GRIFFITH BATTERY ENERGY STORAGE SYSTEM

State Significant Development - SSD 85372970

Bushfire Assessment Report

Eku Energy on behalf of Griffith BESS Co Pty Ltd

(The Proponent)

Griffith NSW

November 2025

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

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EXECUTIVE SUMMARY

Eku Energy on behalf of Griffith BESS Co Pty Ltd (the Proponent), has engaged Cool Burn Fire and Ecology (Cool Burn) to prepare a Bushfire Assessment Report (BAR). This report addresses the Planning Secretary's Environmental Assessment Requirements (SEARs) issued for the Griffith Battery Energy Storage System (BESS) (the Project).

This assessment has been reviewed by a BPAD Accredited practitioner recognised by the NSW RFS and the Fire Protection Association Australia (FPAA) as suitably qualified consultant in bushfire risk assessment.

The Proponent is proposing to develop and operate a lithium-ion BESS with a nominal capacity of up to 100 MW power supply into the National Electricity Market for up to 10 hours capacity. The Project will be located at 15 Bob Irvin Road Yoogali NSW, within the Griffth City Council Local Government Area. The Project has been classified as a State Significant Development (SSD) under NSW planning legislation. Accordingly, an Environmental Impact Statement is required for the Project, and this BAR has been prepared as part of the EIS to assess the potential bushfire risk and associated impacts from constructing and operating the Project.

The Study Area contains Bushfire Prone Land (BFPL). Planning for Bushfire Protection 2019 (PBP 2019) is applicable to all development on BFPL in NSW and the development must satisfy the aims and objectives of PBP 2019.

The Project Site, and locality, has been extensively modified for agriculture and is predominantly grassland and cropping vegetation. The Development Area has been cleared of native vegetation and is characterised by fallowed cropping that has been colonised by grasses and herbaceous weeds.

This report considers bushfire risk and cumulative impacts. Mitigation actions have been developed to ensure the Project complies with the specifications and requirements of PBP 2019 and these measures will be implemented for the life of the Project.

The Asset Protection Zone (APZ) for the Project has been determined by bushfire modelling to achieve a radiant heat exposure of 29kW/m^2 or less to the battery components and operational and construction buildings and facilities.

Standard access and water supply recommendations have been provided and will satisfy the performance criteria of PBP 2019. The Project will provide safe access that supports capacity for fully loaded (23 tonne) firefighting vehicles. A perimeter road is recommended to provide a trafficable and defendable space that permits unobstructed vehicle access. Alternate access / egress should also be considered should the main entry / egress point become obstructed during a bushfire.

Emergency management planning will be required post development approval and prior to Project construction. Planning will consider bushfire risk and will be relevant during construction and operational phases. Recommendations have been included in this report to support emergency management and evacuation.

Early consultation with the NSW Rural Fire Service (RFS) Fire Control Centre (Griffith Office) has been undertaken, and the details of the consultation are provided in this report.

Definitions and Abbreviations

Item	Definition
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BAR	Bushfire Assessment Report
BESS	Battery Energy Storage System
BFDB	Bushfire Design Brief
BFPL	Bushfire Prone Land
BPM	Bushfire Protection Measures
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
FDR	Fire Danger Rating
FPAA	Fire Protection Association Australia
FRNSW	Fire and Rescue NSW
FSS	Fire Safety Study
ha	Hectares
IPA	Inner Protection Area
km	Kilometre(s)
kV	Kilovolt
LEP	Local Environmental Plan
LGA	Local Government Area
m	Metre(s)
MW	Megawatts
NCC	National Construction Code
NSW	New South Wales
NSW RFS	NSW Rural Fire Service
PBP 2019	Planning for Bushfire Protection 2019

Definitions and Abbreviations

Item	Definition
PHA	Preliminary Hazard Assessment
RF Act	*Rural Fires Act* 1997
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development
The Project	The Griffith Battery Energy Storage System. This refers to all elements that comprise the Project for which approval is sought.

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1. Introduction

Eku Energy on behalf of Griffith BESS Co Pty Ltd (the Proponent), has engaged Cool Burn Fire and Ecology (Cool Burn) to prepare a Bushfire Assessment Report (BAR). This report addresses the Planning Secretary's Environmental Assessment Requirements (SEARs) issued for the Griffith Battery Energy Storage System (BESS) (the Project).

This assessment has been reviewed by a BPAD Accredited practitioner recognised by the NSW Rural Fire Service (RFS) and the Fire Protection Association Australia (FPAA) as suitably qualified consultant in bushfire risk assessment.

1.1 Project Description

The Proponent is proposing to develop and operate a lithium-ion BESS with a nominal capacity of up to 100 MW power supply into the National Electricity Market (NEM) for up to 10 hours capacity. The Project will be located at 15 Bob Irvin Road Yoogali NSW, within the Griffth City Council Local Government Area (LGA) (*Figure 1*). The Project has been classified as a State Significant Development (SSD) under NSW planning legislation.

The Project Site is an area within a 45ha rural Lot (Lot 2 DP1252779) and includes a transmission corridor which will link the BESS to the Griffith Substation (*Figure 1*). The approved, but yet to be constructed, Yoogali Solar Farm will also be constructed on Lot 2 DP1252779 surrounding the Project Area.

The Development Area for the Project is 6ha which will be situated adjacent to Bob Irvin Road and will include the BESS Area and the transmission corridor to the Griffith Substation (*Figure 1*). The transmission corridor infrastructure is proposed to be underground within the Lot boundary (due to an overhead high voltage Transgrid easement). It will either rise at the edge of the western Lot boundary or the northeast corner of Lot 139 DP75109 and run overhead in a single span to the Griffith Substation, or it will continue underground to the Griffith Substation (subject to further design and approvals).

Construction will involve up to 150 personnel and the BESS will be operated by 2.5 full time equivalent employees with an expected operational lifespan of 25 years. The Project will generally comprise the following key components:

- A BESS with a capacity of up to 100 MW for ten hours of storage (1,000 MWh) with:
    - Battery units
    - Inverters
    - Transformer

  - Switchroom
- Control building
- Workshop
- Water tanks
- Water detention basin
- Laydown area
- Access tracks
- Primary access
- Secondary / emergency access.

Within the locality, approximately 50 residential dwellings occur within a 2km radius. The operational Griffith Solar Farm is located approximately 600m to the northeast, and the approved pre-construction Riverina Solar Farm will be located approximately 500m to the northwest.

A full project description is provided in Chapter 3 of the Griffith BESS Environmental Impact Statement (EIS).

1.2 Purpose and scope of this document

The Project will be assessed as a State Significant Development (SSD-85372970) under *State Environmental Planning Policy (Planning Systems) 2021*. Accordingly, an EIS is required for the Project under the NSW E*nvironmental Planning and Assessment Act 1979* (EP&A Act).

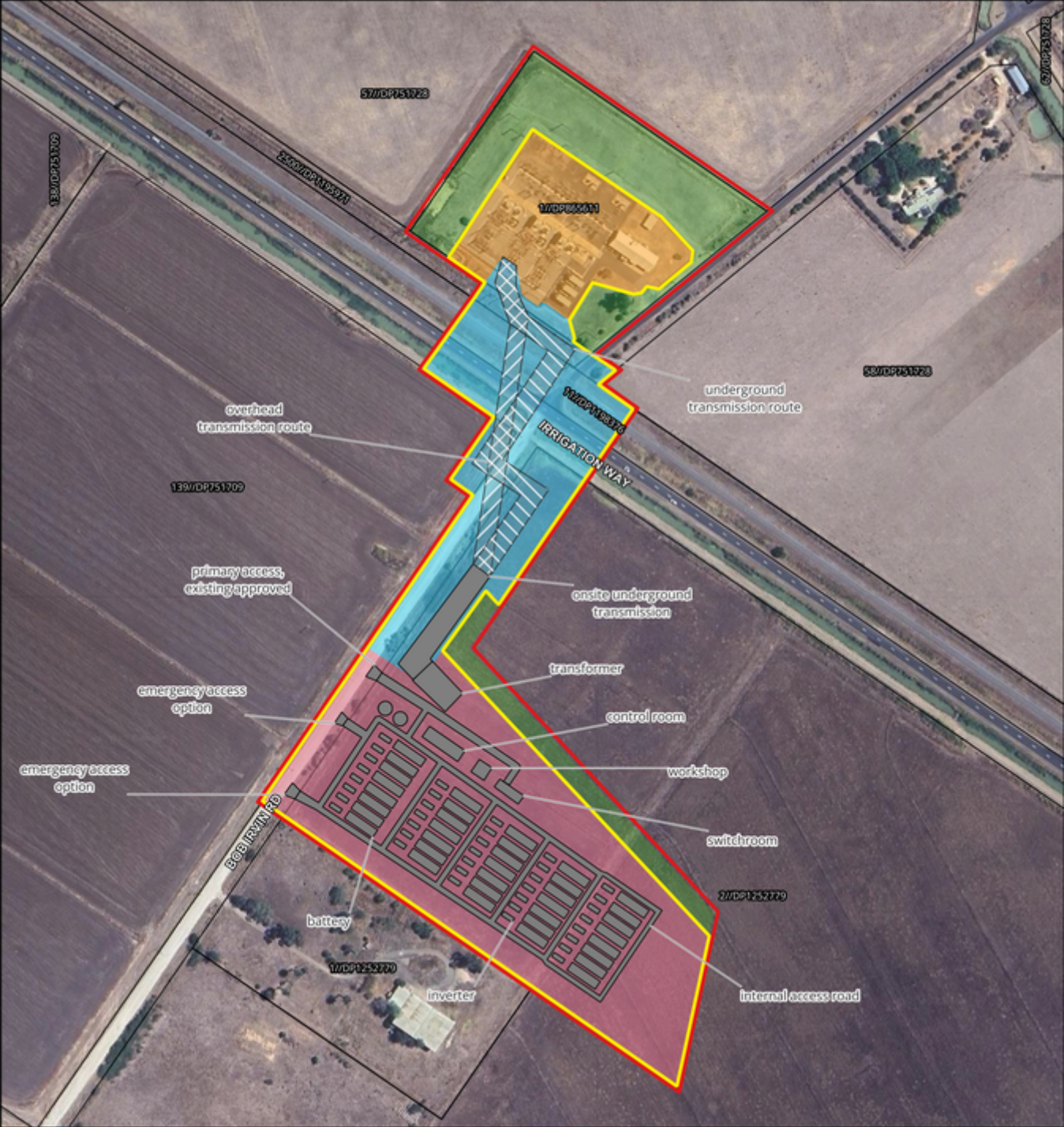
This BAR has been prepared as part of the EIS to assess the potential bushfire risk and associated impacts from constructing and operating the Project. It addresses the SEARs issued by the Secretary of the Department of Planning, Housing and Infrastructure (DPHI) which were issued on 23 June 2025.

The BAR will:

- Address the SEARs relevant to bushfire under the Key Issue - Hazards (listed in *Table 1* below)
- Describe the existing environment and consider the suitability of the site with respect to bushfire
- Assess the impacts of constructing and operating the project on bushfire risk
- Consider the potential for cumulative impacts with other localised development including the Yoogali Solar Farm
- Recommend measures to mitigate and manage the impacts identified.

Table 1: Planning Secretary's Environmental Assessment Requirements

Planning Secretary's Environmental Assessment Requirements SSD-85372970
Key Issue - Hazards (Bushfire)
Bushfire – a bush fire hazard assessment completed by a suitably qualified consultant and identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and demonstrate compliance with Planning for Bush Fire Protection 2019.



Site Layout Plan

0 50 100 m

2449 - Griffith BESS

LEGEND

Indicative BESS Layout

- Indicative BESS component
- Offsite transmission - Overhead option
- Offsite transmission - Underground option

Project Areas

- Project Site
- Development Area
- Indicative BESS Area
- Indicative Transmission Corridor
- Outside Development Area
- Griffith Substation works area

Note: Works in the Griffith Substation works area are subject to a needs assessment and direction from Transgrid.

Version: EIS

Date: 15/10/2025

Disclaimer: This plan is preliminary and subject to detailed studies and approval.

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1.3 Bushfire Planning

The bushfire assessment will be prepared for the long-term and ongoing planning for the Project, covering design and approvals principles, construction, and operation. Bushfire planning must ensure that the proposed activity and land use is appropriate to minimise the risk to life and property from bushfire attack. Services and infrastructure that facilitate effective suppression of a bushfire also need to be identified and provided. Structural fires associated within a BESS will be addressed separately (Fire Safety Study) and are not considered further in this document. However, fires emanating from the Project Site and being the causal factor of a bushfire will be considered.

Bushfire planning includes and considers the following legislation, guidelines, plans and standards:

- NSW E*nvironmental Planning and Assessment Act 1979* (EP&A Act) and associated regulation
- NSW *Rural Fires Act 1997* (RF Act) and associated regulation
- NSW Rural Fire Service (RFS) Planning for Bushfire Protection 2019 (PBP 2019)
- State Environmental Planning Policy (Planning Systems) 2021 (SSD Policy)
- Australian Standard 3959-2018 Construction of buildings in bushfire-prone areas (AS3959)
- Murrumbidgee Irrigation Area Bush Fire Risk Management Plan 2023 (MIA BFRMP)
- Fire Safety Guidelines – Access for Fire Brigade Vehicles and Firefighters 2020.

Additionally, the Development Assessment Report and the Conditions of Consent, released by Griffith City Council for the 15MW Yoogali Solar Farm (Development Application 291/2018(1) August 2019), were reviewed to provide consistency in bushfire mitigation and in the consideration of cumulative impacts.

1.4 Planning for Bush Fire Protection 2019

The BAR aims to assess the Project in accordance with the provisions of Planning for Bushfire Protection 2019 (PBP 2019). There is a requirement to identify the extent to which the proposed development conforms with or deviates from the relevant provisions of PBP 2019.

PBP 2019 is applicable to all development on bushfire prone land in NSW and all development on bushfire prone land must satisfy the aims and objectives of PBP 2019.

The key objectives of PBP 2019 are to provide buildings and their occupants protection from exposure to bushfires; create a defendable space around buildings and infrastructure; ensure appropriate separation between bushfire hazards and buildings; provide effective access and egress for emergency services and occupants; and ensure adequate ongoing management of bushfire protection measures and utility services.

The overall aim of PBP 2019 is to provide for the protection of life and to minimise impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment.

To comply with PBP 2019, the project will require the following conditions to be met:

- Satisfy the aim and objectives of PBP 2019
- Consider the requirements and recommendations listed within PBP 2019 for the specific purpose for the Project -
    - Chapter 2.4.2 State significant development and infrastructure
    - Chapter 8.3.1 Buildings of Class 5 – 8 under the National Construction Code
    - Chapter 8.3.9 Hazardous industry
    - Chapter 8.3.10 Commercial and industrial development
- Detail appropriate Bushfire Protection Measures (BPMs) that satisfy relevant performance criteria.

The construction and operational workforce will be aware of their location, able bodied, capable of evacuation if required and will be informed and prepared for bushfire response in site inductions and emergency management planning.

1.4.1 Class 5 to 8 buildings and Class 10 structures

Buildings of Class 5 to 8 (as per National Construction Code 2022 (NCC)) which includes the control building as well as temporary demountable construction offices, will be assessed under Chapter 8.3.1 of PBP 2019. The NCC does not provide for any bushfire specific performance requirements for these particular classes of buildings. As such *Australian Standard 3959-2018 Construction of buildings in bushfire prone areas* (AS3959) and the National Association of Steel Housing (NASH) Standard are not considered as a set of Deemed to Satisfy provisions, however compliance with AS3959 and the NASH Standard must be considered when meeting the aims and objectives of PBP 2019. The following objectives will be applied in relation to access, water supply and services, and emergency and evacuation planning:

- To provide safe access to/from the public road system for firefighters providing property protection during a bushfire and for occupant egress for evacuation
- To provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development
- To provide adequate services of water for the protection of buildings during and after the passage of bushfire, and to locate gas and electricity so as not to contribute to the risk of fire to a building
- Provide for the storage of hazardous materials away from the hazard wherever possible.

Any Class 10 structures which includes workshops and storage sheds, fences, will be assessed under Chapter 8.3.2 of PBP 2019.

1.4.2 Hazardous industry

Energy storage and the use of lithium-ion batteries is potentially hazardous. Hazardous industry is assessed under Chapter 8.3.9 of PBP 2019, which requires the preparation of a performance based solution commensurate with the bushfire hazards and associated risks, and subsequently a Preliminary Hazardous Analysis (PHA) will be conducted for the Project.

To comply with PBP 2019 Chapter 8.3.9, the following conditions must be met:

- Satisfy the aim and objectives of PBP 2019 outlined in Chapter 1
- Consider any issues listed for the specific purpose for the development set out in Chapter 8
- Propose an appropriate combination of BPMs.

1.4.3 Commercial and industrial development

Commercial and Industrial development (Chapter 8.3.10 PBP 2019) on BFPL is addressed through the aim and objectives of PBP (Chapter 1 PBP 2019). A suitable package of BPMs should be proposed commensurate with the assessed level of risk to the development. The scale of the development and numbers of people likely to be occupying a building / site will be directly relevant to the BPMs proposed.

The provisions within Chapter 7 of PBP 2019 (infill development) should be used as a base for the development of a package of measures. Each development is assessed on its own individual merits.

2. Bushfire Assessment

2.1 Project site and land use

The Project Site and locality has been extensively modified for agriculture (*Figure 3*). The cropping and irrigation lands occurring on flat plains are characteristic of the Riverina / Murrumbidgee Irrigation Area. The closest native vegetation, being semi-arid woodlands, occurs approximately 1.4km to the east along Mirrool Creek (geo.seed.nsw.gov.au).

The Development Area has been cleared of native vegetation and is characterised by fallowed cropping that has been colonised by grasses and herbaceous weeds (*Plate 1*).

The Project is accessed by Bob Irvin Road which is an 8m wide, gravel, two way public through road that runs along the western boundary of the Development Area (*Plate 2*) connecting to with Irrigation Way to the north, and a series of inter-connecting cross roads to the south. Bob Irvin Road forms part of the Development Area for the purposes of the transmission corridor. The road reserve is generally managed grasslands (slashed) with isolated trees, primarily native Weeping Myall (*Acacia pendula*) and exotic Canary Island Date Palm (*Phoenix canariensis*).

The Yanco – Griffith rail way runs parallel to Irrigation Way on the north side, and an irrigation channel runs parallel to the south side of the road (*Plate 3*). Where this channel intersects with Bob Irvin Road by way of a 7m culvert crossing, the road width is reduced to 6m.

Existing electircal networks include an overhead high voltage Transgrid easement traverses through the Development Area and a 33kV overhead line that runs along the western side of Bob Irvin Road. An underground gas pipeline easement runs along the northern Lot boundary of the Project Site.

Plate 1: The proposed BESS Development Area with Transgrid HV line

Plate 2: Bob Irvin Rd and easement vegetation

Plate 3: Irrigation channel along Irrigation Way

Specific planning details for the Project are provided below in *Table 2*.

Table 2: Griffith BESS Development Area details

Primary project address	15 Bob Irvin Road Griffith NSW 2680
Lot / Plan details	Lot 2 DP1252779
Local Government Area	Griffth City Council
Zoning	RU1 Primary production
Bushfire Prone Land	Category 3, buffer
Bushfire Management Committee Area	Murrumbidgee Irrigation Area
Proposed development	Battery Energy Storage System
Approval pathway	State Significant Development
Building classification	Class 5 (control building, temporary construction offices) Class 10 (workshop and storage)

2.2 Bushfire landscape assessment

A bushfire landscape assessment considers the likelihood of a bushfire, its potential severity and intensity and the potential impact on life and property in the context of the broader (macro) surrounding landscape. The following terms are used for this assessment:

- Development Area – development footprint (refer *Figure 1*)
- Assessment Area – Development Area with a 140m buffer
- BESS Area – BESS development footprint
- Locality – 5 km radius from the Development Area.

2.2.1 Climate and climate change

The Project is located in the Murrumbidgee Irrigation Area (MIA) within the Northern Riverina Fire Weather District. The Northern Riverina District has an accepted fire danger rating (Fire Danger Index (FDI)) of 80 and a Grassfire Danger Index (GFDI) of 110 (NSW RFS Community Resilience, May 2017).

The MIA has a continental climate generally experiencing hot dry summers with low rainfall. Spring rainfall is the primary determining factor with regard to grass fire fuel loads, which undergoes curing by early summer resulting in a rapid increase in fire danger in December (RFS 2024).

Mean monthly air temperatures range from 3.3°C and 14.8°C in July to 18.4°C and 33.8°C in January[1]. The locality receives on average 406mm of rain per year which is evenly spread across the year (BoM 2025).

[1] Source: Griffith Airport AWS SITE 75041 (bom.gov.au)

The bushfire season generally runs from October to March. Typical days of extreme fire danger occur with periods of dry north westerly winds, bringing maximum temperatures to the vicinity of 43˚C. These days usually occur around January and February (RFS 2024).

Over the expected lifespan of the Project, the climate is projected to change, potentially resulting in more days of higher fire danger than previously experienced, and projected Fire Danger Ratings (FDR) exceeding current levels (Douglas, G. 2017). Planning for long term infrastructure should include consideration of the potential for increased fire danger and potentially higher fire frequencies. Conservatively an FDI 100 has been used for bushfire modelling for the Project in consideration of this risk.

2.2.2 Fire history and ignition

The MIA District has on average 495 bushfires per year, of which 10 on average can be considered to be major fires. The main sources of ignition are natural causes including lightning, and escapes from agricultural burns (RFS 2024).

There is no recorded fire history within the Griffith locality; the closest recorded fire was a 1981-82 wildlife that burnt 3333ha in the Cocoparra National Park, approximately 19km northeast of the proposed Development Area (geo.see.nsw.gov.au). Smaller fires in grasslands are not always recorded. There is the potential that localised fires have occurred and could occur in the future.

2.2.3 Bushfire prone land

Bushfire Prone Land (BFPL) is land identified and mapped by Council and certified by the Commissioner of the RFS under s10.3 of the EP&A Act. BFPL is considered as land that can support a bushfire or is subject to bushfire attack. BFPL maps provide a trigger for development assessment provisions. Any land parcels affected must apply the legislative requirements for development on bushfire prone lands.

The assessment area is affected by moderate risk Category 3 BFPL and vegetation buffer (*Figure 2*).

2.2.4 Vegetation

The bushfire behaviour assessment methodology assesses the vegetation classification on and surrounding the assessment area out to 140 metres, in accordance with the system for classification of vegetation contained in Appendix 1 PBP 2019. Predominant vegetation (the hazard) is classified by structure or formation using the system adopted by Keith (2004) and by the general description using PBP 2019.

The locality is predominantly characterised by grassland and cropping vegetation resulting from historical land use related to agriculture. The Development Area is classified at Category 1 exempt land

under the Local Land Services Land Management Framework. A preliminary ecological assessment identified no native vegetation within the Development Area (Red Gum 2025).

A site assessment identified fallowed cropping in the Development Area and further east within the Project Site. Although this vegetation will be cleared for the Yoogali Solar Farm and ultimately managed, it must be assessed as hazardous until construction begins. **This vegetation has been assessed as Grassland in accordance with Appendix 1 PBP 2019**.

The land to the west of Bob Irvin Road had been cleared in preparation for cropping. There is the potential for these crops to be 'curing crops' and they have conservatively been **assessed as Grassland in accordance with Appendix 1 PBP 2019**.

Vegetation around the relic structures to the south (41 Bob Irvin Road) is primarily grassland with isolated trees. Grassland also occurs to the north of the Development Area associated to the transmission corridor, around the Griffith Substation and to the east of Hamilton Road. This includes vegetation within the rail corridor and Irrigation Way road easement. These areas have been **assessed as Grassland in accordance with Appendix 1 PBP 2019**.

Vegetation mapping has been provided in *Figure 3*.

2.2.5 Topography and slopes

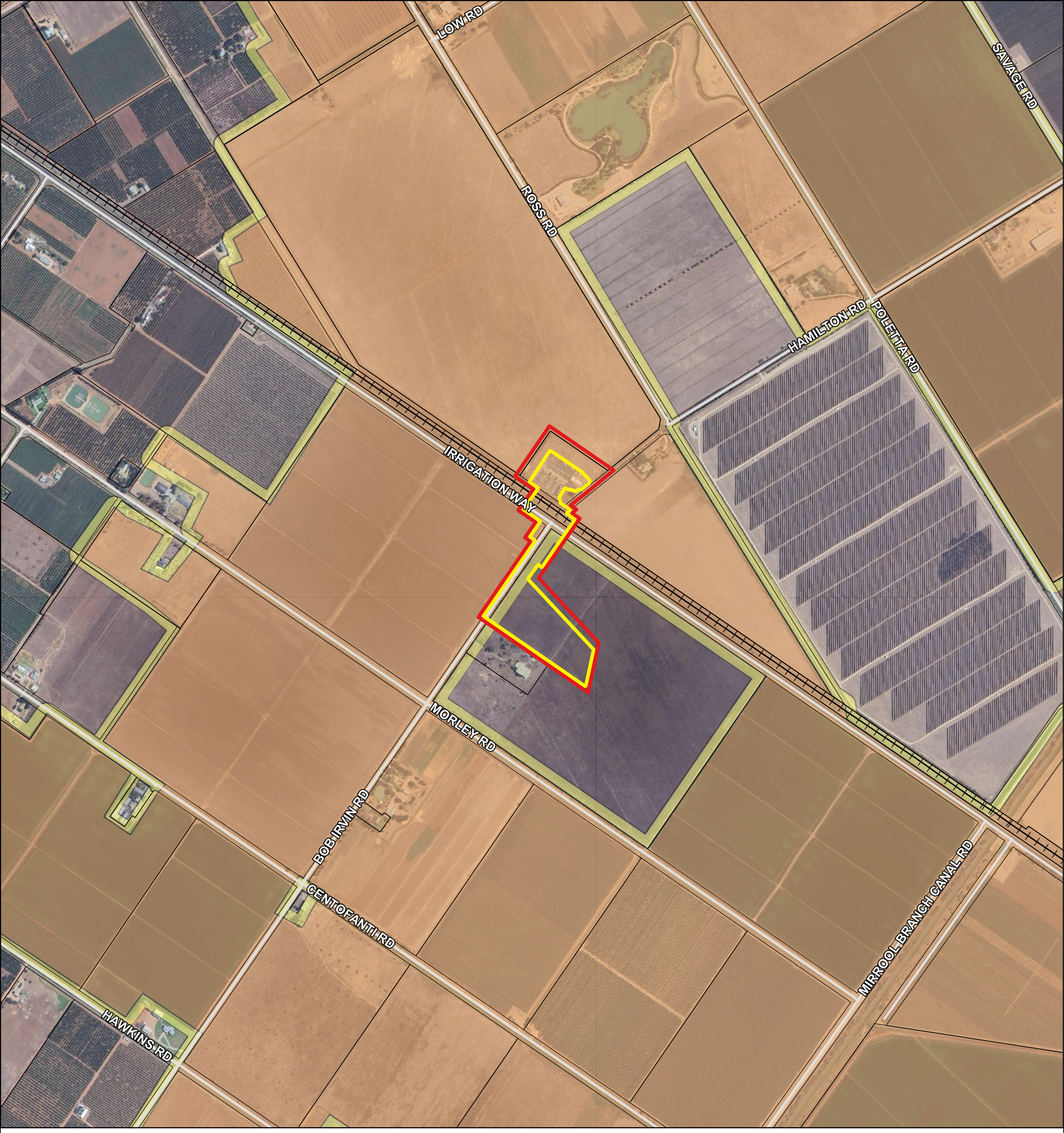
The bushfire behaviour assessment methodology assesses the effective slope of the land on and surrounding the property, out to 100 metres from the assessment area boundary using the assessment method described in Appendix 1 of PBP 2019.

The topography was analysed through publicly available geospatial information data and verified through a site visit to identify both the average and maximum slopes under hazardous vegetation (effective slope).

The topography within and surrounding the assessment area is predominantly flat. The assessed slope category to model fire behaviour is assessed as:

- North – flat
- East – flat
- South – flat
- West – flat.

Topography mapping has been provided in *Figure 3*.



Bushfire Prone Land Plan

0 0.25 0.5 km

2449 - Griffith BESS

LEGEND

Proposal

- Project Site
- Development Area

Existing Infrastructure

- Railway
- Roads

Bushfire Prone Land

- Category 0 - vegetation buffer
- Category 3 - medium risk

Version: 2.0

Date: 12/11/2025

Disclaimer: This plan is preliminary and subject to detailed studies and approval.

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Bushfire Vegetation Assessment

2449 - Griffith BESS

0 150 300 m

LEGEND

- Project Site
- Development Area

Bushfire Assessment

Vegetation formation

- Grasslands
- Managed Land
- Vegetation assessment buffer (140m)

Version: 2.0

Date: 12/11/2025

Note: The land is flat, 1m contours not visible at this scale.

Disclaimer: This plan is preliminary and subject to detailed studies and approval.

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2.3 Cumulative impacts and changes to bushfire risk

There is the potential for cumulative impacts to occur from an increase in solar energy generation and storage in the locality due to the Griffith BESS, the Yoogali Solar Farm, and the Griffith Solar Farm. However, acknowledging that these projects have been approved to consider bushfire risk and to meet the requirements of PBP 2019, it should be determined that bushfire risk has been adequately assessed and mitigated. There is likely to be an increase in traffic for the Yoogali Solar Farm and the Griffith BESS during construction period only, and appropriate management of the public roadway will ensure its trafficability, and access to these developments is not compromised in the event of bushfire.

The risk profile of the location of the BESS is unlikely to be significantly altered by the construction and operation of the BESS. The notable difference will be during construction where high risk activities could result in an increased risk of ignition. High risk activities include but aren't limited to hot works (e.g., grinding and welding), vegetation slashing, electrical installations, and vehicles traversing long grass.

Ignition sources should be identified and managed for high risk activities through Emergency Management Planning (*Section 3.6*), a Construction Environmental Management Plan (CEMP), and the and the health and safety systems of the contractor and individual sub-contractors. This should include restrictions to activities on extreme and catastrophic FDR days and during Total Fire Bans (TOBANs) (i.e. permitting requirements or a ban on specific activities). Additional measures to be incorporated into the CEMP include (but aren't limited to) designated smoking areas and cigarette disposal, appropriate refuelling locations, appropriate storage and signage of hazardous and flammable materials, and testing of electrical equipment (test and tag).

Positive bushfire mitigation impacts arising from the Project will include the establishment of appropriate vegetation setbacks (Asset Protection Zones), as well as prescribed landscaping and management. Upgrades to civil infrastructure established for the Yoogali Solar Farm and the Griffith BESS will support access requirements for emergency services, and water resources established for bushfire protection during construction will be retained until decommissioning. The increased level of site observation may also aid in early detection of bushfire ignition in the region.

3. Bushfire Protection Measures

The following risk mitigation actions have been developed for the Project to achieve compliance with the specifications and requirements of Chapter 8 of PBP 2019 and will be implemented for the life of the Project.

The Bushfire Protection Measures (BPMs) includes provisions relating to (*Plate 4*):

- Asset Protection Zone (APZ) and easement landscape management actions (including, but not limited to slashing, mowing, landscaping & garden maintenance and fire breaks) required to protect assets and prevent the spread of fire
- Building and construction requirements, commensurate with the purpose/use and constructions of the structures and, where applicable, the quantified bushfire attack level (BAL) ratings
- Access provisions (e.g. public access, property access and fire trails)
- Water supply and utilities (power) provisions
- Emergency management arrangements, consistent with the relevant emergency services requirements.

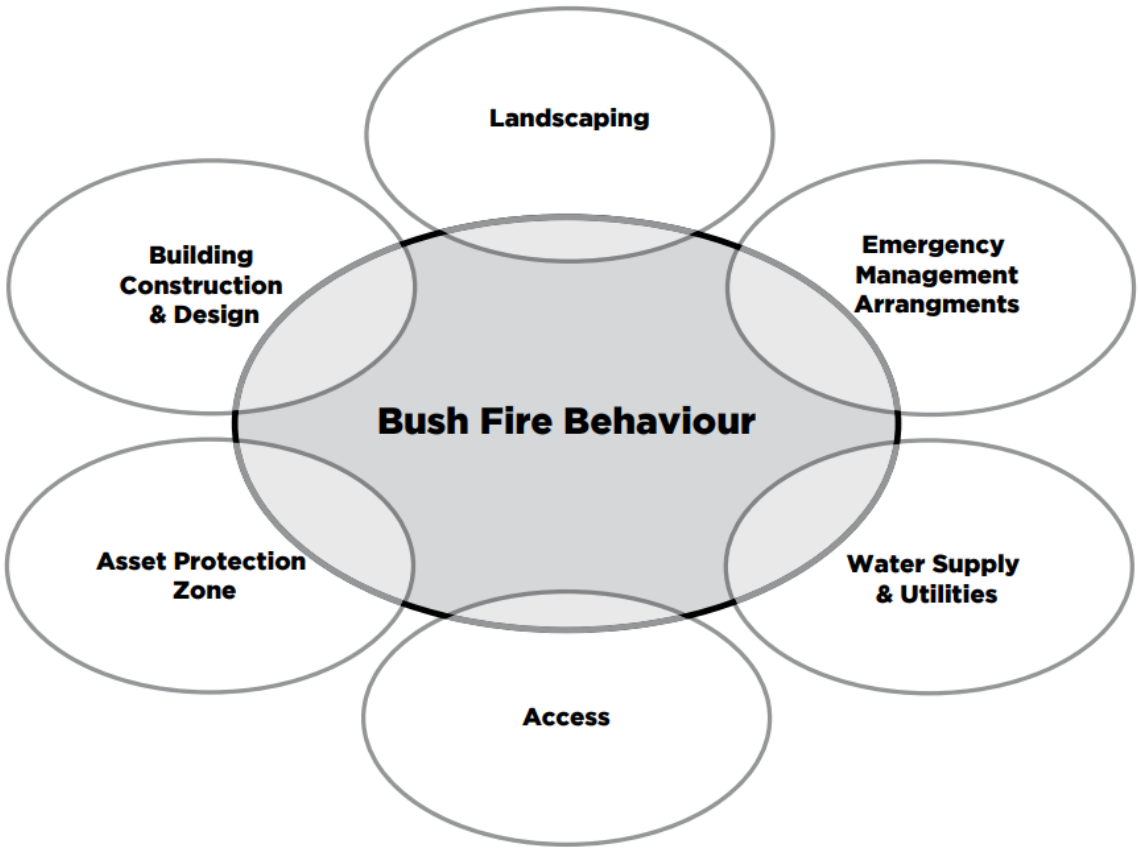

Plate 4: Bushfire Protection Measures

3.1 Asset Protection Zones

The APZ is a fuel-reduced, physical separation between structures / assets and bushfire hazards, which will provide for a defendable space and maintain reduced fuel loads to ensure radiant heat level exposure is below critical limits and prevent direct flame contact to any Project related infrastructure.

An APZ provides a safer area for firefighters to defend assets (defendable space). Additionally, an APZ provides mitigation for any fire ignition occurring from within the infrastructure (e.g. electrical fire) to ignite and spread into the surrounding vegetation (and subsequently be the causal factor of a bushfire).

PBP 2019 does not specifically detail APZ standards for this type of infrastructure (energy storage). The radiant heat exposure, expressed as kW/m^2 or Bushfire Attack Level (BAL), is defined by the hazardous vegetation type and the effective slope. Tolerable risk is a considered factor in determining a suitable APZ associated to the potential impact that could be caused by a bushfire and the ability to inhibit a fire leaving the site.

It is recommended that an APZ is established around the BESS Area including the control building (critical infrastructure) to achieve a bushfire attack level (BAL) of 29kW/m^2 or less, which is classified as BAL 29 in the AS3959:2018 *Construction of buildings in bushfire-prone areas*.

The recommended APZ distance to achieve BAL 29, derived from Table A1.12.5 (FDI 100) of PBP 2019, has been provided in *Table 3* and illustrated in *Figure 4*.

Table 3: Asset Protection Zone distances (metres)

Direction	Slope	Predominant vegetation	Minimum APZ	Bushfire Attack Level
North, East, South and West	Flat	Grassland	10m	BAL 29

A location for the temporary construction buildings has not been determined however it should be established at an appropriate location to minimise maintenance and risk. A 10m APZ is recommended for these buildings.

The APZ must be managed and maintained for the life of the development to the standard of an Inner Protection Area (IPA) as outlined below (Section 3.2 – Landscaping) and described within Appendix 4 of PBP 2019 and the RFS Standards for Asset Protection Zones (2005).

Asset Protection Zone Plan

0 150 300 m

2449 - Griffith BESS

LEGEND

- Project Site
- Development Area

Bushfire Assessment

Vegetation formation

- Grasslands
- Managed Land
- Vegetation assessment buffer (140m)
- Asset Protection Zone (10m)

Version: 2.0

Date: 12/11/2025

Note: The land is flat, 1m contours not visible at this scale.

Disclaimer: This plan is preliminary and subject to detailed studies and approval.

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3.2 Landscaping

Landscape maintenance refers to the maintenance of any retained grassy vegetation within the BESS Area, including the APZ, and screen plantings, in a way to minimise fire intensity and rate of spread. The APZ and all areas in between should be established and managed to the prescribed standards for an IPA as detailed in PBP 2019 Appendix 4, and described below in *Table 4*:

Table 4: Inner Protection Area standards

Inner Protection Area Standards
Trees: • Tree canopy cover should be less than 15% at maturity • Trees at maturity should not touch or overhang any structure or asset • Lower limbs should be removed up to a height of 2m above the ground • Tree canopies should be separated by 2 to 5m • Preference should be given to smooth barked and evergreen trees. **Shrubs** • Large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided • Shrubs should not be located under trees • Shrubs should not form more than 10% ground cover • Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation. **Grass** • Grass should be kept mown or slashed (as a guide grass should be kept to no more than 100mm in height) • Leaves and vegetation debris should be regularly removed.

The landscaping and vegetation will be managed for the life of the Project under a landscape or vegetation management plan to the standards of an IPA to ensure the activities are delivered with regularity and the above criteria can be consistently achieved.

Any vegetation screening installed for the Project will be established and maintained in a minimal fuel condition, to not increase the bushfire risk toward the assets and infrastructure.

Fencing and gates installed for the Project need to be made of non-combustible material only.

3.3 Construction

The intent of construction measures is to ensure appropriate design and construction of buildings enhance their survivability from bushfires.

There are no specific bushfire construction requirements for project-related infrastructure (i.e. batteries, control building, and temporary construction facilities). The general fire safety construction provisions for these types of industrial facilities are taken as acceptable solutions for bushfire protection (PBP 2019).

Construction requirements detailed in AS 3959:2018 for structures such as the control building and temporary construction offices will need to be considered on a case-by-case basis, and in accordance with APZ setbacks to achieve acceptable and tolerable risk.

In accordance with Chapter 8.3.1 of PBP 2019, the following bushfire protection objectives apply to the control building and temporary construction offices (Class 5 buildings):

- Provision for safe access to/from the public road system for firefighters providing property protection during a bushfire and for occupant egress for evacuation
- Provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development
- Provide adequate services of water to assist management of fire risk, during and after the passage of bushfire
- Storage of combustible materials away from the hazard and asset wherever possible.

Access, emergency arrangements and services of water are further discussed in the sub-sections below. All Class 10 structures should be constructed from non-combustible materials. Hazardous and combustible materials should be stored away from the control room and temporary construction offices, and not within the APZ.

3.4 Access

The intent of access measures is to provide safe access to/from the public road system and water supply for firefighters providing property protection during a bushfire, and for occupant egress for evacuation.

Site access

Public road access will be provided from Bob Irvin Road, an all-weather through road approximately 8m wide that connects with Irrigation Way to the north and to a network of interconnected roads to the south. It is suitable for heavy vehicle access and capable of supporting Cat 1 firefighting appliances. A constriction (pinch point) has been identified at the irrigation channel culvert crossing where the road is reduced to 6m width. Short constrictions in access are acceptable in accordance with Table 7.4a PBP 2019 (not less that 3.5m wide and no longer than 30m long), however this should be incorporated into emergency management planning for awareness. It should be ensured that the culvert crossing is capable of supporting fully loaded 23 tonnes firefighting vehicles.

Internal access roads with a minimum carriage way of 4m will be provided to the site from the public road for construction and operational purposes. A 4m wide perimeter access road is recommended around the BESS (within the 10m APZ) to support access to the BESS components and provide an effective defendable space. Perimeter roads can be constructed within the APZ to provide a trafficable and defendable space that permits unobstructed vehicle access.

Access to and within the site will be maintained for the life of the development. As such the access will be capable of supporting a Cat-1 fire fighting vehicle consistent with the following standards:

- Site access roads are two-wheel drive, all weather roads with capacity to support fully loaded firefighting vehicles (23 tonnes)
- The trafficable surface will have a minimum width of 4m
- The access will have a minimum 4m height clearance overhead, free from any obstructions
- Curves with a minimum inner radius of 6m
- Crossfall less than 10 degrees
- A suitable vehicle turning area must be provided at the BESS in accordance with Appendix 3 of PBP 2019 (Attachment 1)
- Drainage and wet area crossings are either suitably trafficable or avoided
- Access must be provided to within 4m of a water supply for firefighting purposes (water tank)
- Traffic management devices are constructed to not prohibit access by emergency services vehicles (including manual override in the event of power failure).

Alternate Access

An alternate access/egress point for the BESS should be available if the main entry / egress path becomes obstructed during a bushfire. A secondary access has been provisioned for the southern side of the BESS Area onto Bob Irvin Road. Internal access roads should connect with this point to ensure an alternative access. The alternate access will be detailed in emergency management planning.

3.5 Water and electrical services

The intent of water and utilities is to provide an adequate water supply for bushfire suppression purposes and ensure the location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings and infrastructure.

A water supply 'dedicated for RFS use' is recommended for the BESS Area. A minimum 20,000L Static Water Supply (SWS) will be strategically installed prior to construction and will remain throughout the operation of the project. The SWS will meet the following standards:

- Metal or concrete tank(s) if above ground
- All above-ground water service pipes are metal, including and up to any taps
- Provided at strategic location within the site (within the IPA and not against hazardous vegetation), having consideration for essential equipment and accessibility (e.g. near the BESS infrastructure, supporting vehicle access and connections)
- Have a connection for firefighting purposes; 65mm Storz outlet with a fitted ball valve

- Hardened ground surface for firefighting truck access to within 4m of the tank with unobstructed access at all times and appropriate turning points in accordance with Appendix 3 of PBP 2019 (Attachment 1)
- The tank is clearly marked with signage as a Static Water Supply for RFS purposes.

The BESS will connect to the Griffith Substation via an overhead power line through the transmission corridor. No part of any tree will be closer to a power line than the distance set out in accordance with the specifications in ISSC3 *Guideline for Managing Vegetation Near Power Lines.* The transmission corridor should be maintained in a minimal fuel condition avoiding tree growth and regularly slashing grassland.

3.6 Emergency management planning

Emergency management planning will be required post development approval and prior to Project construction and will be relevant during construction and operation. Emergency management planning should consider bushfire and include the following:

- Detailed measures to prevent or mitigate fires igniting are incorporated into a CEMP, e.g.:
  - hot works permits for works which may result in the ignition of fire.
  - hot works are not to be carried on Total Fire Ban days, or when local authorities or the Construction Manager deems weather conditions too dangerous.
- 24-hour emergency contact details including alternative telephone contact
- Inductions for construction personnel on bushfire risk management, other fire related risks, and emergency response procedures that could present during construction and operation
- Availability of fire-suppression equipment, access, and water including site infrastructure plans and site access and internal road plans
- Location of hazards (physical, chemical, electrical) that will impact on the firefighting operations and procedures to manage any identified hazards during firefighting
- Storage, maintenance and appropriate signage of any flammable or hazardous materials
- Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a high fire danger period (as declared by the NSW RFS) to ensure weather conditions are appropriate
- Situational awareness and evacuation planning, including:
  - how situational awareness will be managed (bushfire alert levels, local fire weather information sources and details)
  - fire response and evacuation matrix
  - evacuation procedures, evacuation routes, and neighbourhood safer places
- Additional matters as agreed and required by the NSW RFS District Office.

Emergency management planning would benefit from the development of a Pre-incident Plan (PIP) to support a coordinated response to a bushfire event. A PIP is best presented as a single page map based plan that would support attending emergency services by clearly identifying the following elements of bushfire mitigation:

- Access tracks including perimeter and internal access, and alternative egress
- Location of Static Water Supply
- Identification and location of hazards (physical, chemical, electrical) including hazardous materials storage tanks and sheds
- Identification of turning points
- 24-hour emergency contact details

The PIP should be displayed in appropriate places (i.e. manifest box, construction offices, operations and maintenance facility) and be suitable and readily available for emergency services to take (i.e. laminated A3 print out). A site familiarisation and review of the PIP document should be offered to the Griffith RFS.

Emergency management planning documents should be provided to the Griffith Local Emergency Management Committee.

3.7 Early agency consultation

Early consultation with the RFS Fire Control Centre for the MIA District (Griffith Office) was undertaken by Cogency Australia on 30 May 2025. The RFS advised that they were familiar with similar energy projects in the region and did not have any major concerns at the time. The RFS requested that the Project design ensure a minimum 4m internal road width to allow passage of firefighting vehicles, due to other projects in the area providing internal road widths that were too small (<4m).

4. Summary

The Griffith Battery Energy Storage System can apply solutions to satisfy the aims and objectives of PBP 2019 including APZ and defendable space, landscaping, construction, access, water supply, and emergency management arrangements.

This Bushfire Assessment Report demonstrates the combination of bushfire protection measures for the Project will assist in the protection of assets, infrastructure and people during a bushfire and contribute to the safety of firefighters during the event of a bushfire. It demonstrates that the Project and location is suitable for development in the context of bushfire risk. The protection measures will also mitigate against a bushfire originating from the Project and spreading to the surrounding vegetation.

The bushfire protection measures and recommendations made in this report have been summarised in *Table 5*. With the provisions of these recommendations, the Project has capacity to demonstrate the aims and objectives and specific performance criteria of PBP 2019.

Table 5: Summary of Recommendations

Bushfire Protection Measure	Recommendations
Asset Protection Zone	• A minimum 10m defendable space will be established around the BESS Area including the control building. • The temporary construction office buildings will provide an APZ setback to achieve acceptable and tolerable risk. • APZs will be maintained for the life of the Project.
Landscaping	• Landscaping within the BESS Area will be established and maintained in accordance with Appendix 4 PBP 2019 for an Inner Protection Area, and the RFS Standards for Asset Protection Zones. • Vegetation screening will be established and maintained in a minimal fuel condition, to not increase the bushfire risk toward the assets and infrastructure. • These works and the performance criteria should be detailed and delivered under a Vegetation or Landscape Management Plan. • Fencing and gates need to be made of non-combustible material only.
Construction	• All Class 10 structures should be constructed from non-combustible materials. • Store hazardous and combustible materials away from the control building and temporary construction offices.
Access	• The Project will provide heavy vehicle access capable of supporting a Cat-1 fire vehicle consistent with the standards detailed in Section 3.4 of this report. • Internal and perimeter roads will be a minimum of 4m width. • Perimeter roads can be constructed within the APZ to provide a trafficable and defendable space that permits unobstructed vehicle access. • Access must be provided to within 4m of a water supply for firefighting purposes (water tank). • Traffic management devices are constructed to not prohibit access by emergency services vehicles. • Alternate access to the BESS Area should be provided.
Water and electricity	• A 20,000L Static Water Supply will be installed for dedicated RFS use to the standards provided in Section 3.5 of this report.

Bushfire Protection Measure	Recommendations
	• No part of any tree will be closer to the overhead power line through the transmission corridor than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines. • The transmission corridor should be maintained in a minimal fuel condition avoiding tree growth and regularly slashing grassland.

Emergency management and evacuation	• Emergency management planning will consider bushfire and will include the items listed in Section 4.6.
	• The emergency management plan will be prepared prior to construction and will be relevant to construction and operation.
	• A Pre-incident Plan (PIP) will be developed to support a coordinated response to a bushfire event and will contain:
	  ○ Access tracks including perimeter and internal access, and alternative egress
	  ○ Location of Static Water Supply
	  ○ Identification and location of hazards (physical, chemical, electrical) including hazardous materials storage tanks and sheds
	  ○ Identification of turning points
	  ○ 24-hour emergency contact details.
	• Emergency management planning documents should be provided to the Griffith Local Emergency Management Committee.

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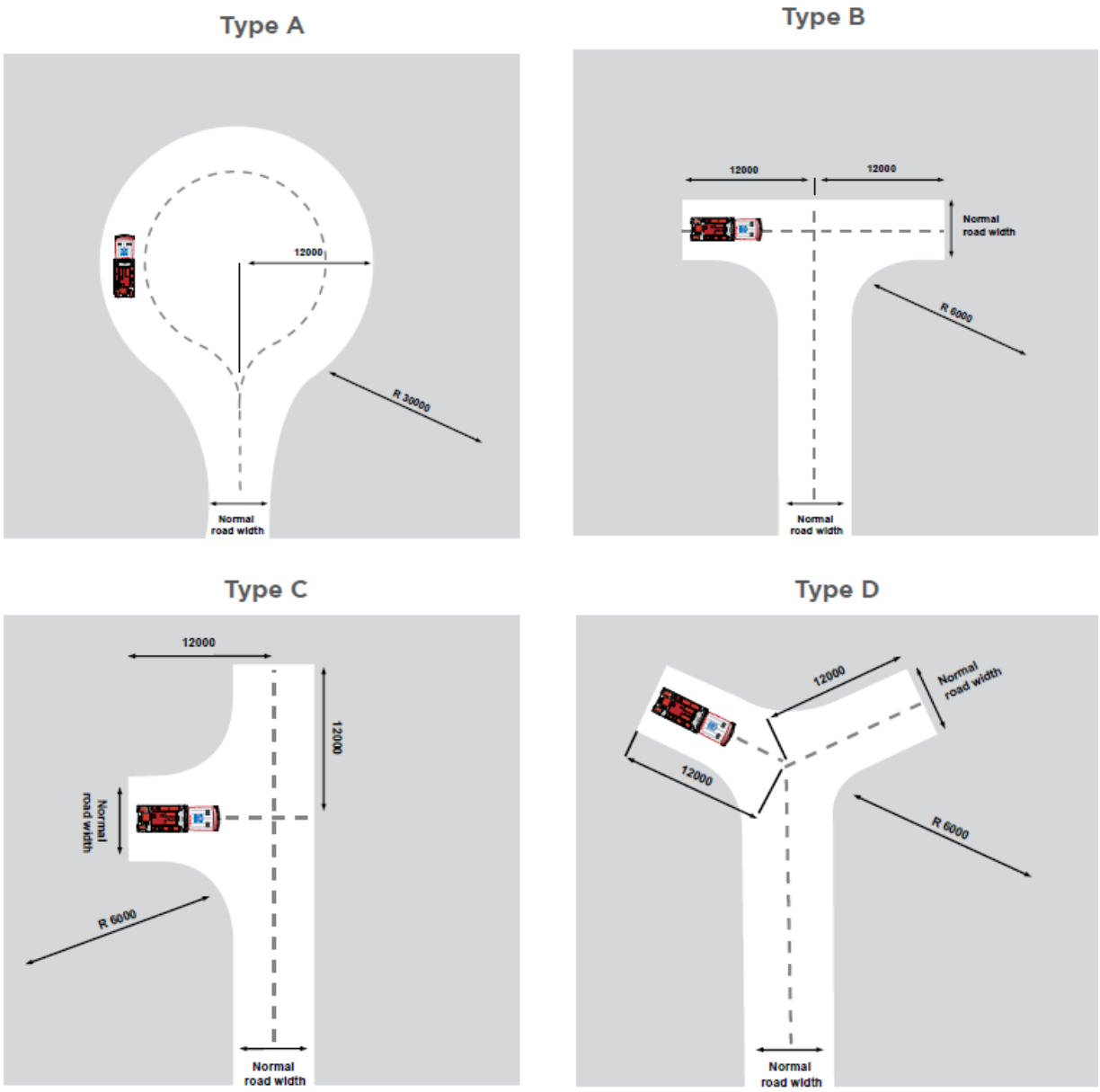
Attachment 1. Vehicular Turning Options



Source: Appendix 3 PBP 2019