

## Appendix C – Bushfire Assessment

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**Wooreen Battery Energy Storage  
System**

**Bushfire Assessment Energy**

**Australia**

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## 1.1 Project background

EnergyAustralia (EA) is considering its future portfolio in Victoria given evolving consumer requirements, diversity in distributed energy resources, and the need for more flexible capacity as a result of increasing use of renewables in the National Electricity Market (NEM). One component of the portfolio diversification is developing new battery energy storage systems (BESS).

EA has committed to building a four-hour, large-scale battery of 350MW capacity, which will be one of the largest operational batteries in Victoria. After a robust site selection process, EA's gas-fired Jeeralang Power Station, located in the Latrobe Valley, has been selected as the preferred location for the new BESS development.

## 1.2 Project details

The WESS primarily relates to the construction of battery storage enclosures (battery cells that are situated in enclosures). The WESS will be rated up to 1400MWh providing electricity back into and drawing from the grid at 350MW for a maximum of 4 hours at peak rate. The following contains an indicative list and quantities of the elements required to enable the WESS to function

- Approximately 280 BESS enclosures (or equivalent) equating up to 1400MWh of lithium batteries with low voltage inverters and 33kV to low voltage transformers
- A 220/33kV substation including two 220kV/33kV transformers, 220 kV isolators and auxiliary services such as two 33 kV zig-zag transformers
- One 220kV overhead power line, with 4 towers, proposed to connect the BESS transformers to the switchyard
- One control room likely located adjacent to the BESS enclosures
- Four 33kV switchrooms likely located adjacent to the BESS enclosures
- Provision of an office, an operation and maintenance shed/room, and two car parking spaces for maintenance staff
- Multiple indicative noise walls approx. 6m in height
- Secondary access from Bonds Lane into the WESS facility
- Installation of fire detection equipment
- Perimeter road encompassing WESS footprint and internal roads for access
- Retention pond and/or water storage tank
- Replace internal fencing and install CCTV
- Temporary construction laydown areas

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The WESS is located south of Morwell in the Latrobe Valley of the Gippsland region in eastern Victoria. This is approximately 155km south east of Melbourne. The WESS is proposed to be located adjoining Jeeralang Power Station at 30 Bonds Lane, Hazelwood North. Access to the project area is proposed via Bonds Lane which connecting Tramway Road to the east and Monash Way to the north. The location of the WESS footprint and wider area is presented in Figure 1.

The BESS itself sits within a designated Bushfire Prone Area (BPA) and the western portion of the site, including part of a transformer, sits partially within a Bushfire Management Overlay (BMO) (refer to Figure 1).



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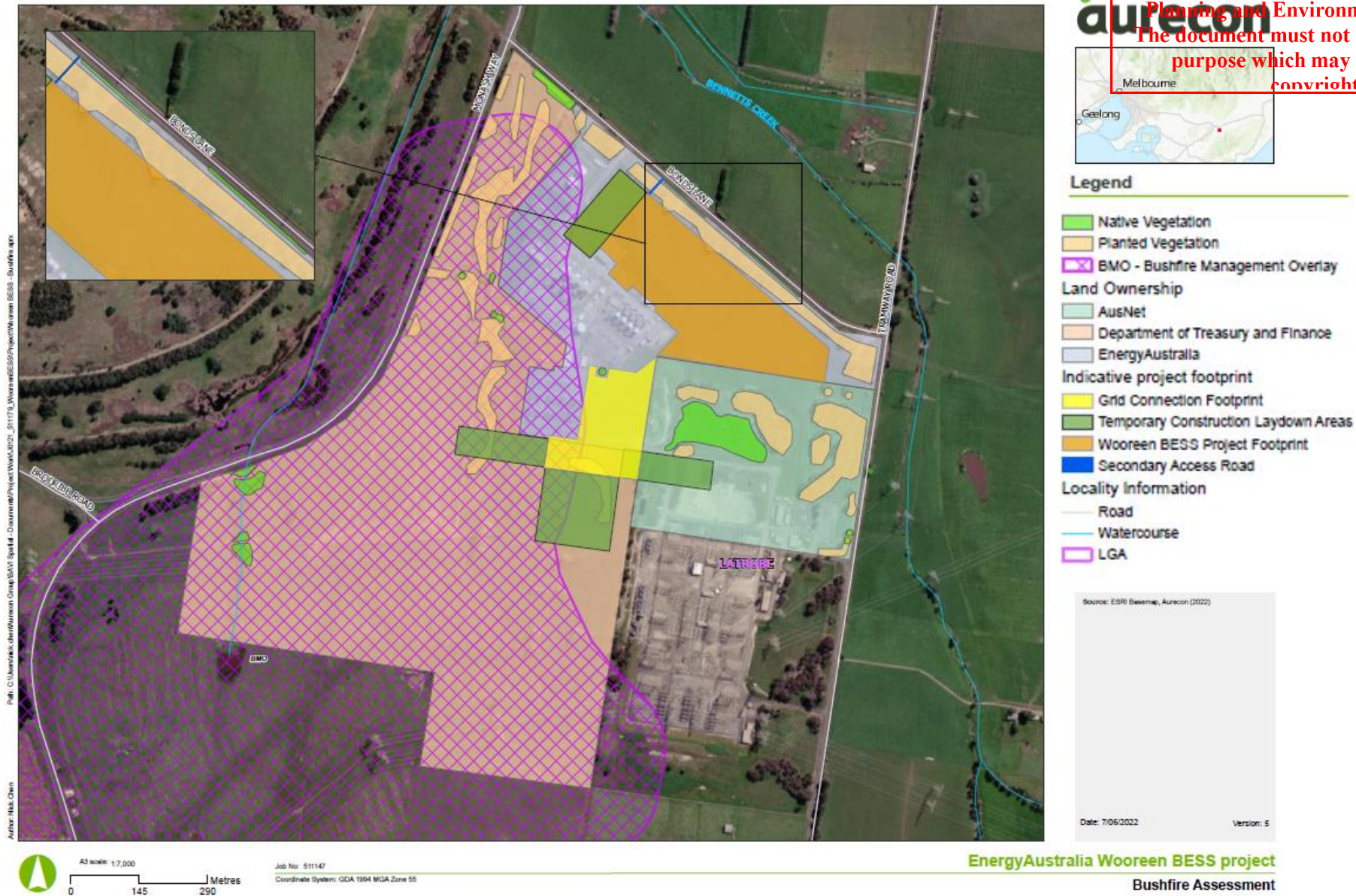


Figure 1 EnergyAustralia WESS project footprint

## 1.3 Purpose and scope

The bushfire risk assessment has been prepared to address the requirements of the Guidelines (CFA 2022). The scope of the bushfire risk assessment was to:

- Undertake a bushfire site hazard assessment, which considers all bushfire hazards within 150m of the proposed location for the BESS (including any classified vegetation identified as per the Australian Standard AS3959:2018).
- Undertake a bushfire landscape hazard assessment, which provides details of the bushfire hazards in the broader landscape considering likely bushfire scenarios as well as egress to built-up areas.
- Outline key bushfire management measures identified in the Guidelines that are applicable to the site, detailing how the WESS will implement these measures, specifically in relation to:
  - The proposed location and design of the BESS
  - Defendable space
  - Water supply
  - Access
  - Substation and Transmission Lines
  - Operational requirements
  - Additional requirements
  - Fire Management Plan
  - Risk Management Plan
  - Emergency Plan

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It should be noted that the planning scheme requirements of Clause 13.02-1S Bushfire Planning and Clause 44.06 Bushfire Management Overlay (BMO) have been considered as part of the Planning Report.. Given the proposed battery storage facility is defined as a 'utility installation' under 73.03 of the Victoria Planning Provisions, neither BPA or BMO requirements apply to the site (refer to Appendix A for further detail).

## 1.4 Limitations

The outcomes of this bushfire assessment are limited to the project area and immediate surrounds and scope defined in Section 1.2. Should further information become available regarding the conditions at the project area, Aurecon reserves the right to review the assessment in the context of the additional information.

While the measures identified in this assessment when fully implemented can assist in reducing the residual fire risk to the WESS, they cannot fully guarantee assets will survive a bushfire or grassfire on every occasion due to the unpredictable nature of bushfires and extreme weather. Continual evaluation and review of this document, fire risk conditions at the site and updating management practices when necessary, may assist in further reducing the residual fire risk at the site over the life of the WESS.

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## 2 Methods

The following sources of information were reviewed to inform the preparation of this bushfire risk assessment:

- VicPlan (DELWP 2020a)
- Planning Schemes Online (DELWP 2020b)
- *Regional Bushfire Planning Assessment-Gippsland Region* (DCPD, 2012)
- *Guidelines for Renewable Energy Installations* (CFA 2022, ) (Version 3).
- Consultation with the Victorian CFA through a virtual meeting on the 23 November 2021 and 8 of March 2022, as well as a site visit on 14 December 2021.

For the purposes of bushfire hazard assessment, areas of vegetation considered to pose a bushfire threat are classified according to the vegetation classes defined as per the Australian Standard (AS 3959-2018). Under Clause 2.2.3 and Table 2.3 of AS 3959-2018, vegetation is classified into the following classes:

- Forest: includes tall open forest, woodland and low open forests which includes trees up to or over 30m tall and 30%-70% foliage coverage. This category also includes mature pine plantations
- Woodland: includes tress up to 30m high with a 10% - 30% foliage coverage.
- Shrubland: includes heath that is found in wet areas, poor soil conditions and 1m-2m high as well as low shrubland that is <2m high, 30% foliage coverage and has an understorey.
- Scrub: includes closed and open scrub which can range from wet or rocky areas with poor soil conditions and contain a mixed species composition.
- Mallee/Mulga: includes low tress or tall shrubs, usually >2m tall with sparse grassy understorey.
- Rainforest: includes trees with a >90% foliage cover, mixed species understorey and is not dominated by eucalypts.
- Grassland: includes all forms of grasses (except tussock moorlands) and where managed in a minimal fuel condition and non-curing cropland is regarded as a low threat vegetation.
- Tussock Moorland: includes all forms for vegetation where the overstorey is dominated by Button-grass.

The AS 3959-2018 also describes situations where vegetation is classified as 'low threat'.

Details of the bushfire hazards within the project area, including the presence and type of classified vegetation, was determined during a field assessment undertaken on 9 September 2021 and confirmed with an onsite meeting with the CFA, FRV, EA and Aurecon on 14 December 2021. Bushfire hazards situated beyond the project area were determined based on aerial photo interpretation.

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## 3 Bushfire hazard assessment

### 3.1 Site description

The study area consists of three properties, the northern eastern section with is owned by EA, eastern portion which is owned by AusNet and the western portion which is Department of Treasury and Finance (DTF). Each site has been heavily altered for farming and/or industrial land uses (Photo 1). Both the EA and AusNet properties comprise of existing power generation infrastructure with the Jeeralang Power Station and a portion of the Hazelwood Terminal Station intersecting the project area. The DTF site was previously used for timber (Blue Gum) plantation, with historic aerial photography suggesting that timber plantations in the project area were last harvested between 2016 and 2017.

From the centre of the 30 Bonds Lane site, the closest sensitive receptors are:

- residential properties on Church Road, approximately 1.2km, 1.6km and 1.7km to the north east
- one residential property on Tramway Road approximately 1.2km to the south east
- Hazelwood North Primary School is approximately 2km to the north east

The project area (inclusive of both sites) is located approximately 4.5km south of central Morwell and 4km north of Churchill. The smaller regional community of Hazelwood North is located approximately 4.5km to the east of the proposed site.



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Photo 1: Farmland (introduced pasture) north east of the Jeeralang Power Station (EA property)

#### 3.1.1 Existing access and fire breaks

The EA and AusNet properties include existing power generation infrastructure and various hardstand areas. There are also two existing access roads to the site, one main access from Bonds Lane, to the north of the project area and a secondary access from the corner of Bonds Lane and Tramway Road. Bonds Lane is then accessible from Monash Way and Tramway Road. A new formal secondary access from Bonds Lane is proposed as shown in Figure 1. These established areas contain minimal bushfire hazardous fuel and further act as a fuel break. There are no works proposed to upgrade the current secondary access.

#### 3.1.2 Existing vegetation and bushfire hazards

Much of the study area, particularly portions of the EA land, comprise of large farm paddocks which are currently used for grazing by cattle. These areas are dominated by introduced pasture grasses. There is a planted tree row along the northern boundary of the EA site, south of Bonds Lane and disconnected patches that were heavily altered from their natural state (Photo 2 and Photo 3).

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**Photo 2: Derived grassland form of Plains Grassy Woodland (EVC 55) on southern side of Bonds Lane**



**Photo 3: Scattered Yarra Gums on the eastern side of Tramway Road (Trees 4 and 5)**

The DTF site is also heavily altered with much of the vegetation removed. There are however rows of vegetation near the EA land boundary and small patches near the western boundary either side of a drainage line (Photo 4). Dead thickets of Blackberry tend to dominate this site. Other areas of planted vegetation exist within the project area, including throughout the AusNet property which consist of a mixture of Australian native trees and shrubs.



**Photo 4: Treeless area of Swampy Riparian Woodland comprised of native Rush; introduced pasture in foreground (towards western boundary of DTF property)**

Using the Australian Standard (AS 3959-2018), classified vegetation in and adjacent to the project area is comprised of Grassland and Woodland. Grassland (Figure 2) is found throughout the farmland where grass is considered unmanaged. Woodland (Figure 3) including the planted tree line situated along the northern boundary of Bonds Lane (Photo 5) and AusNet amenity planting (Photo 6). The tree row on Bonds Lane is a sparse tree row, with a lack of woody understorey (i.e. lack of shrubs) and ground layer limited to overgrown grasses and weeds. The AusNet amenity planting is approximately 40m from the boundary, separated (and surrounded) by managed grassland.

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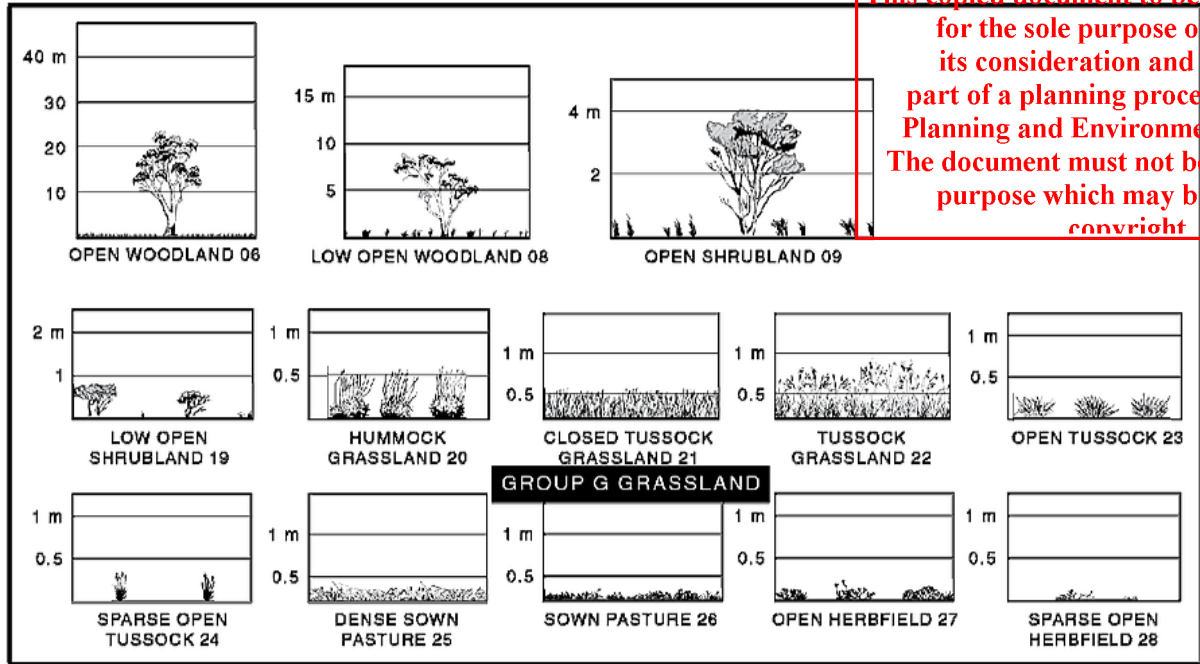


Figure 2 Classification of Vegetation: Grassland (reference: AS 3959-2018, pg. 22)

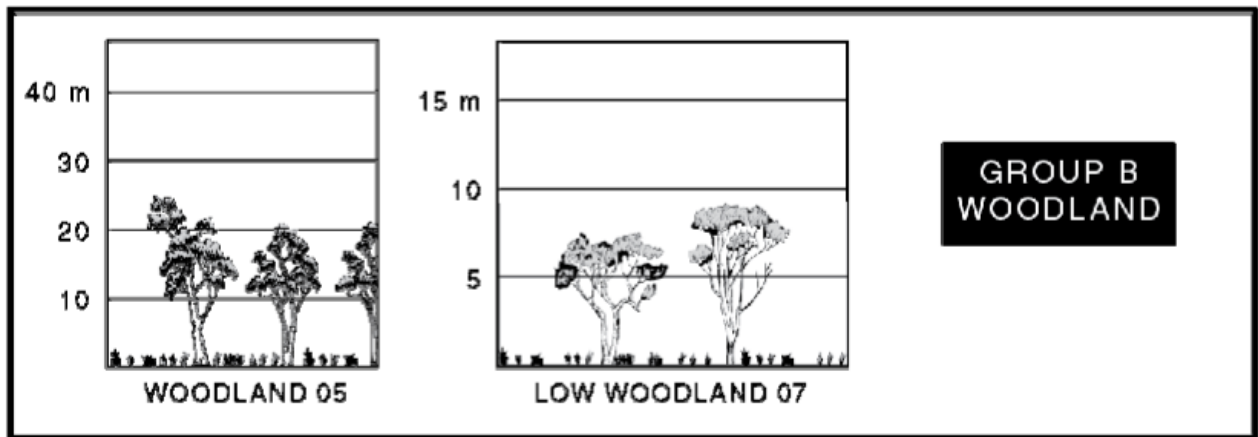


Figure 3 Classification of Vegetation: Woodland (reference: AS 3959-2018, pg. 22)



Photo 5 Planted tree row south of Bonds Lane)



Photo 6 Planted vegetation (amenity/screening) in east of study area (AusNet property)

### 3.1.3 Bushfire hazards in the broader landscape

The broader landscape is comprised largely of cleared farming land, established settlements, industrial infrastructure, roads and easements, and coal extraction areas (DPCD, 2012). The landscape is characteristic of the southern Gippsland area with farm paddocks that are occasionally separated by planted

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tree lines with no dense forested or bush blocks present nearby. The site is surrounded by the Morwell, Hazelwood North and Churchill townships; which all over 4.5km of the project area.

No significant bushfire hazards are identified near Morwell in the Regional Bushfire Planning Assessment of Gippsland (DPCD, 2012; Figure 4). It is noted that the areas north of Morwell settlement interfaces with a bushfire hazard. Area 37-020 identified as North of Morwell includes industrial uses in a bushfire hazard area surrounded by vegetation of high and very high significance. Area 37-020 is approx. 6.5km north of the proposed BESS site.

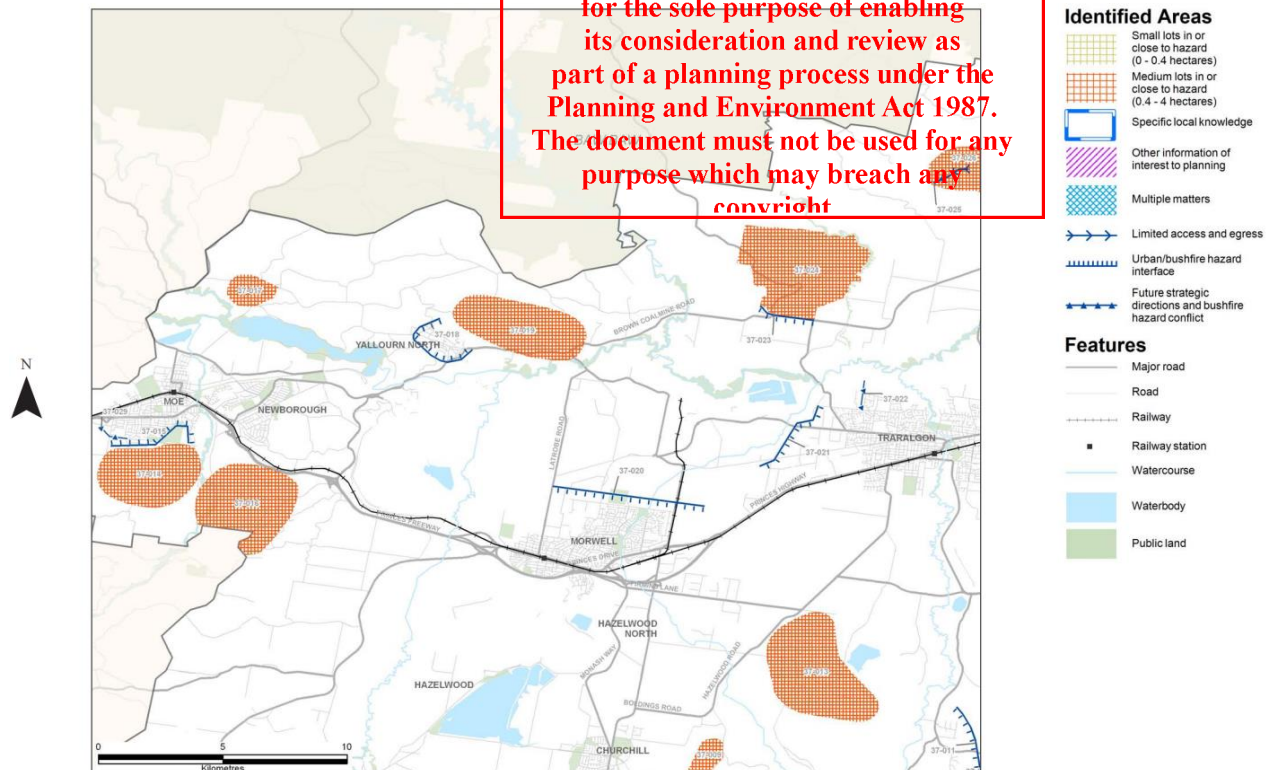


Figure 4 Regional Bushfire Planning Assessment Latrobe City Area (reference: DPCD, 2012, p.30)

## 3.2 Overall bushfire risk

Potential bushfire hazards in and around the northern and eastern boundary of the project area are largely limited to grassland associated with agriculture.

Where Woodland is identified along Bonds Lane and AusNet, it is currently managed i.e. grass kept to <100mm as per the CFA Guidelines during the Fire Danger Period. The strip of vegetation along Bonds Lane will not support an extended fire run towards the site due to the sparse nature of the tree row, adjoining road, a lack of woody understorey and a managed ground layer limited to grasses and weeds. It is of insufficient dimensions to enable a fire to burn at maximum intensity directly towards the BESS.

The AusNet planted vegetation, near the south eastern boundary, provides a minor bushfire risk with the presence of a thick shrub layer, but this area is approx. 50m from BESS infrastructure and is surrounded by maintained grassland. This AusNet planting is isolated, of narrow dimensions and potentially may only support a short fire run. If this occurred, it may result in some short term and minor ember attack on the nearest part of BESS.

All other rows of planted vegetation in the project area and nearby to (i.e. planted trees along the other side of Bonds Lane and within neighbouring properties) are too narrow and isolated to be considered as classified vegetation, but rather are considered as low-threat vegetation. The slope across the entire project area is noted as flat. The vegetation around the site does not pose a substantial bushfire risk to the project area. To the east and south of the proposed BESS, the existing power stations reduce the potential for fire runs from/to these directions.



In the instance a fire ignites at the BESS site, there is a reduced potential for a grass fire to spread through the surrounding agricultural properties as it would have to cross multiple fuel breaks with limited or no vegetation hazard present as the adjoining agricultural lands are maintained, cropped and actively grazed.

It should be noted that there will be two direct access via sealed roads to the BESS via Bonds Lane which further act as a pre-existing fire break and will aid in the mitigation of bushfire risk.

While the overall bushfire risk to/from the WESS is relatively low, the measures adopted from the CFA Guidelines outlined in the following section will:

- Further reduce the likelihood of a fire starting at the WESS
- Mitigate and manage the risk to life and property in the event of a fire entering or spreading from the WESS.

Overall, no significant bushfire hazards are identified within the project area.

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## 4 Recommendations for managing bushfire risk

To reduce the risk of bushfire and the likelier occurrence of grass fires associated with the surrounding landscape, design and operation of BESS, the CFA have outlined specific details for siting, water supply, vegetation and operational management (CFA, 2022). Recommendations proposed for implementation during the design and operation of the proposed WESS to accommodate the CFA Guidelines are detailed in the following sections.

### 4.1 Facility location and design requirements

#### 4.1.1 Emergency vehicle access

Section 6.2.1 of the *Guidelines for Renewable Energy Facilities* (CFA 2022) states all battery infrastructure is located as such that it is directly accessible to emergency responders. The Guidelines also detail requirements to move across the site by emergency response vehicles.

Details of compliance and internal access requirements are provided in the Table 1 below.

Table 1 CFA emergency vehicle access requirements

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
<i>Construction of a four (4) metre perimeter road within the ten (10) metre perimeter fire break.</i>	✓	There is adequate spacing for a 4m perimeter road where the BESS is proposed. There is already a 10m firebreak on site as the BESS will be at least 10m from any vegetation. A 6m perimeter road will be included in the BESS design.
<i>Roads must be of all-weather construction and capable of accommodating a vehicle of fifteen (15) tonnes</i>	✓	Only internal roads are proposed for the WESS. During detailed design these surface and load requirements will be included.
<i>Constructed roads should be a minimum of four (4) metres in trafficable width with a four (4) metre vertical clearance for width of the formed road surface.</i>	✓	The secondary access road can be built to these specifications. The perimeter roads will be built as per the above requirement. Vertical clearance should be achieved as there are no proposed enclosed areas on the perimeter roads. Maintenance landscape should aim to remove overhang of any vegetation to maintain a 4m clearance.
<i>The average grade should be no more than 1 in 7 (14.4% or 8.1°) with a maximum of no more than 1 in 5 (20% or 11.3 °) for nor more than (50) metres.</i>	✓	The site itself is relatively flat with minimal undulations especially within a 50m radius of the proposed BESS. There is unlikely to be any earthworks required to manage changes in grade. Traffic Assessments during concept design will consider this requirement further.
<i>Dips in the road should have no more than a 1 in 8 (12.5% or a 7.1°) entry and exit angle.</i>	✓	As above there is minimal topography change across the site and as such there is unlikely to be any unsafe dips in the road. Traffic Assessments during concept design will consider this requirement further.

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Roads must incorporate passing bays at least every 600 metres, which must be at least twenty (20) metres long and have a minimum trafficable width of six (6) metres. Where roads are less than 600 metres long, at least one passing bay must be incorporated.	✓	At least one passing bay will be incorporated into the perimeter track design during concept design. The site has adequate spacing to meet this requirement. A Traffic Assessments during concept design will consider this requirement further.
Road networks must enable responding emergency services to access all areas of the facility, including fire service infrastructure, building, and battery energy storage system and related infrastructure.	✓	The road networks to the site provide adequate access for emergency vehicles via Bonds Lane. Bonds Lane is connected to Tramway Road and Monash Way, both sealed, two way road that can accommodate large vehicles. Therefore, it's considered this requirement is already met and no works are proposed to the road network.  On site, a series of access roads will be included in between the BESS. There will also be access through the noise walls to ensure emergency responders are not restricted in their movement across the site.
<b>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any</b> <del>The provision of at least two (2) but</del>	✓	At present the site has one primary access from Bonds Lane and a secondary access from the corner of Bonds Land and Tramway Road. The secondary access is unlikely to meet the CFA requirements therefore an alternative secondary access road from Bonds Lane is proposed.as part of the planning permit application.
preferably more access points to the facility, to ensure safe and efficient access to and egress from areas that may be impacted or involved in fire. The number of access points must be informed through a risk management process.		

## 4.1.2 Firefighting water supply and fire protection system

Section 6.2.2. Firefighting Water Supply in the event of a fire (structure fire, grassfire or bushfire), sufficient water must be available and safely accessible to emergency responders and trucks to ensure that fire suppression activities are safe, timely, effective and not hindered in any way. In addition, a fire protection system suitable for the risks and hazards at the facility must be provided. For a BESS, the water supply quantity must:

- Enable effective cooling of surrounding infrastructure.
- Account for reasonable duration of fire events based on the proposed battery chemistry.
- Account for local weather conditions and potential fire weather conditions.
- Provide for the safety of firefighters.

The location of firefighting water access points and the quantity of water supplied must be established through a risk management process that considers the credible hazards and in consultation with CFA.

Representatives from EA, Aurecon, CFA and FRV met on site on the 14 December 2021 to discuss water supply and fire protection systems. The findings and how they address the CFA requirements are identified below in Table 2.

**Table 2 CFA firefighting water supply and fire protection requirements**

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
In the event of a fire (structure fire, grassfire or bushfire), sufficient water must be available and safely accessible to emergency responders and trucks to ensure that fire suppression activities are safe, timely, effective and not hindered in any way.	✓	Initial onsite assessments with the CFA and FRV present indicate the existing water supplies at the Jeeralang Power Station can be used for the BESS and no additional water supply is required. The flow around the power station uses a ring system is currently connected to the

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		Churchill mains water supply. The mains have a compliant hydrant system pressure and flow, and as such no additional pumps are required (see Appendix C). The backup storage and optional hose located on the AusNet property and a dam on the southern boundary also provides an additional water supply source.
Firefighting water supply and infrastructure must be designed to allow effective response to the risks and hazards at the facility. The quantity of water supply must be established through a comprehensive risk management process that considers all relevant hazards.	✓	Although adequate water is provided on site, a Risk Management Plan will confirm the initial assessment and any other requirements to be included in detail design.
Water access point must be clearly identifiable and unobstructed to ensure efficient access.	✓	Initial onsite assessments with the CFA and FRV present indicates the existing water supplies at the Jeeralang Power Station and can be used for the BESS and no additional water supply was required.
Static water storage tank installations must comply with AS 2419.1-2005: Fire hydrant installations – System design, installation, and commissioning	Not applicable	Although adequate water is provided on site, a Risk Management Plan will confirm the quantity of water supply.
The static water storage tank(s) must be an above-ground water tank constructed of concrete or steel.	Not applicable	N/A.
The static water storage tank(s) must be capable of being completely refilled automatically or manually within 24 hours.	Not applicable	N/A.
The static water storage tank(s) must be located at vehicle access points to the facility and must be positioned at least ten (10) metres from any infrastructure (solar panels, wind turbines, battery energy storage systems, etc.).	Not applicable	N/A.
The hard-suction point must be provided, with a 150mm full bore isolation valve, equipped with a Storz connection, sized to comply with the required suction hydraulic performance.  Adapters that may be required to match the connection are: 125mm, 100mm, 90mm, 75mm, 65mm Storz tree adapters with a matching blank end cap to be provided.  The hard-suction point must be positioned within four (4) metres to a hardstand area and provide a clear access for emergency services personnel.  An all-weather road access and hardstand must be provided to the hard-suction point. The hardstand must be maintained to a minimum of 15 tonne GVM, eight (8) metres long and six (6) metres wide or to the satisfaction of the CFA.  The road access and hardstand must be kept clear at all times.	Not applicable	N/A.

<i>The hard-suction point must be protected from mechanical damage (eg. bollards) where necessary.</i>		
<i>Where the access road has one entrance, a ten (10) metre radius turning circle must be provided at the tank.</i>	<i>Not applicable</i>	N/A.
<i>An external water level indicator must be provided to the tank and be visible from the hardstand</i>	<i>Not applicable</i>	N/A.
<i>Signage indicating 'FIRE WATER' and the tank capacity must be fixed to each tank.</i>	<i>Not applicable</i>	N/A.
<i>Signage must be provided at the front entrance to the facility, indicating the direction to the static water tank.</i>	<i>Not applicable</i>	N/A.
<p><i>For facilities with battery energy storage system, the fire protection system must include at a minimum:</i></p> <p>a) <i>A fire hydrant system that meets the requirements of AS 2419.1-2005: Fire hydrant installations, Section 3.3: Open Yard Protection, and Table 3.3: Number of Fire Hydrants Required to Flow Simultaneously for Protected Open Yards. Except, that fire hydrants must be provided and located so that every part of the battery energy storage system is within reach of a 10m hose stream issuing from a nozzle at the end of a 60m length of hose connected to a fire hydrant outlet.</i></p> <p>OR</p> <p>b) <i>Where no reticulated water is available, a fire water supply in static storage tanks, where:</i></p> <p>i. <i>The fire water supply must be of a quantity no less than 288,000L or as per the provisions for Open Yard Protection of AS 2419.1-2005 flowing for a period of no less than four hours at 20L/s, whichever is the greater.</i></p> <p>ii. <i>Fire hydrants must be provided and located so that The quantity of static fire water storage is to be calculated from the number of hydrants required to flow from AS 2419.1-2005, Table 3.3.</i></p> <p>iii. <i>Fire hydrants must be provided and located so that every part of the battery energy storage system is within reach of a 10m hose stream issuing from a nozzle at the end of a 60m length of hose connected to a fire hydrant outlet.</i></p> <p>iv. <i>The fire water supply must be located at vehicle entrances to the facility, at least 10m from any infrastructure (electrical substations, inverters, battery energy storage systems, buildings).</i></p> <p>v. <i>The fire water supply must be reasonably adjacent to the battery energy storage system and shall be accessible without undue danger in an emergency. (Eg., Fire water tanks are to be located closer to the</i></p>	<p>✓</p> <p>b) Not applicable</p>	<p>A hydrant system can be extended into the project area. This will be explored as part of the Risk Management Plan and implemented during the design stages.</p>

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<p>site entrance that the battery energy storage system).</p> <p>vi. The fire water supply must comply with AS 2419.1-2005: Fire hydrant installations - Section 5: Water storage.</p>	
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## 4.1.3 Landscape screening, on-site vegetation and fire breaks

The combination of maintained grassland and woodland, existing firebreaks, the siting of the BESS and additional hardstanding and perimeter access roads provides the bases for fire hazard mitigation measures.

The planting across the site would potentially only support a short fire run, with a relatively low risk and if fire occurred it may result in some minor ember attack on the nearest part of BESS (noting that the structure is designed to withstand ember attack). It is recommended that across all sites, slashing and maintenance continues to reduce the risk of fire further. The CFA requirements related to vegetation management and firebreaks are outlined below with commentary on EA's existing and proposed vegetation management. The requirements of Section 6.2.3 and Section 6.2.4 of the CFA Guidelines are summaries below.

**Table 3 CFA landscape screening, on-site vegetation and fire breaks requirements**

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
<b>Landscape Screening and On-Site Vegetation</b>		
<i>Any vegetation, proposed or existing, must be considered in the Risk Management Plan for its potential to intensify and propagate fire within and away from the site.</i>	✓	<p>A Risk Management Plan will be developed provide further detail of these requirements</p> <p>This initial assessment shows existing vegetation on site poses a relatively low risk as it is maintained, not dense and more than 20m from the BESS. Furthermore, new vegetation is not being proposed.</p>
<i>Where landscape screening is required, for example, to screen visual impacts or to prevent visual glare from a solar energy facility, the design must consider any potential increase in fire risk due to the type (species), density, height, location and overall width of the screening.</i>	✓	<p>Additional landscape screening is not proposed.</p> <p>The existing Bonds Lane amenity planting is unlikely to pose a serious hazard and any fire would not pose an extended run. Management of the grasses will be in accordance with CFA guidelines.</p>
<i>Facilities must be designed so that the radiant heat flux (output) from vegetation does not create the potential for ignition of on-site infrastructure or other vegetation.</i>	✓	<p>The amenity planting on Bonds Lane is approx. 25m wide and will sit at least 10m from the proposed BESS. This reduced the potential for ignition of on-site infrastructure or other vegetation. It was also confirmed that the amenity planting on Bonds Lane is not a risk due to the nature of the tree row height, lack of woody understory and ground layer that is limited to cut grasses and weeds. The AusNet amenity planting located approx. 40m from the southern boundary is separated by the perimeter firebreak of approx 50m from BESS infrastructure. Management of the grasses in accordance with CFA guidelines will maintain Bonds Lane as an area of low risk and any fire would not pose an extended run.</p> <p>The Risk Management Plan and Fire Management Plan will also provide further detail of these requirements.</p>

<p><i>Radiant heat impact leading to ignition may be mitigated through:</i></p> <ul style="list-style-type: none"> <li>■ <i>Vegetation removal (where permitted).</i></li> <li>■ <i>Separation from nearby infrastructure (e.g., fire breaks; refer below).</i></li> <li>■ <i>The provision of thermal barriers at nearby infrastructure.</i></li> <li>■ <i>Other means in consultation with CFA.</i></li> </ul>	✓	<p>The BESS has been positioned in low-risk area and there is sufficient space in between the BESS facility and amenity planting on Bonds Lane to manage risk without removing vegetation. In addition, the BESS will be situated on non-combustible hard standing to further prevent a fire run.</p> <p>Other design measures such as thermal barriers will be explored through the Risk Management Plan and Fire Management Plan process.</p>
<p><i>CFA recommends that bushfire hazard site and landscape assessments are conducted for all facilities located within Bushfire Prone Areas and the Bushfire Management Overlay.</i></p>	✓	<p>Undertaking this assessment is the start of the assessment process.</p> <p>Initial site selection criterion has identified this site is of relatively low bushfire risk as the surrounding properties are either developed (power station infrastructure and roads) or managed cropping and farming lands and the vegetation that is present is discontinuous and will not support a large intense fire run towards the proposal. Given this the BESS will rely upon the Risk Assessment to identify potential risks and management measures.</p>
<p><i>Consultation with CFA is required regarding landscape screening in high-risk environments.</i></p>	✓	<p>This initial assessment has found the landscape is of relatively low risk. There have been two meetings with the CFA and FRV to discuss a range of fire risk and management measures i.e. access, onsite water supply and vegetation management. Initial discussion indicates specifically related to landscape indicates minimal additional vegetation management.</p> <p>A Risk Management Plan will provide further detail on mitigation measure to be incorporated into the design.</p>
<p><b>Fire Breaks</b></p>		
<p><i>A fire break must be established and maintained around:</i></p> <p>a) <i>The perimeter of the facility, commencing from the boundary of the facility or from the vegetation screening inside the property boundary.</i></p> <p>b) <i>The perimeter of control rooms, electricity compounds, substations and all other buildings on-site.</i></p>	✓	<p>The amenity planting on Bonds Lane sits at least 10m from the proposed BESS with perimeter roads providing further firebreak protection. The BESS will be on hard standing providing a firebreak too. The AusNet amenity planting has a perimeter firebreak of approx. 50m from BESS infrastructure. The ancillary infrastructure will also be placed on hard standing and have perimeter fencing.</p> <p>The Risk Management Plan and Fire Management Plan will also provide further detail of these requirements.</p>
<p><i>The width of fire breaks must be a minimum of 10m, and at least the distance where radiant heat flux (output) from the vegetation does not create the potential for ignition of on-site infrastructure.</i></p>	✓	<p>The design and siting of the BESS will consider radiant heat. This assessment has found that the vegetation on site poses a relatively low risk as it is maintained, not dense and 10m+ from the BESS. It is also unlikely to support a long fire run given its composition.</p> <p>A Risk Management Plan will be developed provide further detail of these requirements.</p>

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Where screening or other vegetation is a width of 20m or less (open density as per AS 3959-2018), or 15m or less (closed density as per AS 3959-2018), a fire break of 10m may be appropriate to prevent radiant heat from vegetation fully involved in fire becoming an ignition source for on-site infrastructure.  Outside of these parameters, separation must be at least the distance where radiant heat flux (output) from the vegetation does not create the potential for ignition of on-site infrastructure.	✓	The amenity planting on Bonds Lane is approx. 25m wide and will sit at least 10m from the proposed BESS. The understory and grass will be subject to slashing to keep grass less than 10cm (CFA 2022) on all sites. Hardstanding and perimeter roads will help provide fire breaks around the BESS.  The Risk Assessment will identify any additional fire break requirements.
Fire breaks must be:  ■ Non-combustible, constructed of concrete, mineral earth or non-combustible mulch such as crushed rock.  ■ Free of vegetation and obstructions at all times. No plant or equipment of any kind is to be stored in fire breaks.	✓	Specification such as these standards and safety requirements will be a mandatory requirement for any BESS contractor. Generally, it is assumed that all BESS design will meet these standards as the fire break and access around the BESS will be made from a non-combustible material.  The Risk Management Plan will provide further detail on the safety requirements to be included in the final design.
A fire break must be established and maintained around battery energy storage systems and related infrastructure	✓	The fire break will be maintained around the BESS facility. The management and maintenance requirements will be outlined in the Fire Management Plan.  The Risk Assessment will identify any additional fire break requirements.

## 4.1.4 BESS Specific requirements

Facilities with battery energy storage systems must be designed with an ultimate goal of fire prevention. Facility design can reduce the potential for ignition and the consequences of fire should it occur. The CFA has acknowledged that battery technologies are continually evolving, and that not all BESS have the same level of fire risk. To manage this, EA will use a robust risk assessment process prior to construction to ensure the technology used at the time of development meets the CFA requirements.

Table 4 CFA BESS Requirements

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
<p>The design of the facility must incorporate:</p> <p>a) A separation distance that prevents fire spread between battery containers/enclosures and:</p> <ul style="list-style-type: none"> <li>Other battery containers/enclosures. On-site buildings. Substations.</li> <li>The site boundary.</li> <li>Any other site buildings.</li> <li>Vegetation</li> </ul> <p>Separation must be at least the distance where the radiant heat flux (output) from a battery energy storage system container/enclosure fully involved in fire does not create the potential for ignition of these site elements.</p>	✓	<p>At present, the site itself is considered low risk given the composition of the site and space for the development to allow for adequate separation distances.</p> <p>This will be a key consideration in detailed design. Post-contract award the specific BESS technology will undergo a robust Risk Management Plan and Fire Management Plan to provide further detail of these requirements.</p>

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<p>b) <i>A fire break around the battery energy storage system and related infrastructure, of a width of no less than 10m, or greater where determined in the Risk Management Plan.</i></p> <p><i>Fire breaks must be non-combustible, constructed of concrete, mineral earth or non-combustible mulch such as crushed rock.</i></p> <p><i>The width must be calculated based on the ignition source being radiant heat of surrounding vegetation, including landscaping.</i></p>	✓	<p>There is hard standing around the BESS enclosures as well as the amenity planting on Bonds Lane sits at least 10m from the proposed BESS. The hard standing will be non-compostable and the perimeter access road providing a firebreak too. The AusNet amenity planting already meets this requirement as there is a perimeter firebreak by approx. 50m from BESS infrastructure.</p> <p>The Risk Management Plan and Fire Management Plan will also provide further detail of these requirements.</p>
<p>c) <i>A layout of site infrastructure that:</i></p> <ul style="list-style-type: none"> <li>■ <i>Considers the safety of emergency responders.</i></li> <li>■ <i>Minimises the potential for grassfire and/or bushfire to impact the battery energy storage system.</i></li> <li>■ <i>Minimises the potential for fires in battery containers/ enclosures to impact on-site and offsite infrastructure.</i></li> </ul> <div style="border: 2px solid red; padding: 10px; margin-top: 20px;"> <p><b>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</b></p> </div> <p style="text-align: center; color: red; font-weight: bold; font-size: 1.2em; margin-top: 10px;">ADVERTISED PLAN</p>	✓	<p>The access track around the site should provide safe movement to and from the site for emergency responders. Access track in between groups of the BESS enclosures will allow access across the site. No noise walls are proposed over access tracks.</p> <p>In addition, the BESS configuration will be at a safe distance to minimise risk of radiant heat flux therefore reducing risk to emergency responders on site. Signage around the facility will help emergency responders navigate the site and find the Fire Management Plan and access to water.</p> <p>Grass will be maintained to 10cm or less as per the guidelines to reduce hazard.</p> <p>Post-contract award the BESS will undergo a Risk Management Assessment to determine the most effective fire suppression/extinguish technology.</p>
<p><i>Battery energy storage systems must be:</i></p> <p>a) <i>Located so as to be reasonably adjacent to a site vehicle entrance (suitable for emergency vehicles).</i></p>	✓	<p>There are two access roads onto the site, one of which will provide direct access to the BESS perimeter access roads. The secondary access proposed will be built to the specifications that will allow large vehicles to access the site safely.</p>
<p>b) <i>Located so that the site entrance and any fire water tanks are not aligned to the prevailing wind direction (therefore least likely to be impacted by smoke in the event of fire at the battery energy storage system.)</i></p>	Not applicable	N/A.
<p>c) <i>Provided with in-built detection and suppression systems. Where these systems are not provided, measures to effectively detect and/or suppress fires within containers must be detailed within the Risk Management Plan.</i></p>	✓	<p>The Risk Management Plan will be undertaken to identify the most appropriate safety requirements for the specific technology used on site.</p> <p>If in-built detection is not used, the rational will be discussed with the CFA and outlined in the Risk Management Plan.</p>

d) <i>Provided with suitable ember protection to prevent embers from penetrating battery containers/enclosures.</i>	✓	Ember protection management and technology to minimise penetration can be incorporated into the design and installation as part of contract award.  The Risk Management Plan will be undertaken to identify the most appropriate safety requirements for the specific technology used on site.
e) <i>Provided with suitable access roads for emergency services vehicles, to and within the site, including to battery energy storage system(s) and fire service infrastructure.</i>		<p><b>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any contrivance.</b></p> <p>And present has one primary access road from the corner of Bonds Lane and Tramway Road. The secondary access is unlikely to meet the CFA requirements therefore an alternative secondary access road from Bonds Lane is proposed.. as part of this development. This access will be built to the CFA requirements. Within the site a number of internal access roads will prove adequate access and movement across within the BESS enclosures. Noise walls are not proposed over the track to avoid any movement issues for emergency responders.</p>
f) <i>Installed on a non-combustible surface such as concrete.</i>	✓	The BESS will be constructed on a non-combustible surface to provide hardstanding and reduce fire risk.
g) <i>Provided with adequate ventilation.</i>	✓	Adequate ventilation will be a procurement requirement. The Risk Management Plan will be undertaken to identify the most appropriate ventilation for the specific technology used on site.
h) <i>Provided with impact protection to at least the equivalent of a W guardrail-type barrier, to prevent mechanical damage to battery containers/enclosures.</i>	✓	Preventing mechanical damage to the BESS will be considered during the detailed design process. The Risk Management Plan will help determine the type of barrier that is required for the specific technology used on site.
i) <i>Provided with enclosed wiring and buried cabling, except where required to be above-ground for grid connection.</i>	✓	The connection from the proposed 220kV powerline to connect the WESS to the proposed transformers south of the BESS will be enclosed or buried depending on the final configuration. Where practicable, wiring will be enclosed.
j) <i>Provided with spill containment that includes provision for management of fire water runoff.</i>	✓	Mains water will be used for fire-fighting activities. It is determined that a minimum storage of 576,000 litres will need to be provided on-site to contain fire water runoff. In the event of water being used for fire suppression activities, such runoff needs to be contained to ensure contaminants are contained before releasing to the environment. Under normal conditions, such storage can be used for storing stormwater runoffs from the new BESS development and switch yard extension areas; however, an additional storage of 576kL minimum will be provided on-site.

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## 4.1.5 Peat

There is no identified presence of peat near or on the site. If identified there is the requirement of an exclusion zone of at least ten metres for the facilities infrastructure as the high carbon content decomposed vegetation is extremely difficult to extinguish.

## 4.1.6 Substation and transmission lines

All EA powerline infrastructure at the site will be buried or on the surface in racks, and vegetation adjacent to above ground powerlines and substations will be managed in accordance with EA and National Industry standards.

## 4.2 Facility construction and commissioning requirements

During construction the site will ensure appropriate risk controls are implemented by the contractors. The Construction Management Plans will further enforce safety requirements that must be adhered to while on site. Safe work procedures for the facility will consider the following:

- Electricity and chemical management including provision of the required fire protection equipment for any storages of dangerous goods as per the relevant Australian Standards. In addition, site security to ensure dangerous goods are stored safely.
- Ignition source control, including hot works, safe storage of flammable liquids, and training of staff in line with the Australian Standards.
- Infrastructure, equipment and vehicle maintenance
- Emergency management including communication procedure with the CFA
- Appropriate permits for work during the Fire Danger Period

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## 4.3 Facility operations requirements

A Fire Management Plan will provide the details required to safely operate the BESS facility, including details of potential fire hazards and risks, and implementation of appropriate and effective risk control measures to reduce the potential for fire occurring, and limit the consequences of fire. This will be developed based on the results of the Risk Management Plan.

The Risk Management Plan will identify the potential sources of fire including on-site and off-site hazards. These will be specific to the technology used on site and factor in features such as hard standing, site access and water supply that are existing and will help manage risk. Once compiled risk treatments will be identified based on the hierarchy of controls and industry good practice. This should include having consideration for other legislative requirements such as the *Dangerous Goods Act 1985*; the *Dangerous Goods (Storage and Handling) Regulations 2012*; *Electrical installations – Safety of battery systems for use with power conversion equipment*, AS 3780-2008; and relevant Australian Standards. Where required, mitigation measures and treatments will be implemented during the design and at the BESS facility for example appropriate ventilation and spill containment / retention ponds. Ongoing monitoring will help identify emerging risks and reporting will track that the measures implemented remain effective. This should be prepared in consultation with CFA and/or FRV.

Below outlined the operational requirements as per the CFA Guidelines and how the WESS can address these.

### 4.3.1 Vegetation and fuel management

It is important that vegetation and fuel is managed effectively at the WESS to reduce both the risk of fire entering the facility, as well as minimise the consequences of fire. Given that the WESS site is partially within the BMO, it is a priority of the EA to ensure that fire risks are managed for the duration of the operational life of the facility. Table 5 below outlines how these can be achieved.

**Table 5 CFA vegetation and fuel management requirements**

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
<p><i>Facility operators must undertake the following measures during the Fire Danger Period:</i></p> <p>a) <i>Grass must be maintained at or below 100mm in height during the declared Fire Danger Period.</i></p>	✓	Management of the grasses will be in accordance with CFA guidelines and included in the Fire Management Plan.
<p>b) <i>Long grass and/or deep leaf litter must not be present in areas where heavy equipment will be working, during construction or operation.</i></p>	✓	Management of long grass and deep leaf litter will be in accordance with CFA guidelines and included in the Fire Management Plan.
<p>c) <i>Restrictions and guidance must be adhered to during the Fire Danger Period, days of high (and above) fire danger and Total Fire Ban days (refer to <a href="http://www.cfa.vic.gov.au">www.cfa.vic.gov.au</a>).</i></p>	✓	Fire Danger Period protocol will be included in the Fire Management Plan.
<p>d) <i>All vehicles and heavy equipment must carry at least a nine (9)-litre water stored-pressure fire extinguisher with a minimum rating of 3A, or firefighting equipment as a minimum when on-site during the Fire Danger Period.</i></p>	✓	During operation, there will very few vehicles accessing the site beyond routine maintenance. These vehicles have the capacity to have firefighting equipment.
<p><i>Containers/enclosures and infrastructure for battery energy storage systems must be maintained to be clear of vegetation, including grass, for at least ten (10) metres on all sides, or greater as informed by the Risk Management Plan</i></p>	✓	The Risk Management Plan will provide further detail of these requirements however the BESS will be located on non-combustible surfaces and located at least 10m from the amenity buffer on Bonds Lane or larger patches located on site.

#### 4.3.2 Maintenance

The WESS is to include maintenance procedures that ensures facility infrastructure, equipment and vehicles will be maintained in safe, effective working order contributes to efficiency, reliability and importantly, fire safety. Table 6 outlines how these may be achieved on site.

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**Table 6 CFA maintenance requirements**

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
<i>Inspection, maintenance and any required repair activities must be conducted for all infrastructure, equipment and vehicles at the facility. Maintenance must be in line with any relevant Australian Standards and the manufacturer's requirements.</i> <i>Modifications to Model Requirements must be in consultation with CFA.</i>	✓	The WESS procedures with a schedule and relevant personnel accountabilities in relation to regular inspections.  Regular inspections will check for any signs of mechanical damage to the external containers/enclosures as well as any accumulation of combustible materials inclusive of leaf litter in or within 10m of any BESS and related infrastructure. The BESS facility must be serviced and maintained as per the manufacturer's requirements
<i>Battery energy storage systems, including the battery management system and any associated safety systems, must be regularly serviced to the manufacturer's specifications.</i>	✓	The BESS is to be serviced and maintained as per the manufacturer's requirements.
<i>A procedure, including a schedule and relevant personnel accountabilities, must be developed in relation to the inspection of battery energy storage systems.</i>	✓	A BESS procedure including a schedule and relevant personnel accountabilities in relation to regular inspections is to be developed. This will be stored onsite and easily accessible.
<i>Battery energy storage systems are to be regularly inspected for:</i> <ul style="list-style-type: none"> <li>Any signs of mechanical damage to the external containers/enclosures.</li> <li>Any accumulation of combustible materials (including leaf litter) in or within ten (10) metres of any battery energy storage systems and related infrastructure.</li> </ul> <i>Any identified issues must be immediately rectified.</i>	✓	The BESS is to be regularly inspected to check for any signs of mechanical damage to the external containers/enclosures as well as any accumulation of combustible materials inclusive of leaf litter in or around any BESS and related infrastructure. A protocol will be in place if any defects are found and how they should be managed correctly and safely.

### 4.3.3 Facility and system monitoring

For facility infrastructure, particularly the WESS, it is safe practice to have appropriate monitoring systems in place that rapidly identify operational faults or equipment failures with the potential to ignite or propagate fire.

In the case of a facility or system failure, a Fire Management Plan and Emergency Management Plan will identify the protocol and arrangements for such scenarios. For the WESS, these documents will be developed in consultation with CFA.

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**Table 7 CFA facility and system monitoring requirements**

CFA GUIDELINE REQUIREMENT	COMPLIANCE CAN BE ACHIEVED	NOTE
<p><i>For battery energy storage systems, appropriate monitoring and intervention measures must be provided to ensure that the following are rapidly identified and notified to 000 immediately:</i></p> <ul style="list-style-type: none"> <li>■ Any shorts, faults, temperature increases above normal parameters (eg. precursor to thermal events/runaway).</li> <li>■ Equipment failures with the potential to ignite or propagate fire.</li> <li>■ Off-gassing, smoke or fire.</li> </ul>	✓	<p>Battery facilities must provide specifications for safe operation and safety information relevant to the operation of the WESS is to be stored on site at the facilities entrance and is to be easily accessible to responding firefighting resources</p> <p>Ongoing monitoring will be undertaken to identify emerging risks from the operation of the BESS and the Emergency Management Plan updated if required.</p> <p>This will be prepared in consultation with CFA and/or FRV.</p>
<p><i>The provision for direct alarm monitoring to the fire brigade for battery energy storage system automatic detection systems must be considered.</i></p>	✓	<p>The proposed BESS seeks to install fire detection equipment. This will be detailed in the Fire Management Plan and Emergency Management Plan.</p>

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## 5 Summary

This bushfire assessment confirms the WESS facility is:

- Located in a low level of bushfire risk in relation to hazards adjoining the project area (Section 3.1.2) and in the wider landscape (see Section 3.1.3).
- Able to comply with the relevant objectives *Guidelines for Renewable Energy Installations* (CFA, 2022) in terms of defensible space, access, water supply and location of services.
- To have a Risk Management Plan prepared in accordance with the *Guidelines for Renewable Energy Installation* (CFA, 2022) prior to the commencement of construction.
- To have a Fire Management Plan prepared in accordance with Guidelines, in consultation with FRV and CFA, prior to the commencement of construction. The extension of the hydrant firefighting water supply from the adjoining Jeeralang Power Station should be discussed with CFA prior to the construction phase.
- To have an Emergency Management Plan prepared in accordance with the Guidelines prior to the commencement of construction.
- Prior to operation, the BESS manager must provide the CFA with specifications for its safe operation. Safety information relevant to the operation of the WESS is to be stored on site at the facilities entrance and is to be easily accessible to responding firefighting resources.
- To include the BESS procedures with a schedule and relevant personnel accountabilities in relation to regular inspections This includes:
  - BESS requirements to be serviced and maintained as per the manufacturer's requirements
  - Regular inspections to check for any signs of mechanical damage to the external containers/enclosures as well as any accumulation of combustible materials inclusive of leaf litter in or around any BESS and related infrastructure
- To store any dangerous goods at WESS facility in accordance with the requirements of the *Dangerous Goods Act 1985*; the Dangerous Goods (Storage and Handling) Regulations 2012; and relevant Australian Standards
- To include appropriate ventilation provisions as appropriate and spill containment through the proposed retention pond at the facility.

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- DELWP 2020b, Planning Schemes Online, Department of Environment, Land, Water and Planning, Melbourne, Victoria, viewed 17<sup>th</sup> December 2020, <<https://www.planning.vic.gov.au/schemes-and-amendments/browse-planning-scheme/>>
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# Appendix A: Bushfire Prone Area and Bushfire Management Overlay Requirements and Exemptions

The project area is within a designated Bushfire Prone Area (BPA) and partially within a Bushfire Management Overlay (BMO). It should be noted that the mapped BMO corresponds with a eucalypt plantation which was present when the BMO layer was mapped but which has since been cleared and the land converted to agricultural use.

The policy for bushfire planning and risk assessment is outlined in Clause 13.02-1S of all Victorian Planning Schemes. The objective of this clause is to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life. Clause 13.02-1S outlines that bushfire risk must be considered in areas designated as a BPA when assessing an application for the following uses and developments:

- Subdivisions of more than 10 lots
- Accommodation
- Childcare centre
- Education centre
- Emergency services facility
- Hospital
- Indoor recreation facility
- Major sports and recreation facility
- Place of assembly
- Any application for development that will result in people congregating in large numbers

A battery storage facility is defined as a 'utility installation' under 73.03 of the Victoria Planning Provisions, therefore does not require consideration under this clause.

In relation to the Bushfire Management Overlay Clause 44.06-1, a similar list of uses require consideration:

- Accommodation (including a Dependent person's unit)
- Education centre
- Hospital
- Industry
- Leisure and recreation
- Office

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- Place of assembly
- Retail premises
- Service station
- Timber production
- Warehouse

Given the proposed development (battery energy storage facility) is not listed in Clause 13.02, it is considered that the requirements of this clause do not apply and as it is considered *utility installation* the requirements of Clause 44.06 also do not apply:

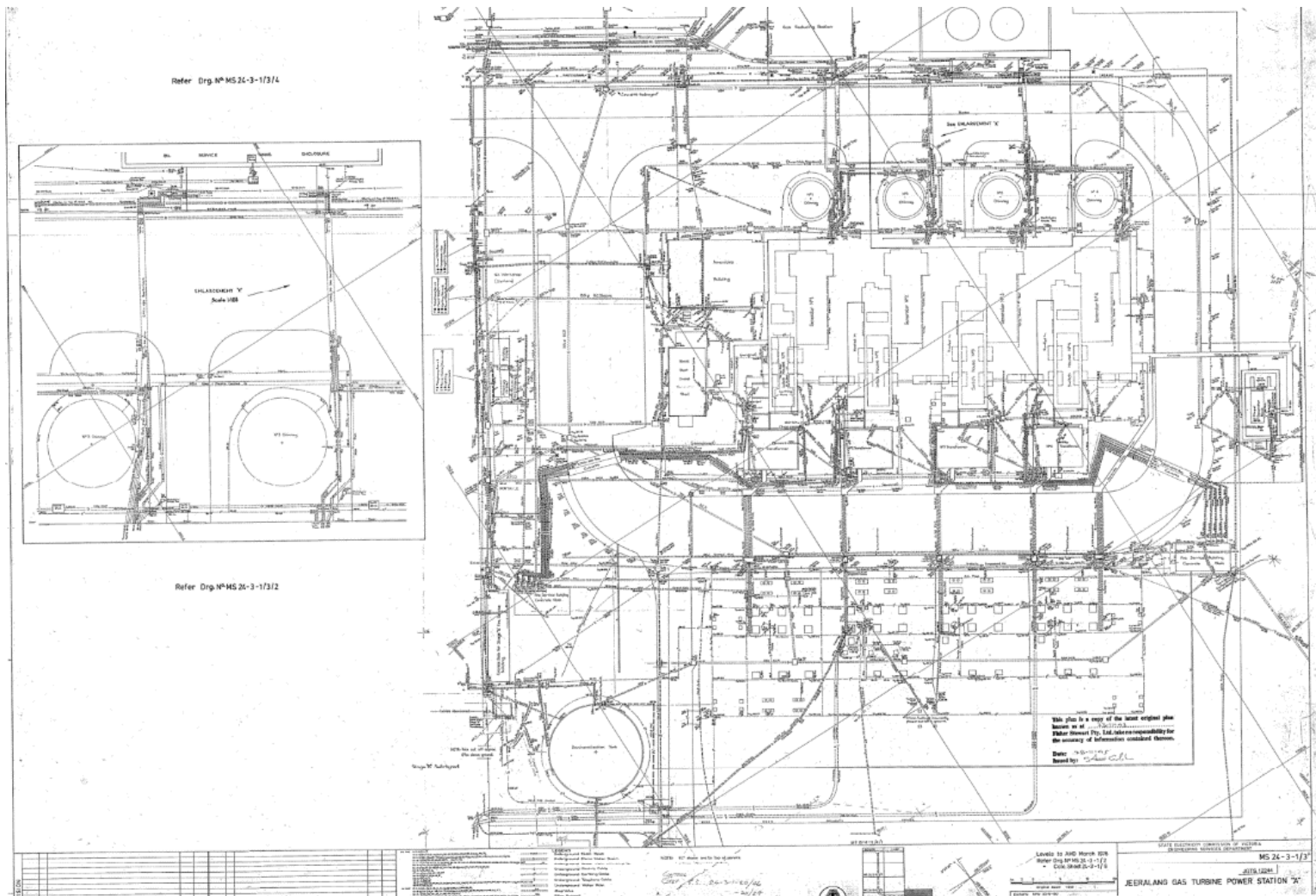
- *A bushfire hazard site assessment including a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard must be prepared in accordance with Sections 2.2.3 to 2.2.5 of AS3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2. Photographs or other techniques may be used to assist in describing the bushfire hazard.*
- *A bushfire hazard landscape assessment including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site. Photographs or other techniques may be used to assist in describing the bushfire hazard.*

As the building is not used for accommodation purposes a bushfire management statement as per Clause 53.02 is not required.

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## Appendix B: Jeeralang Gas Powerstation – Hydrant network



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