danger area,
c) not to enter the danger area. A 'danger area' means the areas specified by a senior police officer as the area affected by an emergency.

Fire & Rescue NSW under *Section 19 Fire Brigades Act* 1989 through the officer in charge at a fire or hazardous material incident may cause to be removed any person, vehicle, vessel, or thing the presence of whom or which at or near a fire or hazardous material incident might, in the officer's opinion, interfere with the work of any fire brigade or the exercise of any of the officer's functions.

NSW Rural Fire Service under *Section 22A Rural Fires Act* 1997 provides that an officer of a rural fire brigade or group of rural fire brigades may cause to be removed any person, vehicle, vessel or thing the presence of whom or which at or near a fire, incident or other emergency might, in the officer's opinion, interfere with the work of any rural fire brigade or the exercise of any of the officer's function.

6.5 EVACUATION

Facilities with evacuation as their Primary Action that have no shelter-on-site mechanisms will have clear and concise decision triggers for staff to follow. Pre-emptive site closures become more critical in these situations ensuring staff are not placed in any danger when they are required to consider shelter as a emergency response option.

Safe access arrangements for people to evacuate an area whilst emergency service personnel are accessing the same area to suppress a bush fire are essential. Alternative access/way out routes will also assist if part of the road system is cut by wildfire or wildfire related activities, such as fallen tree of firefighting appliances. Evacuation is by vehicle, relocating people to where they are safer and by a route that is relatively safe.

Evacuation involves relocating people to where they are safer and by a route that is relatively safe. The action taken is largely determined by the nature of the fire threat, the people involved and their location. Welfare of evacuees following evacuation is also an important consideration. Such procedures require careful and timely consideration of all factors. Every bushfire attack scenario will be different. The response to each must therefore be specific and include consideration of the following:

- Location of fire.
- Fire behaviour including.
- Rate and direction of spread.
- Ember affecting the area.
- Smoke affecting the area.
- Numbers of potential evacuees.
- Availability of access, and
- Transport.

In the event of a bushfire emergency, where external evacuation to a safe place outside the facility triggered all occupants within the facility are expected to the designated refuge area. The delegated refuge area is an open space located at Bowler Street, Holbrook, approximately 6mins unobstructed drive travel time (5.2km by road) of the north on the site.

6.5.1 Evacuation process considerations

Spread of bushfire front

Applying the thumb rules of bushfire rate of spread will provide an *indication* of the progress of the fire front. This assessment shall be confirmed when discussing evacuation with NSW RFS.

A base line progress of grassland fire is 20% of the wind speed /per hour. For example, wind velocities of 40km/hr may result in the fire front progressing 8km with 1 hr, and wind speed of 80km/hr may result in the fire front progressing 16km with 1 hr. There is a direct correlation between wind speed and the progression of the fire front. This is indicative and fire can spread much fast through long distance spotting, and it is not uncommon for a bushfire 10km away, under winds >60km/hr impact on a site in less than an hour.

Evacuation time

When considering the rate of spread, the It is essential to consider the progress of the fire on the site and the *entire evacuation route to the NSP*.

The delegated refuge area is an open space located at Bowler Street, Holbrook, approximately 6mins unobstructed drive travel time (5.2km by road) of the north on the site.

Depending on the location and spread of the fire, further evacuation options are available to the north or south, returning to the work depot or home base, under the authority of the *Chief Warden.*

Evacuation time is further compromised by low visibility (smoke), people panicking, or should a car accident, tree/power pole/line impeded access along the road. Furthermore, it is common for increased volumes of traffic as people are trying to use the road at a single period adding to congestion.

Practical commencement of evacuation

There are a range of time factors that inhibit the evacuation:

- Mechanisms to communicate that an evacuation has been confirmed.
- Occupants will generally request time to pack there belongs prior to evacuation, which may not possible. In most cases occupants are not prepared to evacuate.
- Transportation of personal items to vehicle is dependent on the location of the vehicle in consideration of the accommodation.
- Traffic congestion exiting the property to the public road system.

As such, the decision to evacuate must be undertaken confidently and without hesitation by management and communicated to occupants quickly and concisely.

6.6 SHELTER

Evacuating early is always the safest option although situations during emergency are very dynamic and fluid, and evacuation may not be available, and sheltering may be required.

Facilities with sheltering as their Primary Action will have evacuation procedures in case they can no longer shelter, or emergency services call for a pre-emptive evacuation due to catastrophic or extreme bush fire conditions. Shelter-on-site is not possible for this facility as no build structure is provided for shelter purposes.

This places more emphasis on the need to close the facility to non-emergency works during extreme and catastrophic fire danger days (postpone work to following days of lower FDI) and early evacuation procedures.

6.6.1 Shelter Occupancy

The support building is the last option refuge building. It is not designed to be a refuge building and should only be used in last resort situations.

6.7 RESPONSE BUSHFIRE ACTION STATEMENTS

Response Bush Fire Action Statements outline duties and actions required to be undertaken during and after a bush fire emergency, stating clearly who is to do what, and when. A trigger is a timeframe, scenario or some other factor that initiates an action.

Triggers are to be determined and aligned with the appropriate action. Factors to be considered in determining triggers include the decision to evacuate or shelter as this will influence the timeframe required for certain actions to be undertaken.

Table 10 *Bushfire Decision Triggers*

Bush fire threat				Bush fire specific arrangements and actions	Responsibility
Category	**Wind Direction**	**Confirmed Ignition**	**Bush fire threat**		
Total Fire Ban	Total Fire Ban is declared by the Commissioner of the NSW Rural Fire Service for the Sydney Basin weather district, the facility may be closed on the designated day of Total Fire Ban.				
Possible emergency	The Chief warden (or delegate), on becoming aware of a bushfire emergency, will take the following steps: • Ascertain the nature of the emergency or potential emergency situation and determine appropriate response using the Bushfire Decision Triggers below. • Contact Emergency Services for advice and support;				
Extreme and Catastrophic FBI > 50	All directions	No	Prepare for evacuation	• Extreme and Catastrophic FBI is issued in the Greater Hume District Bush fire area. • Upon acknowledgment of Extreme and Catastrophic FBI, chief warden to discuss operations with facility management and postponement of non-essential non-emergency activities. • Undertake the following tasks: • Ensure all hazardous materials are protected a secured. • Ensure all buildings and infrastructure are secured. • Preparations to enable quickly to '*turn off*' of facility if required. • Determines availability of temporary relocation or alternative place of work and prepare notification to staff, contractors, suppliers, deliver services. • Activate local notification requirements to staff regarding temporarily ceasing operations or early finish time for the start of the next day. • Confirm details of staff off-site relocation arrangements if facility is remaining open. • Monitor local weather conditions for further advice. • Delay hot works to following days with lower FBIs. • Collect list of contacts to notify re closure/reopen	Chief Warden

Extreme and Catastrophic FBI > 50		Yes (within 10km of site)	*'Emergency Warning'* Implement emergency management arrangements. *'EVACUATE'*	• Consider elements within **section 6.5, page 32** of this report. • Notify staff to *'EVACUATE'* through phone and text. • Notify fire authorities and site management of anticipated Evacuate site. • Facility emergency procedures specific to the BESS infrastructure. • Roll-call of staff at off-site evacuation point then determine if staff progress home or off-site meeting point (NSP). • Program to return to site (following incident) to re-establish access controls (lock gates).	Chief Warden
Moderate to High FBI 12 < 49	All directions	No	*'Be ready to act'* Monitor Fire Near Me	• Normal operations until active fire within 5kms. • Undertake preliminary preparations as above and Apply fire spread thumb rule to determine impact time (Fire speed is 20% of wind speed – i.e., 50km/hr wind fire will spread approx. 5km in 30mins.	Chief Warden

Moderate to High FBI 12 < 49	All directions	Yes (within 5km of site)	*Take action to protect life and property*	• Prepare for evacuation and maintain normal operations.
				• When fire is 5km from site - under 50km/hr wind fire may impact on site within 30 mins.
				• Determine the direction of the fire, establish if the fire (or future wind changes) will impact directly on the site, if progressing towards the site undertaken 'EVACUATION'.
				• Notify faciality manager and staff to 'EVACUATE' through evacuation phone calls and SMS off-site staff not to return.
				  • Ensure all hazardous materials are protected a secured.
				  • Ensure all buildings and infrastructure are secured.
				  • Preparations to enable quickly to '*turn off*' of facility if required.
				
				• Notify staff to *'EVACUATE'* through phone and text.
				• Notify fire authorities and site management of anticipated Evacuate site.
					Chief Warden

				• Facility emergency procedures specific to the BESS infrastructure. • Roll-call of staff at off-site evacuation point then determine if staff progress home or off-site meeting point (NSP). • Program to return to site (following incident) to re-establish access controls (lock gates).	
LOW **FBI < 12**	All directions	Yes	*'Advise'* Monitor Fire Near Me	Normal Operations Advise and assist fire agencies as required.	Chief Warden
Following passage of fire	Contact RFS to establish notification to re-enter site to undertake access and tree safety assessments. Contact utility providers to re-establish services. Engineering safety checks of infrastructure. Notification to all staff/contractors/delivery services/clients of future arrangements. Facilitate community resilience and recovery. Debrief and review emergency response planning.				

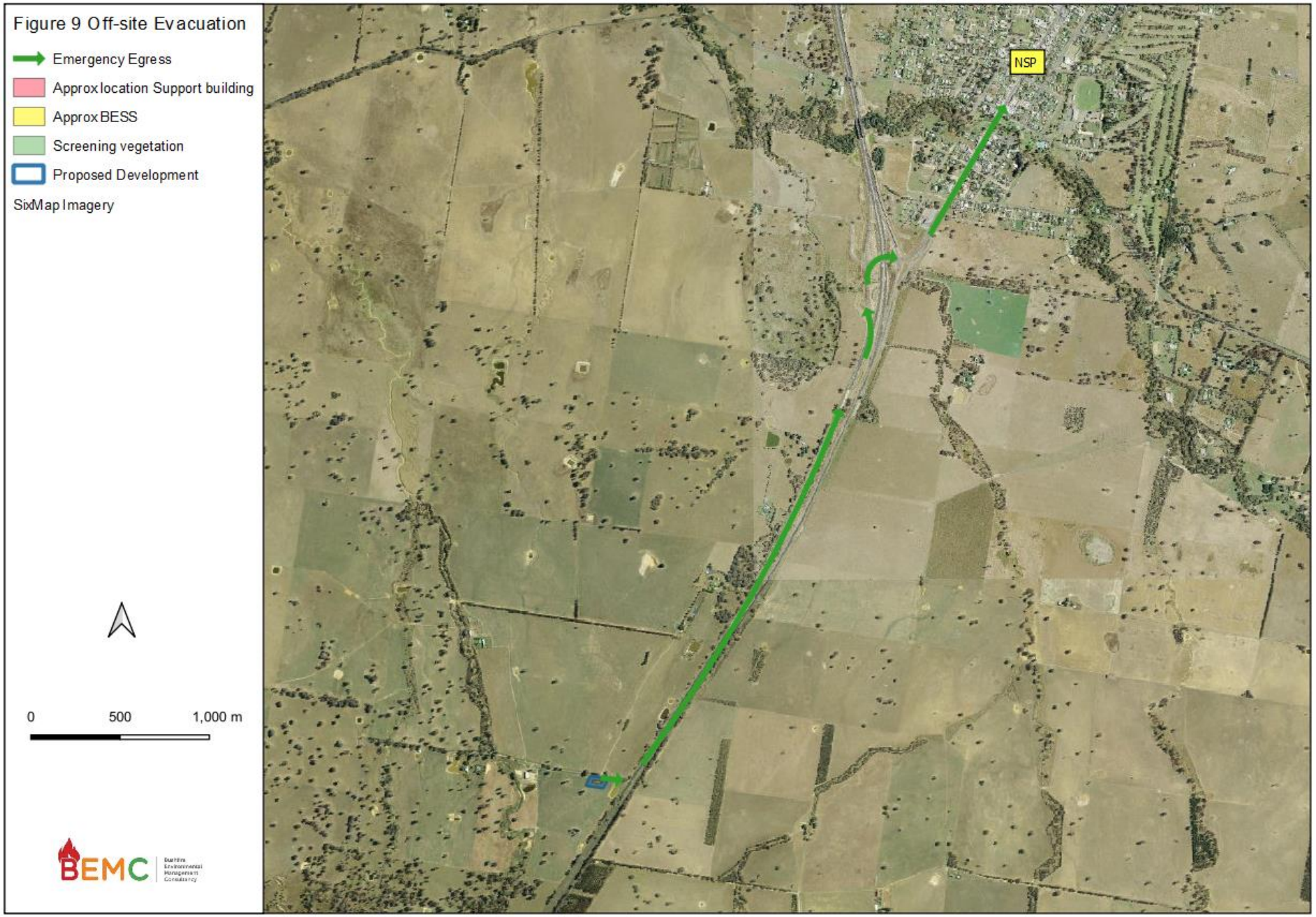


Figure 9 Off-site Evacuation
Emergency Egress
Approx location Support building
Approx BESS
Screening vegetation
Proposed Development
SixMap Imagery
NSP
0
500
1,000 m
BEMC

BUSHFIRE EVACUATION PLAN SUMMARY

KEY EMERGENCY CONTACT INFORMATION

POLICE, FIRE, AMBULANCE	CALL **'000'**
CHIEF WARDEN	Name | contact
DEPUTY CHIEF WARDEN	Name | contact
HQ contact	Name | contact

AWARENESS OF SITUATION

RFS BUSHFIRE INFORMATION LINE	1800 679 737 (1800 NSW RFS)
DISTRICT RFS OFFICE	Albury 02 6033 4550
RFR WEBSITE	www.rfs.nsw.gov.au
FIRE NEAR ME APP	

LOCATION INFORMATION

ADDRESS	Bendemeer Lane, south of Holbrook
NUMBER OF STAFF	5
OFF-SITE EVACUATION	Bowler Street, Holbrook

ACTIONS

1. **Consistently - Pre-incident actions, triggers and determine bushfire threat level (Page 25), if fire occurs:**
2. **Raise Alarm & Call '000'**
3. **Call agency HQ**
4. **Undertake actions within Bushfire Actions Statement for determined threat (Page 34)**

EVACUATION

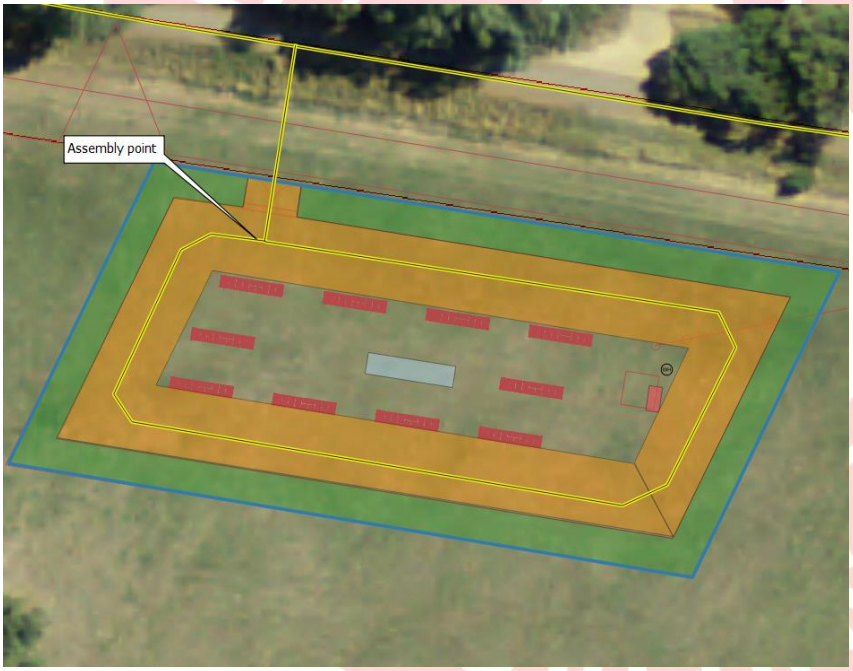
THE SAFEST OPTION IS TO LEAVE EARLY

Authority to Evacuate can be directed by:

- Instruction from NSW Police or Fire Authority (NSW Rural Fire Service or Fire and Rescue NSW)
- Instructed from agency HQ
- Instructed by the Chief Warden in consultation with the facilities Emergency Control Organisation EMO

ASSEMBLY POINT

- **Assemble Point is inside entry to the facility**



KEY ACTIONS:

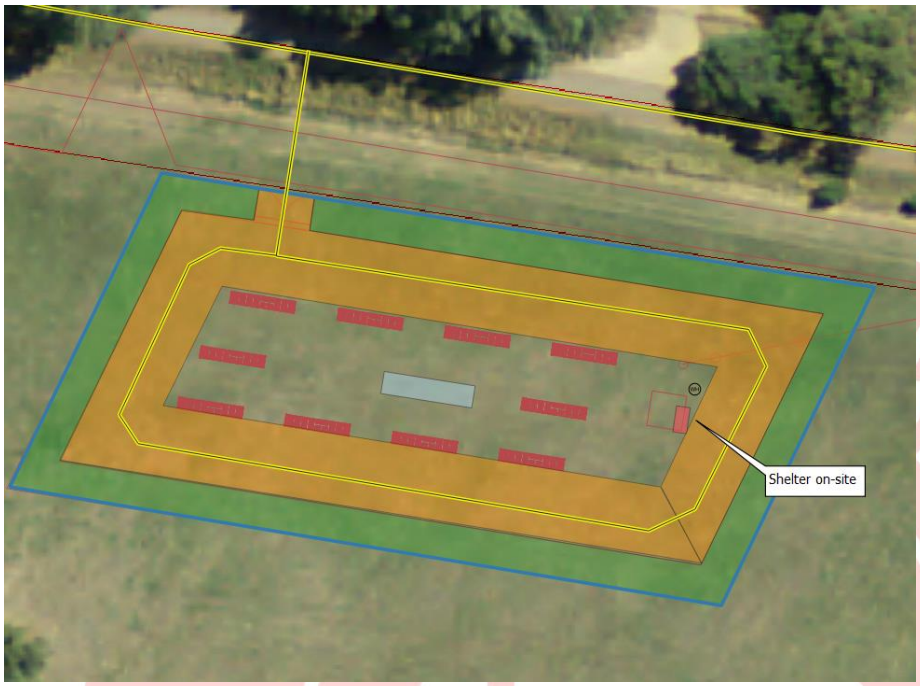
- Roll-call
- Close all building/structures
- Leave access gates unlocked
- Gather bushfire survival kits and water
- Keep watch for spot fire around building
- When safe, evacuate or as instructed by emergency services

DO NOT EVACUATE IF:

- **Spot fires are observed**
- **Embers are observed**
- **It is unsafe**
- **Directed by emergency services to remain in place**
- **Shelter-on-site should be considered as LAST OPTION when the risk associated with evacuation is greater than sheltering-on-site, or evacuation can not be initiated and completed in a safe manner**

SHELTER-ON -SITE OPTION

- **Shelter-on-site is inside the support building (ONLY CONSIDERED FOR LAST RESORT)**



KEY ACTIONS:

- Roll-call
- Close all doors and windows
- Turn-off air conditioning
- Gather bushfire survival kits and water
- Keep watch for spot fire around building
- When safe, evacuate or as instructed by emergency services

VEHICLE EVACUATION