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NEWCASTLE SYDNEY

Bushfire Threat Assessment

Proposed Mayfair Solar Farm, 206 Jacksons Lane
Stubbo NSW Lot 2 DP 734669 and Lot 2 DP528667



Prepared for: **Elgin Energy Pty Ltd**
C/- Urbis

20 May 2025

AEP Ref: 3345

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Image on Front Page: Indicative view of the landscape present

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1.0 Introduction

The proposed project includes a solar farm with a capacity of approximately 60 MW AC and will include a hybrid battery energy storage system (BESS) of approximately 60MW capacity and 240MWh (4 hour) storage, along with associated civil infrastructure and temporary workers accommodation is proposed within Lot 2 DP734669 and Lot 2 DP528667, located at 206 Jacksons Lane, Stubbo NSW in the Mid-Western Regional LGA. At the request of Elgin Energy Pty Ltd (the client), Anderson Environment & Planning (AEP) have undertaken the necessary investigations to inform the production of a Bushfire Threat Assessment (BTA) report addressing the proposed development.

This report is specifically intended to assess the bushfire protection measures required by the NSW Rural Fire Service's "Planning for Bushfire Protection 2019" (PBP) and the construction requirements of the proposed development in accordance with the provisions of the Building Code of Australia – Volume 1&2, Edition 2022 and Australian Standard 3959-2018 (AS 3959) – "Construction of buildings in bushfire-prone areas".

The proposed development involves mixed use development in accordance with the PBP 2019, comprising a solar farm, battery and temporary worker accommodation. The development is a State Significant Development and as such is exempt from requiring a BSA and is not required to be assessed under Section 4.14 of the Environmental Planning and Assessment Act 1979. Despite this, given the scale of SSI and SSD projects, the requirements of PBP 2019 should still be applied and seeking advice from the NSW RFS is encouraged and recommended. This BTA assesses the proposed development against the objectives of the PBP in relation to Class 5-8 and 10 Buildings to provide for appropriate bushfire outcomes for the solar farm and battery and against the requirement for residential development for the temporary worker accommodation. When such developments can be shown to comply with the deemed-to-satisfy provisions of the National Construction Code (NCC), then the certifying authority can determine compliance and issue the relevant construction certificate without referral to the RFS. This BTA addresses the required heads of consideration relevant to obtaining approval.

For the purposes of referencing, this document should be referred to as:

Anderson Environment & Planning *Bushfire Threat Assessment for Proposed Solar Farm, Battery Storage and Temporary worker accommodation at 206 Jacksons Lane, Stubbo, NSW.*
Unpublished report for Elgin Energy Pty Ltd May 2025.

2.0 Site Particulars

The details of the Subject Site are provided in **Table 1**.

Table 1 – Site Particulars

Items	Comments
Client	Elgin Energy Pty Ltd
Address	206 Jacksons Lane, Stubbo NSW
Title(s)	Lot 2 DP734669 and Lot 2 DP528667
Subject Site	Entirety of Lot not including retained vegetation identified in BDAR
LGA	Mid-Western Regional
Zoning	RU1 – Primary Production
Current Land Use	Agricultural usage – cropping and grazing
Surrounding Land Use	Land surrounding the proposed development is mostly used for primary production, being cropping or grazing.

Figure 1 depicts the extent of the site overlain on an aerial photograph of the locality.

3.0 Proposed Development

It is proposed to develop a solar farm (herewith referred to as Mayfair Solar Farm) with a capacity of approximately 60MW AC and will include a hybrid battery energy storage system (BESS) of approximately 60MW capacity and four hours of storage. The proposal is classified as a State Significant Development (SSD-60074459). This report has been developed in response to the Secretary’s Environmental Assessment Requirements (SEARs) issued for the project on 07/08/2023.

Figure 2 depicts the proposed development plan.

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

Legend

 Subject Site

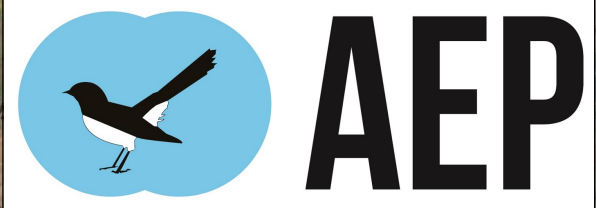
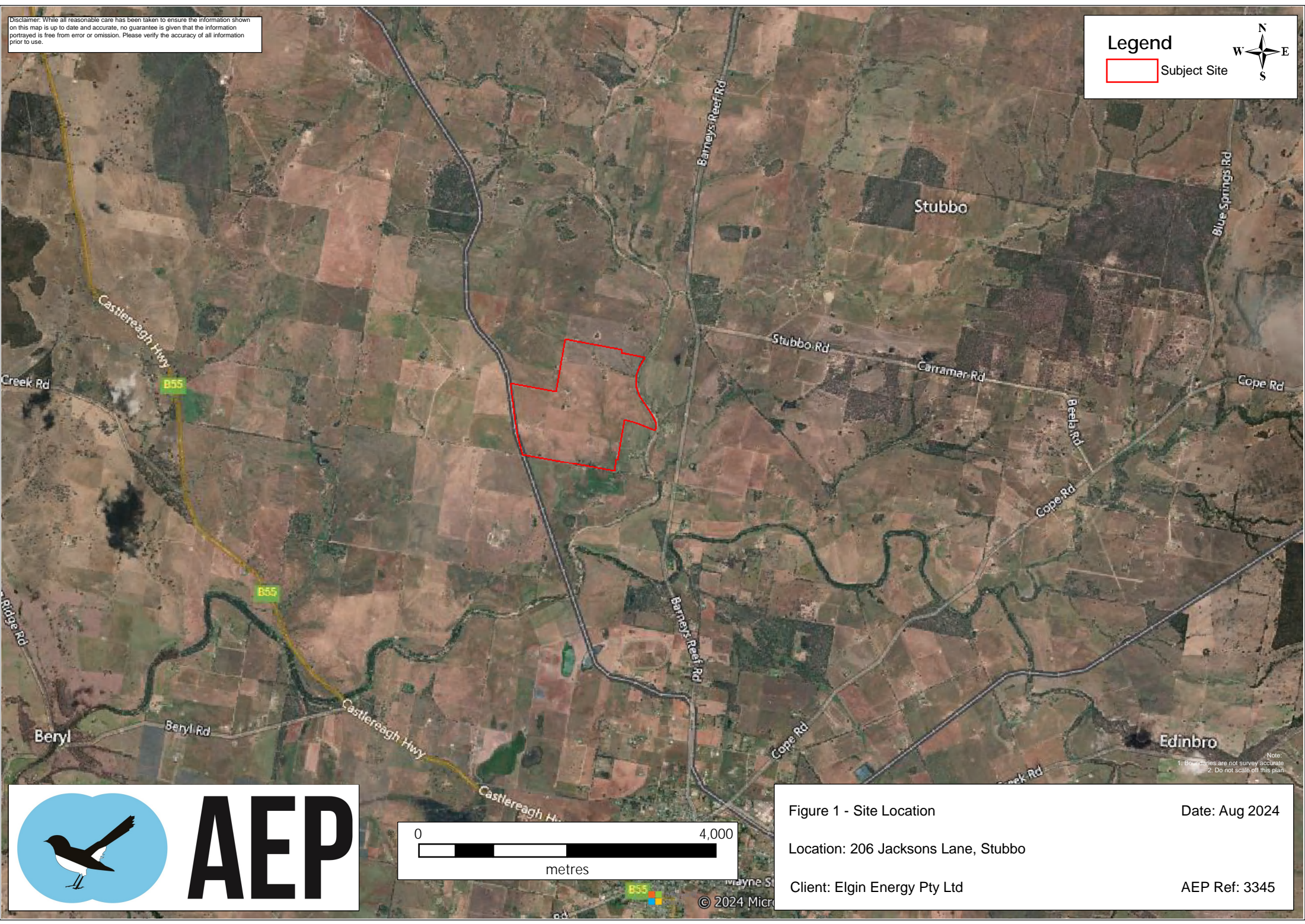



Figure 1 - Site Location Date: Aug 2024

Location: 206 Jacksons Lane, Stubbo

Client: Elgin Energy Pty Ltd AEP Ref: 3345

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan.

4.0 Fire Hazard Assessment

4.1 Bushfire Prone Land Mapping

Examination of the NSW Planning Portal, Bushfire Prone Land (BPL) Mapping (2024) revealed that the Subject Site is not located on Bushfire Prone Land. Notwithstanding this, the SEARs for this project issued on 07/08/23 states that assessment is to identify potential hazards and risks associated with bushfires/ use of bushfire prone land including the risks that a solar farm would cause bushfire and demonstrate compliance with Planning for Bushfire Protection 2019. As such the SEARs requirement has triggered the need for this assessment, not the location of the development, which is not located on Bushfire Prone Land.

Specifically, the SEARs required that the development:

- *Identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a solar farm would cause bushfire and demonstrate compliance with Planning for Bushfire Protection 2019.*

Appendix 1 of the PBP provides the steps required to determine the level of bushfire hazard that applies to the site. Factors influencing the hazard level include:

- The formation of vegetation surrounding the site (as defined by Keith 2004);
- The distance between vegetation and the site (or proposed buildings therein);
- The effective slope for each patch of vegetation; and
- The Fire Danger Index (FDI) of the council area within which the development occurs.

These factors together provide an indication of the level of threat posed to the development from any vegetation retained within the site and surrounding vegetation in the event of a bushfire, and the required mitigation measures to be taken in the form of defensible space. These measures are detailed further in **Section 5** below.

4.2 Vegetation and Slope Analysis

The Study Area and surrounds occur within the Mid-Western Region, with existing vegetation subsequently assessed with a Fire Danger Index (FDI) of 80, as defined in NSW Rural Fire Service (2017) NSW Local Government Areas FDI and an associated Grass Fire Danger Index (GFDI) of 110.

A 100m slope assessment area has also been included to show the underlying slope of the site and the surrounding areas. Where slope is mentioned in the context of vegetation it is to be considered the effective slope as defined in PBP 2019.

Hazard Vegetation types present within the Subject Site and the 140m Vegetation Assessment Buffer surrounding the development for solar farm operation are shown in **Table 2** with the future vegetation hazards shown in **Figure 3**.

Table 2 – Hazard Vegetation and Slope Assessment for Solar Farm during operation

Aspect	Hazard Vegetation	Slope (100m)	Defendable Space
North	Woodland / Grassland	Upslope flat	10m
North East	Woodland	Downslope 0-5	10m
East	Woodland	Downslope 0-5	10m
South East	Grassland	Downslope 0-5	10m
South	Woodland	Downslope 0-5	10m

Aspect	Hazard Vegetation	Slope (100m)	Defendable Space
South West	Woodland	Upslope flat	10m
West	Grassland	Upslope flat	10m
North West	Grassland	Upslope flat	10m

Table 3 considers the current hazard vegetation to provide assessment for the temporary workers accommodation during the construction phase of the development.

Table 3 – Hazard and Slope Assessment for Worker accommodation during development










Aspect	Current Hazard Vegetation	Slope (100m)	Residential APZ
North	Managed Lands	Upslope flat	-
North East	Managed Lands	Downslope 0-5	-
East	Grassland/ Managed Lands	Downslope 0-5	11m
South East	Grassland	Downslope 0-5	11m
South	Grassland	Downslope 0-5	11m
South West	Grassland	Upslope flat	10m
West	Grassland	Upslope flat	10m
North West	Managed Lands	Upslope flat	-


Appendix A contains photos showing the vegetation types within the Subject Site and the 140m vegetation assessment buffer around the Subject Site.

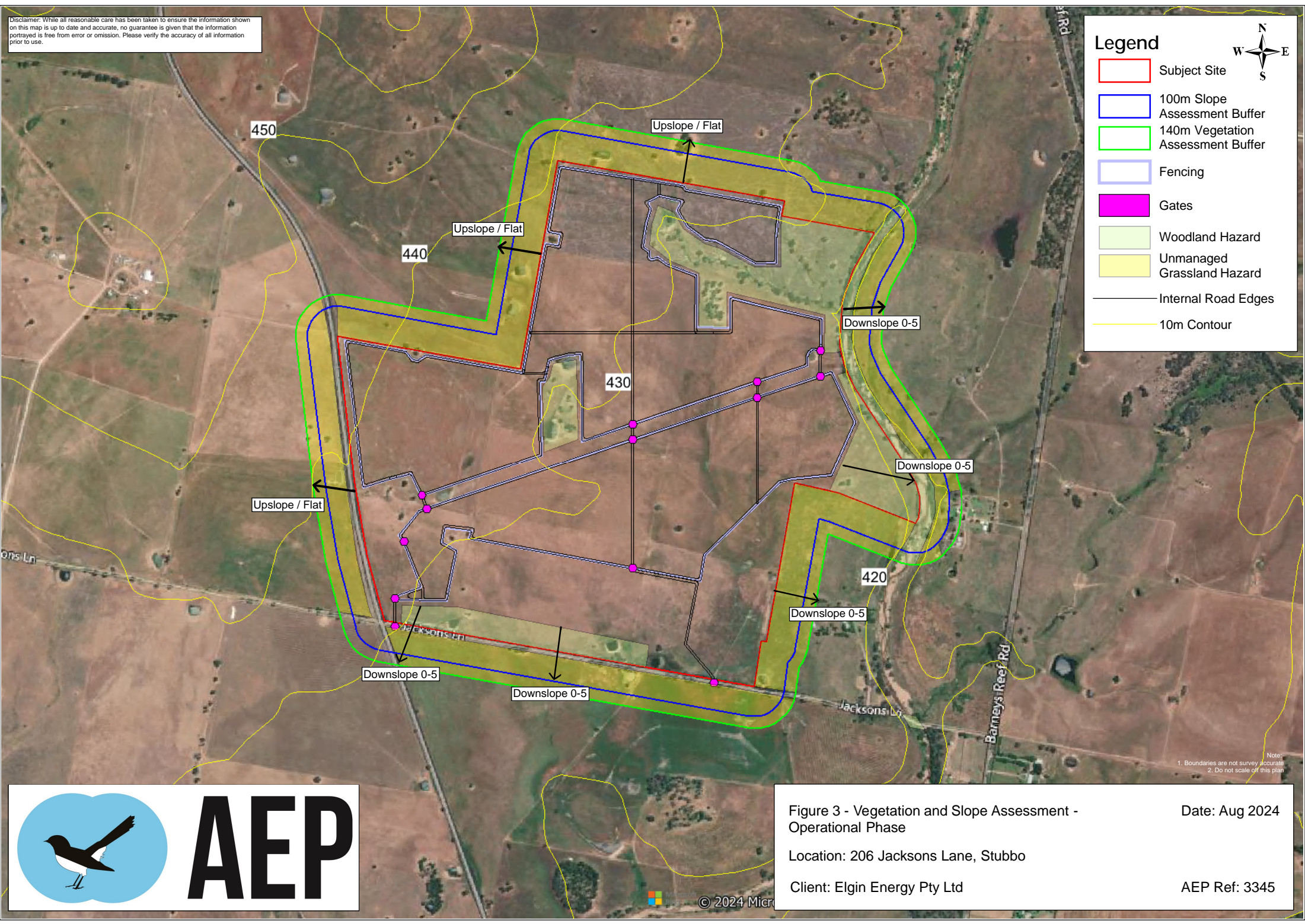
It is to be noted that this development includes the regeneration of Vegetation communities within the Lot. Revegetation of these communities has been considered when undertaking the hazard assessment for the Solar Farm during operation (**Table 2**) as the revegetation works will alter the vegetation that is currently present. However, the assessment of residential worker accommodation has been based on what is currently present pre revegetation works (**Table 3**).

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Legend

-  Subject Site
-  100m Slope Assessment Buffer
-  140m Vegetation Assessment Buffer
-  Fencing
-  Gates
-  Woodland Hazard
-  Unmanaged Grassland Hazard
-  Internal Road Edges
-  10m Contour





Notes:
 1. Boundaries are not survey accurate.
 2. Do not scale off this plan.



Figure 3 - Vegetation and Slope Assessment - Operational Phase
 Location: 206 Jacksons Lane, Stubbo
 Client: Elgin Energy Pty Ltd

Date: Aug 2024
 AEP Ref: 3345

4.3 PBP Performance Criteria Assessment

The proposal includes the construction of solar arrays, Battery Energy Storage System (BESS), temporary worker accommodation and ancillary structures. **Table 4** shows the assessment for the following in accordance with the PBP – Other Development and assesses the development against the aims and objective of Chapter 1 of the PBP with **Figure 4** showing the required Defendable space. **Table 5** shows the assessment for the temporary worker accommodation during construction – Given that this area will have an on-site manager residential APZs and BALs have been applied rather than Special Fire Protection Purpose (SFPP) APZs. **Figure 5** shows the residential BALs and APZs associated with temporary worker accommodation.

Table 4 – Performance Criteria Measures for Wind and Solar Farms

Performance Criteria	Assessment
Afford buildings and their occupants protection from exposure to a bush fire.	All structures within the development are afforded at least 10m of defendable space, noting that a specific assessment is provided in Table 4 for the temporary worker accommodation located in the south of the development site.
Provide for a defendable space to be located around building.	Suitable defendable space of 10m is currently present between every part of the development and hazard vegetation. Proposed solar arrays have a 6m internal road around the perimeter with a minimum additional 4m of cleared, managed land. Biodiversity management lands have also been designed in such a way as to provide additional space on top of the required 10m where possible.
Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings.	The current design provides adequate separation between the proposed building and the hazard vegetation surrounding the proposed development. Where areas of hazard vegetation are present these are separated from the development by roads or managed lands out to a minimum 10m, generally with an additional buffer of managed land between the development and hazard vegetation.
Ensure that appropriate operational access and egress for emergency service personnel and occupants is available.	Proposed access is adequate from the public road, Jacksons Lane, which will be upgraded as part of the proposed development. There are two access points, one at the Southeastern end of the development and one at the Southwestern end. This should allow for adequate evacuation in the event of an emergency and the distance between the two roads and the connecting roads running north south should ensure that the development is not isolated. With the entire development enclosed with security fencing and the two entry points being controlled by gates emergency services (including the RFS) are to be provided with keys or another suitable method to independently access the site in the case of an emergency.
Provide for ongoing management and maintenance of BPMs.	Defendable space will be provided in the form of a road and additional managed grass areas between the hazard vegetation and development structures. The grassland areas are to be subject to management plan that will involve keeping the grass mown to an acceptable level for defendable space.
Ensure that utility services are adequate to meet the needs of firefighters.	Two 45,000L water tanks are to be installed as part of the proposed development. These tanks are to be fitted with 65mm Storz outlet with ball valve is to be fitted to each. The ball valve and any piping is to be adequate for water flow and are to be made of metal. Supply pipes from the tank to the ball valve are to have the same bore size to ensure flow volume. It is likely that these tanks will be located adjacent to the BESS.

Performance Criteria	Assessment
Fire hydrant spacing, sizing and pressures comply with AS 2419.1 – 2021.	Hydrants are not proposed as static water is to be provided as described above.
Location and distance to nearest Fire Station	Gulgong Fire Station is located approx. 6km to the southwest, 7minutes drive from the proposed development.
The provisions of public roads in section 8.3.1 in relation to parking are met	There is a small carpark proposed within the workers accommodation area. This would be outside of road carriageways and would be dedicated parking. Otherwise no parking is proposed on internal roads.

Table 5 – Performance Criteria Measures for Temporary Worker Accommodation

Performance Criteria	Acceptable Solutions	Assessments
Assets Protection Zones		
Potential building footprints must not be exposed to radiant heat levels exceeding 29 kW/m ² on each proposed lot.	APZs are provided in accordance with Tables A1.12.2 and A1.12.3 based on the FFDI.	An 11m APZ is able to be afforded off the proposed area for workers. This will ensure that all accommodation structures are able to be provided in an area of at least BAL 29 or lower.
APZs are managed and maintained to prevent the spread of a fire towards the building	APZs are managed in accordance with the requirements of Appendix 4.	The grassland, which will make up the majority of the APZ, is to be kept at or below 100mm sward height, in line with Appendix 4 of PBP 2019.
The APZs is provided in perpetuity.	APZs are wholly within the boundaries of the development site	APZs are located wholly within the development.
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	APZs are located on lands with a slope less than 18 degrees.	The land within the site is very gently sloping, less than 5 degrees. All APZs can meet this requirement.
Landscape		
Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping is in accordance with Appendix 4.	Landscaping management is to be in line with Appendix 4 of PBP 2019 and addressed in a separate landscape management plan.
	Fencing is constructed in accordance with section 7.6.	Fencing proposed is metal security fencing.
Access (General Requirements)		

Performance Criteria	Acceptable Solutions	Assessments
<p>Firefighting vehicles are provided with safe, all-weather access to structures.</p>	<p>Property access roads are two-wheel drive, all-weather roads.</p>	<p>All roads are proposed to be all-weather and two-wheel drive accessible.</p>
	<p>Perimeter roads are provided for residential subdivisions of three or more allotments.</p>	<p>A perimeter road is provided around the entire development and Jacksons Lane can be used to provide an additional road that could be used to fight a fire coming from the south.</p>
	<p>Subdivisions of three or more allotments have more than one access in and out of the development.</p>	<p>N/A – not a subdivision. However, there are two access paths into and out of the residential accommodation and the site.</p>
	<p>Traffic management devices are constructed to not prohibit access by emergency services vehicles.</p>	<p>While there are gates and fences present, the RFS will be given the ability to access these in the case of an emergency and will be supplied with keys or will have a specific padlock included in the daisy chain. Otherwise, no traffic management devices are proposed.</p>
	<p>Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.</p>	<p>No part of the development has a grade that exceeds 5 degrees.</p>
	<p>All roads are through roads.</p>	<p>There are no dead-end roads within the development</p>
	<p>Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end.</p>	<p>N/A – no dead-end roads</p>
	<p>Where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road.</p>	<p>Roll top kerb and guttering is to be used on roads adjacent to hazard vegetation in the southern section of the development around the proposed temporary worker accommodation.</p>
<p>Where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system.</p>	<p>N/A – access is through grassland</p>	

Performance Criteria	Acceptable Solutions	Assessments
	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.	N/A – no one way public access roads proposed.
The capacity of access roads is adequate for firefighting vehicles.	The capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/ causeways are to clearly indicate load rating.	The bridge on Jackson’s Lane is being upgraded as part of the proposal to be able to carry a fully loaded fire fighting vehicle (up to 23 tonne). The bridge is to clearly indicate load rating.
There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression.	No hydrants are proposed. The development will be serviced by a static water system.
	Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2021 - Fire hydrant installations System design, installation and commissioning.	No hydrants are proposed. The development will be serviced by a static water system.
	There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	The exact location of the water tanks is still to be determined, however given the infrastructure present within the site it is envisaged that the tanks would be located within 4m of an accessible road for RFS emergency vehicles.
Non-Perimeter Roads		
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.	Minimum 5.5m carriageway width kerb to kerb.	The internal roads next to the proposed worker accommodation are 6m wide.
	Parking is provided outside of the carriageway width.	Parking is specifically provided outside of these roads and there is a carpark and construction lay down area.
	Hydrants are located clear of parking areas.	No hydrants are proposed. The development will be serviced by a static water system.
	Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m.	All roads within the development are through roads
	Curves of roads have a minimum inner radius of 6m.	Roads within the development all have a minimum inner radius of 6m

Performance Criteria	Acceptable Solutions	Assessments
	The road crossfall does not exceed 3 degrees.	Given the gradient of the site it is not expected that road crossfall would exceed 3 degrees.
	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	Vertical clearance of 4m is to be provided at all times.
Water Services		
Adequate water supplies is provided for firefighting purposes	Reticulated water is to be provided to the development where available.	The development is to be serviced by a Static water supply.
	A static water and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed.	Two 45,000L tanks will be provided for the development. The exact location of these tanks is still to be determined but it is likely that they will be placed in the southeastern corner of the site close to the BESS location.
	Static water supplies shall comply with Table 5.3d.	While this is not a rural subdivision to ensure adequate water supply for this large lot two 45,000L water tanks are being installed to provide a static water supply for the development.
Water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations.	Fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1:2021.	No fire hydrants are proposed.
	Hydrants are not located within any road carriageway.	No fire hydrants are proposed.
	Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	The development is to be serviced by a static water supply.
Flows and pressure are appropriate.	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021.	No fire hydrants are proposed.
The integrity of the water supply is maintained.	All above-ground water service pipes are metal, including and up to any taps.	All above ground water service pipes are to be made of metal, up to and including taps.
	Above-ground water storage tanks shall be of concrete or metal.	The two 45,000L water tanks will be concrete or metal.
Electricity Services		
Location of electricity services limits the possibility of ignition of	Where practicable, electrical transmission lines are underground.	The cabling for the solar arrays will be underground, however the point of

Performance Criteria	Acceptable Solutions	Assessments
surrounding bush land or the fabric of buildings.		interconnection, the substation and the BESS cabling will all be above ground.
	Where overhead, electrical transmission lines are proposed as follows: lines are installed with short pole spacing of 30m, unless crossing gullies, gorges or riparian areas; and no part of a tree is closer to a power line than the distance set out in ISSC3 Guideline for Managing Vegetation Near Power Lines.	Given the lack of vegetation in the areas where above-ground cabling will be used it is not envisaged that any issues associated with proximity of power lines to vegetation will occur.
Gas Services		
Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - The storage and handling of LP Gas, the requirements of relevant authorities, and metal piping is used.	Eight (8) 45kg gas bottles will be supplied in the workforce accommodation area. Installation, storage and maintenance of these bottles is to be in accordance with AS/NZS 1596:2014.
	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.	No fixed gas cylinders are proposed. Bottled gas only is supplied. Bottled gas cylinders are to be kept clear of flammable materials.
	Connections to and from gas cylinders are metal.	No fixed gas cylinders are proposed. Bottled gas only is supplied.
	Polymer-sheathed flexible gas supply lines are not used.	No fixed gas cylinders are proposed. Bottled gas only is supplied.
	Above-ground gas service pipes are metal, including and up to any outlets.	No fixed gas cylinders are proposed. Bottled gas only is supplied.
Water Tanks		
Large rural/lifestyle lots (>10,000m ²)	20,000L/lot	Two 45,000L water tanks are to be supplied as part of the solar development. An additional tank is to be provided adjacent to the worker's accommodation that will have at least 20,000L dedicated to firefighting purposes for the life of the worker's accommodation area.

5.0 Bushfire Hazard Assessment

5.1 Construction Standards – AS 3959-2018

The National Construction Code (NCC) does not provide for any bushfire specific performance requirements for a commercial or industrial classes of buildings or structures like Solar Farm arrays or Batteries. As such AS 3959 Standards are not considered as a set of ‘deemed to satisfy’ provisions, however compliance with AS 3959 and National Association of Steel-frame Housing (NASH) should be considered when meeting the aims and objectives of PBP. However, the temporary worker accommodation should be delivered in accordance with AS 3959 standards and those standards can be considered as a set of “deemed to satisfy” provisions.

The temporary worker accommodation should be built to a minimum BAL 12.5 standard. The most likely bushfire event that will affect these structures will be a grass fire. With adequate, managed APZs and this construction standard it is considered that the risk to workers and the accommodation would be minimal.

5.2 Additional Fire Risk Considerations







Any works within the solar farm that have the ability to start a fire, hot works etc, should not be undertaken on days of extreme or catastrophic fire danger. These works also need to ensure that they are not carried out on days where there is a Total Fire Ban in effect.

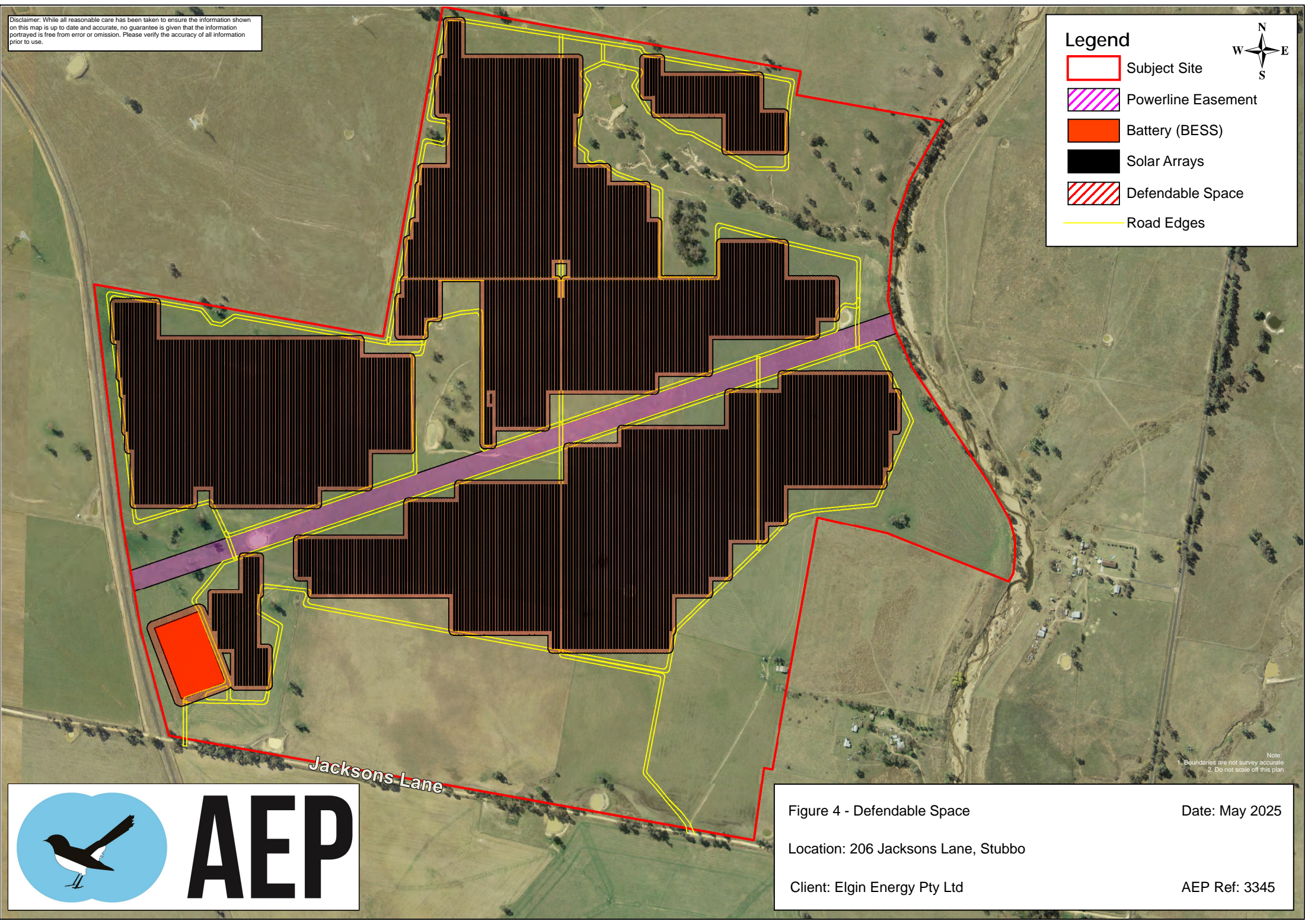

It is also recommended that the Battery Energy Storage System is surrounded by a 16m non vegetated area of gravel or hardstand to provide additional protection in the case of a bushfire emergency (radiant heat to 19kW/m²) and to provide some level of protection to surrounding vegetated areas from a thermal battery runaway.

It is recommended that a Bushfire Emergency Management Plan be created to detail the steps that are to be taken in the case of a bushfire. This is to include emergency evacuation points, triggers for evacuation, sheltering protocols, shut down procedures in the event of an emergency and details of personnel and staff that will be responsible for enacting the Bushfire Emergency Management Plan in the case of a Bushfire event.

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

Legend

-  Subject Site
-  Powerline Easement
-  Battery (BESS)
-  Solar Arrays
-  Defendable Space
-  Road Edges



Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan



Figure 4 - Defendable Space
Date: May 2025
Location: 206 Jacksons Lane, Stubbo
Client: Elgin Energy Pty Ltd
AEP Ref: 3345

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Legend

- Subject Site
- Indicative Location of Temporary Workers Accommodation and Carparking
- Indicative Construction Laydown area

Bushfire Attack Level

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5

- Road Edges



Note:
1. Boundaries are not shown at this scale.
2. Do not scale off this plan.



Figure 5 - Residential BALs for Temporary Worker Accommodation

Date: Aug 2024

Location: 206 Jacksons Lane, Stubbo

Client: Elgin Energy Pty Ltd

AEP Ref: 3345

6.0 Other Considerations

Consideration of other matters that could affect the development is summarised in **Table 6**.

Table 6 – Other Considerations

Item	Comments
Riparian Corridors	There are no riparian corridors within Subject Site though there are creeks that are located outside of the proposed impact area. Where they fall within the development boundary these areas are to be placed under a Vegetation Management Plan and rehabilitated.
State Environmental Planning Policy (Resilience and Hazards) 2021	This was considered under the bio-certification assessment of the land
State Environmental Planning Policy (Biodiversity Conservation) 2021	This was considered under the bio-certification assessment of the land
Areas of geological interest	None present in the Subject Site
Environmental protection zones or steep lands (>18°)	None present in the Subject Site
Land slip or flood prone areas	None present in the Subject Site
National Parks estate or various other reserves	None present in vicinity
Threatened species matters	This was considered under the bio-certification assessment of the land
Aboriginal Heritage	No Aboriginal Heritage matters are known to be present within the Subject Site.

7.0 Conclusion

Investigations undertaken for this Bushfire Threat Assessment have revealed that the proposed development is surrounded by unmanaged grassland areas that could pose a threat in the event of a bushfire. In addition, once rehabilitation of the VMP lands is complete these areas will also have the potential to pose a threat to the development. Both current and future vegetation has been considered as part of this assessment.

A minimum of 10m of defensible space is provided between areas of hazard vegetation solar arrays and other structures. 6m wide roads are provided between the arrays and any hazard vegetation, with the additional 4m being managed grassland.

Residential APZs and BALs have been applied to the temporary worker accommodation being provided during the construction phase of the development.

A 16m defensible space is to be provided around the BESS in the Southwest corner which will be made of either hardstand or gravel to ensure that the fire risk to or from the battery is further mitigated.

AEP understands that the development will be serviced by a static water comprised of two 45,000L water tanks. These tanks are to be fitted with a 65mm Storz outlet and ball valve and are to be made of metal or concrete.

Access and egress is provided at two points onto Jacksons Lane, which is being upgraded as part of the proposed development. Jacksons Lane connects to Barneys Reef Road in the east running north to south and Puggoon Road in the west running north/south. These connections mean that it is unlikely that the site would become isolated in the event of a bushfire.

While there is a security fence and gates present, the RFS will be given access and as such it is considered that the proposed access and egress arrangements are appropriate and no issues have been identified with evacuation, safe haven zones, or firefighting logistics.

It is considered that the distance between the hazard vegetation, the proposed defensible space, BALs, APZs and an appropriate emergency evacuation procedure in the case of a bushfire event will provide adequate protection to buildings and occupants in the case of a fire.

When applied, these measures should provide adequate protection to life and property within the proposed development in the event of a bushfire occurring in the immediate locality. However, it can never be guaranteed that the site and property therein will not at some stage be affected by a bushfire event.

8.0 References

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- Standards Australia (2010) AS-3745 *Planning for Emergencies in Facilities*. Standards Australia, Sydney. November 2010.
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Appendix A – Study Area Photos

Below: Eastern Boundary looking across riparian area with scattered trees



Below: Northern section looking north towards riparian area within the Lot



Below: General Paddock grassland, managed currently by grazing



Below: Southern Boundary looking south over Jacksons Lane, which is to be upgraded



Below: Southwest corner looking west over the rail line and along Jacksons Lane



Below: Western Boundary looking at train line and grassland vegetation to the west



Below: Northwest corner looking back into the development lands



Below: Semi-arid woodland on the eastern boundary of the site

