
Appendix N

Addendum bushfire assessment report

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Subject: Birriwa Solar and Battery Project – Modification (E240117) Addendum Bushfire Assessment Report

Cool Burn prepared the bushfire assessment report for ACEN Australia Pty Ltd (2022) for the initial and approved Birriwa Solar and Battery Project (SSD-29508870). Cool Burn have now been engaged to provide ongoing bushfire planning services to support the application to modify SSD-29508870.

Project background

The Birriwa Solar and Battery Project is a large scale solar photovoltaic (PV) electricity generation facility with battery energy storage and associated infrastructure, and construction of a temporary accommodation facility (the approved project). The solar component of the project will have an indicative capacity of around 600 megawatts (MW) and will include a centralised battery energy storage system (BESS) of up to 600 MW for a two-hour duration (1,200 MWh). The project (SSD-29508870) was determined and approved on 16 August 2024 by the NSW Independent Planning Commission, with development consent conditions.

The project site is approximately 15 kilometres (km) south-east of Dunedoo, in the Central-West Orana (CWO) region of New South Wales (NSW), in the localities of Birriwa and Merotherie. It is situated within the Mid-Western Regional Local Government Area (LGA). Part of the transport access route to the approved project site via the Castlereagh Highway is situated within the Warrumbungle Shire LGA. The project is within the CWO Renewable Energy Zone (REZ).

ACEN is seeking approval to modify development consent SSD-29508870 to include additional lots, an alternative secondary access route and upgrade to part of the existing Birriwa Bus Route South, an increase in capacity of the approved temporary accommodation facility, and an increase in the storage capacity and duration of the BESS.

This Birriwa Solar and Battery Project Modification - Addendum Bushfire Assessment Report has been prepared to support the application to modify SSD-29508870.

Approved project overview

The approved project comprises the following key components:

- Installation of approximately 1 million solar PV panels and associated mounting infrastructure
- A BESS with a capacity of up to 600 MW and a storage duration of up to 2 hours (1,200 MWh)
- An on-site substation with a connection voltage of up to 500 kilovolts (kV)
- Electrical collection and conversion systems, including inverter and transformer units, switchyard, control room and staff car park
- Underground and aboveground cables
- An operational infrastructure area, including demountable and permanent offices, amenities, and equipment sheds
- Internal access roads
- A temporary construction compound (during construction and decommissioning phases)
- An access route upgrade from Castlereagh Highway to the project site via Barneys Reef Road and Birriwa Bus Route South
- A temporary accommodation facility to provide accommodation for up to 500 construction staff during the construction phase of the project
- An emergency access track providing alternative access to the accommodation facility, suitable for emergency vehicles.

NSW RFS & Fire and Rescue NSW Submissions

The Birriwa Solar and Battery Project Submissions Report (EMM, September 2023) detailed the submission advice from the State government fire mitigation agencies - NSW RFS and Fire and Rescue NSW. The Birriwa Solar and Battery Project can incorporate all recommended actions as requested by these agencies.

Modification overview

ACEN is seeking to modify SSD-29508870 under to Section 4.55(2) of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act) to:

- Increase the project area and development footprint to include three additional lots (Lot 11/DP 750755, Lot 40/DP 750755, Lot 60/DP 750755) and the remainder of Lot 34/DP 750755, allowing for additional land to be used for solar generation, BESS, and associated ancillary infrastructure, as needed
- Increase the storage capacity and duration of the BESS from approximately 600 MW for a two-hour duration, to approximately 900 MW for a four-hour duration. Modifying the project area and development footprint across additional neighbouring lots will enable flexibility in design and construction, optimisation of the solar array layout, and will allow sufficient space for maintenance. The additional capacity will allow the project to increase its energy storage potential, providing additional firming support and greater network system strength
- Increase the project area and development footprint to allow for an upgrade to part of the existing Birriwa Bus Route South Road from the Golden Highway via Merotherie Road as secondary access route including a public road crossing. This upgrade will enable access to the project for the purpose of constructing and operating the approved temporary accommodation facility, construction, operation and maintenance of the BESS and EnergyCo's infrastructure associated with the project. (Note, oversize over-mass vehicles will continue to access the project area, via the primary access point)

- Increase the approved project's accommodation facility capacity from 500 workers to 650 workers, within the approved accommodation footprint (up to an additional 150 workers will reside at the accommodation facility in peak construction periods)
- Amend the schedule of land to include three additional neighbouring lots.

Bushfire Recommendations

The proposed extensions for the solar array infrastructure extend into similar/same bushfire prone vegetation landscape as assessed in the 2022 bushfire assessment report (agricultural grazing/cropping and classified as grassland on low slopes). There would be no apparent increase in the level of risk associated with this proposed modification if the existing bushfire mitigation actions are applied (i.e. 10m APZ to the interface between the grasslands and the outer/perimeter infrastructure).

The proposed and approved BESS Sites A and B will attain an APZ and achieve a bushfire attack level of BAL12.5. The bushfire prone vegetation surrounding these locations (and as is for the whole of Lot 34) are predominantly grassland and a 20m APZ between the surrounding grasslands and the outer/perimeter infrastructure would satisfy this performance measure. Approval to place the 900MW BESS anywhere within Lot 34 (with the exception of the creek line) would require this 20m APZ.

The existing recommended and proposed water supplies and the access provisions (Cool Burn Bushfire Assessment Report 2022) would be satisfactory for bushfire mitigation purposes.

Emergency management planning (outlined in the bushfire assessment report, 2022) will be developed in accordance with the requirements of Hazardous Industry Planning Advisory Paper (HIPAP) 1 need to incorporate the additional infrastructure, access, and increased capacity for the workers accommodation.

In conclusion, the proposed Birriwa Solar and Battery Modification can demonstrate suitable bushfire protection measures consistent with the approved development and can comply with the aims and objectives of *Planning for Bushfire Protection* 2019.

Table 1 provides a summary of the approved bushfire mitigation strategies that will apply to the proposed modified design.

The modification area and modification development footprint is provided in attached Figures 1 & 2.

If you require any further information, please do not hesitate to contact me on 0427 337 783.

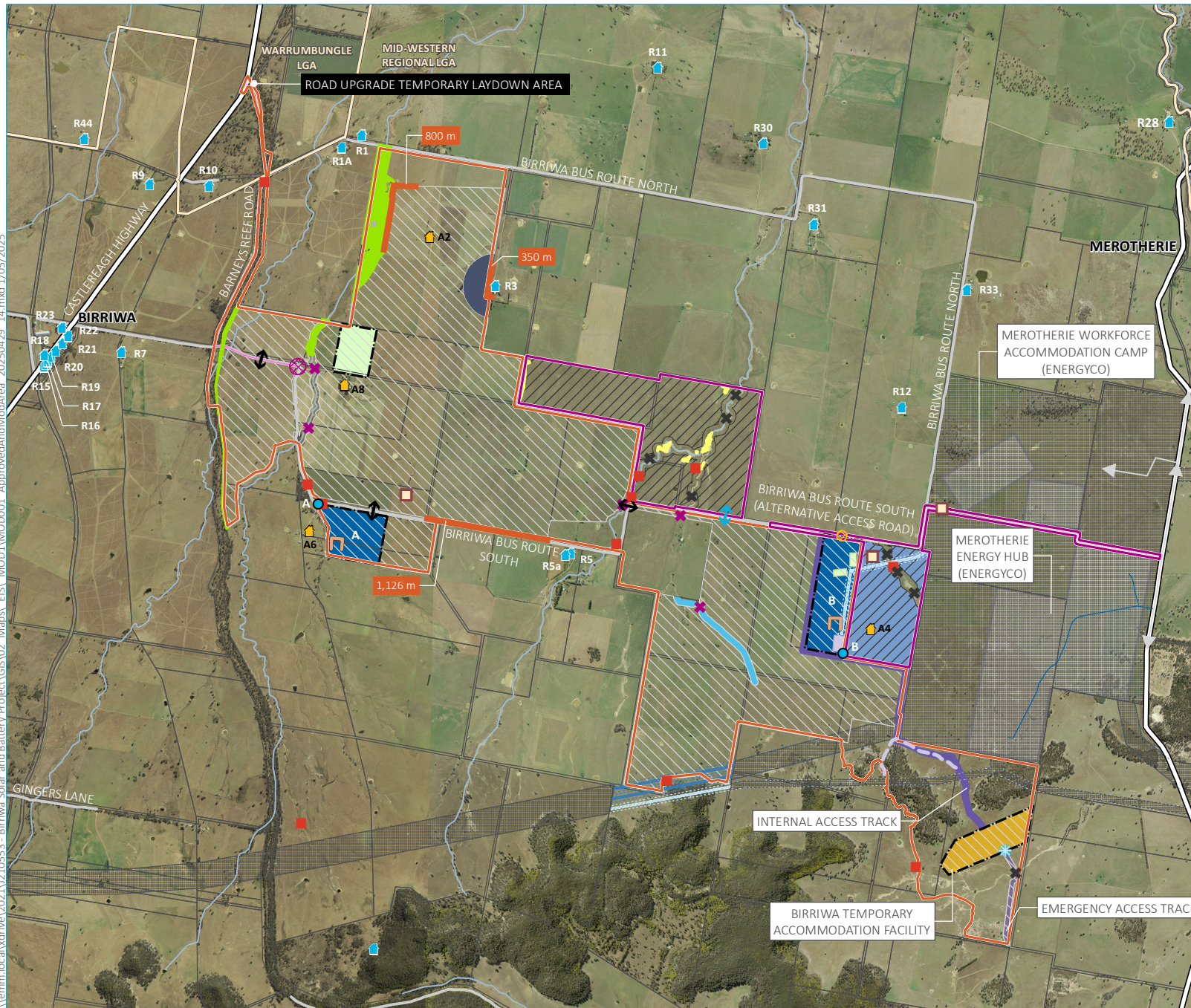
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Table 1 Summary of recommendations for Birriwa Solar and Battery Project

Bushfire Protection Measure	Cool Burn report 2022 Section	Summary of Recommendation
Asset Protection Zone (APZ)	3.1	<p>Minimum APZ 10m wide to be provided around the perimeter of the project assets, including solar array and any operational buildings and storage/laydown areas.</p> <p>Minimum 20m APZ for the BESS infrastructure.</p> <p>APZ to be managed as Inner Protection Area (IPA) for the life of development.</p>
Landscaping	3.2	<p>APZ management to manage fuel loads.</p> <p>A Bushfire Management Plan to guide landscape management, monitor and reduce potential fuel loads surrounding the project and APZ areas via ongoing rural activities (e.g. slashing, grazing).</p>
Building Design	3.3	<p>All buildings (BESS, substation buildings, management and operational buildings) will provide for minimum ember protection consistent with BAL12.5 construction standards (AS3959-2018).</p>
Water Supplies	4.4	<p>50-80kL steel tank dedicated water storage to be strategically located in consultation with NSW RFS, to allow for permanent emergency supply and ease of access.</p>
Access	3.5	<p>Main access, internal roads and alternate egress to provide for safe, reliable, and unobstructed passage by a Cat 1 firefighting vehicle as per Section 3.5 of this document and maintained for the life of the development.</p>
Emergency Management	3.6	<p>Bushfire Management Plan to be developed for the project in consultation with the local NSW RFS District Office.</p>

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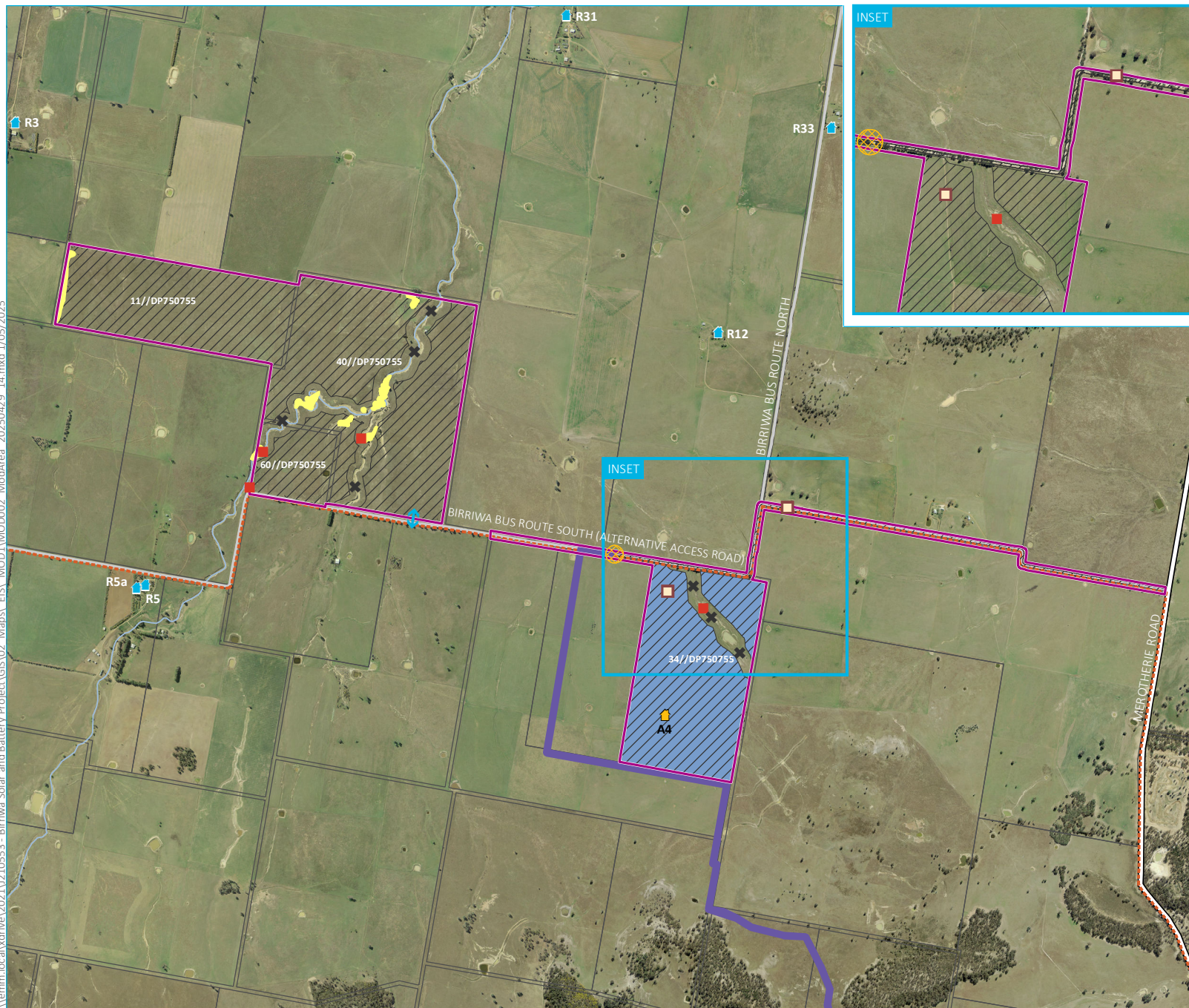


- KEY**
- Approved project layout**
- Project area
 - Development footprint
 - Restricted development area
 - Road upgrade corridor
 - Vegetation to be retained
 - Potential creek crossing point
 - Potential public road crossing location
 - Connection point (option A or B)
 - Indicative noise wall location
 - Solar panel setback
 - Landscape screen planting
 - Project access point
 - Emergency access point
 - Operational infrastructure area including substation, operational facility and BESS (Option A or B)
 - Birriwa temporary accommodation facility
 - Temporary construction compound
- Modification project layout**
- Modification area
 - Modification development footprint
 - Vegetation to be retained
 - Secondary access point
 - Internal access track
 - Potential creek crossing point
 - Potential public road crossing location
 - Proposed extension for operational infrastructure area including substation, operational facility and BESS
- EnergyCo infrastructure**
- 500 kV transmission line
 - 330 kV transmission line
 - Permanent access easement
 - Access in/out
 - Access road
 - Brake and winch site
 - 330 kV switching station
 - Indicative construction easement (adjacent property)
 - Merotherie Energy Hub and workforce accommodation camp
- Existing environment**
- Dwelling not associated with the project
 - Dwelling associated with the project
 - Aboriginal heritage site (to be avoided)
 - Aboriginal heritage site (to be harmed)
 - Local government area boundary
 - Major road
 - Minor road

The approved project and the modification area

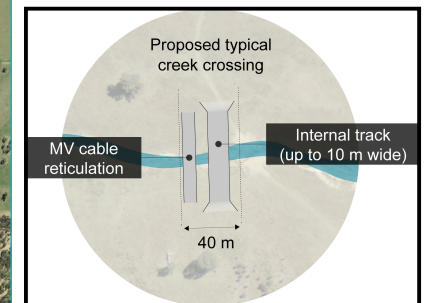
Birriwa Solar and BESS Project - Modification
Figure 3.1

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KEY

- Modification area
 - Modification development footprint
 - Vegetation to be retained
 - Secondary access point
 - Internal access track
 - Proposed extension for operational infrastructure area including substation, operational facility and BESS
 - Aboriginal heritage site (to be avoided)
 - Aboriginal heritage site (to be harmed)
 - ↔ Potential public road crossing location
 - ✕ Potential creek crossing point (refer to inset below)
- Existing environment
- 🏠 Dwelling not associated with the project
 - 🏠 Dwelling associated with the project
 - Major road
 - Minor road
 - Named watercourse
 - - - Central West Cycle (CWC) Trail main route - Gulgong to Dunedoo
 - Cadastral boundary



Modification area

Birriwa Solar and BESS Project - Modification
Figure 1.3