Scoping Report

Cooma Solar and Battery Project

8 July 2024

Scoping Report

Cooma Solar and Battery Project

AE1270

July 2024

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Abbreviations

°C	Degrees Celsius
ABS	Australian Bureau of Statistics
AC	alternating current
Accent	Accent Environmental Pty Ltd
ACEN Australia	ACEN Australia Pty Ltd
ACHAR	Aboriginal cultural heritage assessment report
ACHCRs	Aboriginal Cultural Heritage Consultation Requirements for Proponents
ACT	Australian Capital Territory
AEP	annual exceedance probability
AHD	Australian Height Datum
AIA	Agriculture Impact Assessment
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016 (NSW)*
BCD	Biodiversity and Conservation Department (part of NSW DCCEEW)
BDAR	biodiversity development assessment report
BESS	battery energy storage system
BOM	Bureau of Meteorology
BSAL	Biophysical Strategic Agricultural Land
CEEC	Critically Endangered Ecological Community
Cth	Commonwealth
dB(A)	A-weighted decibel
DC	direct current
DCCEEW (Cth)	Commonwealth Department of Climate Change, Energy, the Environment and Water
DCCEEW (NSW)	New South Wales Department of Climate Change, Energy, the Environment and Water
DCP	development control plans
DPHI	Department of Planning, Housing and Infrastructure
EDC	estimated development cost

EIS	environmental impact statement
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979 (NSW)*
EP&A Regulation	Environmental Planning and Assessment Regulation 2021 (NSW)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*
EPL	environmental protection notice
FER	Functional Economic Region
FRNSW	Fire and Rescue NSW
GHG	greenhouse gases
GW	gigawatts
GWh	gigawatt hours
ha	hectares
HHIA	Historic Heritage Impact Assessment
IBRA	Interim Biogeographic Regionalisation of Australia
ICNG	Interim Construction Noise Guideline
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IPC	Independent Planning Commission
km	kilometre
km^2	square kilometre
kV	kilovolt
LALC	Local Aboriginal Land Council
LCVIA	Landscape character and visual impact assessment
LEP	local environmental plan
LGA	local government area
LRET	Tradeable large-scale generation certificate
LSC	Land and Soil Capability
LUCRA	Land Use Conflict Risk Assessment
m	metres
mm	millimetres
MNES	Matters of National Environmental Significance (under the EPBC Act)
MW	megawatts

NEM	National Electricity Market
NPI	Noise Policy for Industry
NSW	New South Wales
NVHR	National Heavy Vehicle Regulator
OEH	Office of Environment and Heritage
OSOM	oversize overmass
PCT	Plant Community Type
PCU	power conversion unit
PHA	Preliminary Hazard Analysis
POEO Act	*Protection of the Environment Operations Act 1997 (NSW)*
PV	photovoltaic
RAP	Registered Aboriginal Party
RET	Commonwealth's Renewable Energy Target
RFS	Rural Fire Service
SCADA	supervisory control and data acquisition
SEARs	Planning Secretary's Environmental Assessment Requirements
SEED	Sharing and Enabling Environmental Data in NSW database
SEPP	State Environmental Planning Policy
SHI	State Heritage Inventory
SIA	Social Impact Assessment
SIP	Cooma Solar and Battery Social Investment Program
Solar Guideline	*Large-Scale Solar Energy Guideline 2022*
SRLUP	Strategic Regional Land Use Policy
SSD	State Significant Development
SSD guidelines	*State Significant Development Guidelines*
SSI	State Significant Infrastructure
SVTM	NSW State Vegetation Type Map
TEC	threatened ecological community
VPAs	voluntary planning agreements
Water Management Act	*Water Management Act 2000 (NSW)*

1 Introduction

Accent Environmental Pty Ltd (Accent) has been engaged by ACEN Australia Pty Ltd (ACEN Australia) to prepare the Scoping Report for the Cooma Solar and Battery Energy Storage System (BESS) project (referred to as the 'Cooma Project' or 'project' here onwards). The project is a major grid-connected solar and BESS facility development.

The Cooma Project will utilise the State Significant Development (SSD) planning approval pathway described under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The SSD pathway requires that ACEN Australia:

- apply for Planning Secretary's Environmental Assessment Requirements (SEARs)
- prepare an environmental impact statement (EIS) for the project.

The EIS will be submitted to the Department of Planning, Housing and Infrastructure (DPHI) and will be required to meet the minimum form and content requirements as prescribed by Part 8, Division 5 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and to have regard to the *State Significant Development Guidelines* (SSD Guidelines) and the *Large-Scale Solar Energy Guideline* (DPE 2022a) (Solar Guideline).

1.1 Scope of the report

Under Section 173 of the EP&A Regulation, ACEN Australia is required to apply for the SEARs prior to drafting the EIS for the project.

This scoping report substantiates ACEN Australia's application to the Planning Secretary for the SEARs. The Scoping Report has been prepared in accordance with the SSD Guidelines Appendix A *Preparing a Scoping Report* (DPIE 2022a) and Section 173 of the EP&A Regulation.

1.1.1 Key terminology

The terms listed in Table 1.1 are used in the report in the specific meaning and context that is provided in the table.

Table 1.1 Key terminology

Term	Description
Project area	The area (or areas) in which the project infrastructure is located, including external local road upgrades and state highway intersection upgrades, and a transmission line to connect to the existing electricity network. The proposed site development footprint, proposed external road upgrades footprint, and proposed grid connection footprint (see below) are located wholly within the project area.

Term	Description
Proposed site development footprint	The potential disturbance footprint of the project's energy capture and storage infrastructure, excluding external local road upgrades and state highway intersection upgrades, and a transmission line to connect to the existing electricity network – i.e. the maximum area of land that may be directly impacted by the construction and operation of the capture and storage infrastructure. The footprint includes solar panel areas, BESS facility and ancillary infrastructure such as substation, switchyard, permanent offices, operations and maintenance building, carparking, asset protection zones, construction laydown areas, internal roads.
Proposed external road upgrades footprint	This refers to the potential disturbance footprint caused by external local road upgrades and state highway intersection upgrades during construction.
Proposed grid connection footprint	This refers to the potential disturbance footprint caused by the transmission infrastructure associated with grid connection works during construction and operation. The footprint may include footing for transmission towers, the transmission lines necessary for connection to the transmission grid, or access roads required for grid connection construction and subsequent operations.

1.1.2 Report outline

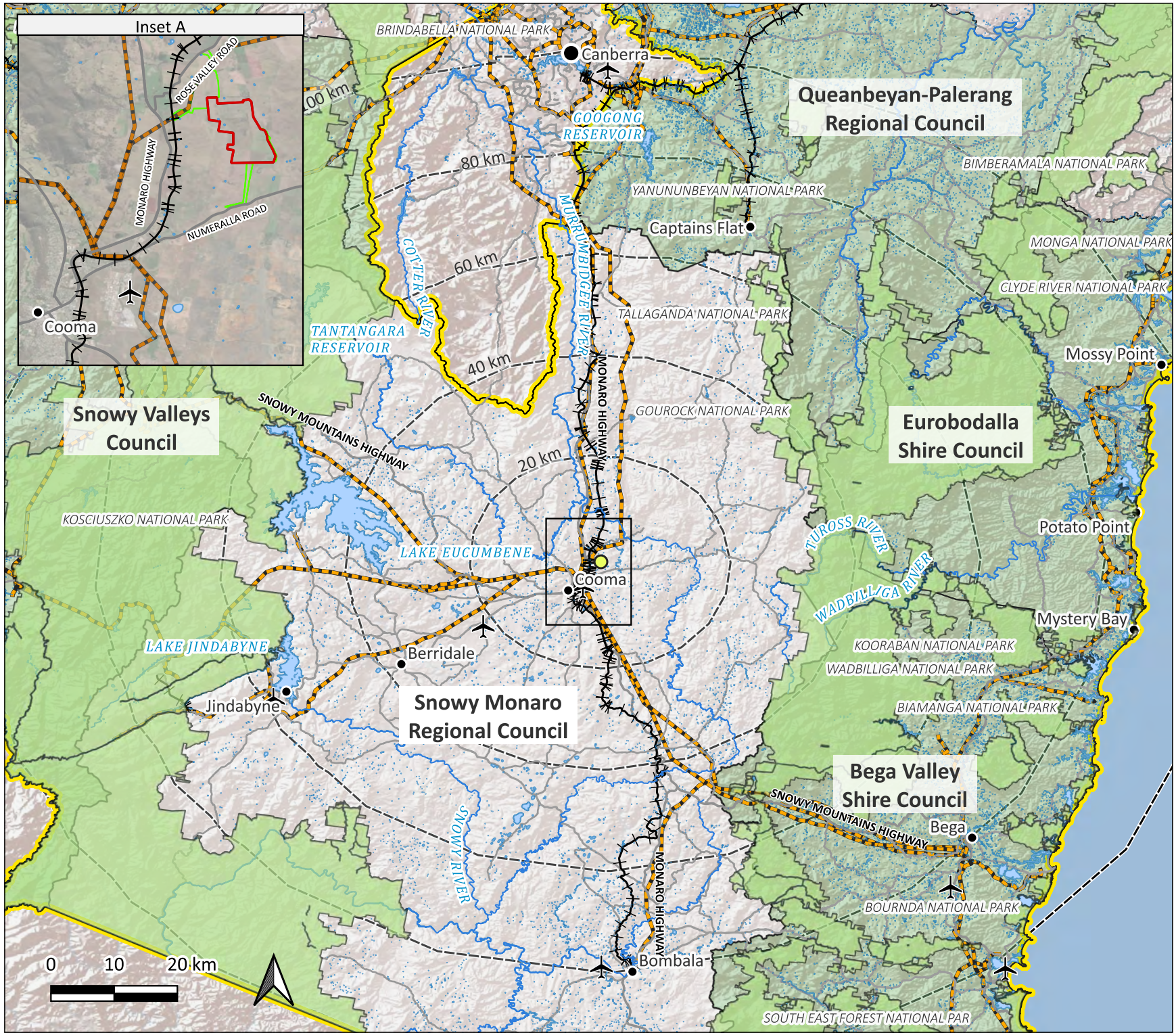
The report is organised into the following sections:

- Section 1 – Introduction
- Section 2 – Strategic context
- Section 3 – Project description
- Section 4 – Statutory context
- Section 5 – Engagement
- Section 6 – Proposed assessment of impacts
- Section 7 – Conclusion

1.2 Project overview

The proposed Cooma Project involves the development of a 100 megawatt (MW) solar energy generation project and a BESS facility of 80 MW capacity (storage 2 to 4 hours), as well as supporting infrastructure. Table 1.2 provides a brief overview of the project.

The project is located in Bunyan locality, New South Wales (NSW), within the Snowy Monaro Regional local government area (LGA). The project area is situated approximately 7 kilometres (km) northeast of the township of Cooma, and 110 km south of city of Canberra (Figure 1.1).



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AE1270 Cooma Project
Figure 1.1 Project Regional Setting

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CRS: GDA 20 MGA 55
Scale: 1:600,000 at A4
Page size: A4

- Project site
- City/town
- Airport/aerodrome
- Existing railway
- Arterial roads
- Existing transmission lines
- State/territory boundary
- Radius from the proposed site development footprint
- Snowy Monaro Regional Council boundary
- Adjacent NSW LGA boundaries
- Main watercourses
- Proposed site development footprint
- Project area
- National parks

Basemap: ESRI Shaded Relief, ESRI Satellite
Additional data: NSW_TransportTheme, NSWPlacePoint, NSW_WaterTheme, ABS digital boundary files 2021

The proposed site development footprint extends across two associated lots, as shown in Figure 1.2 and listed in Table 1.2. The land is zoned as Rural Use 1 (RU1) – Primary Production and has been highly disturbed by past land clearing for agriculture. Photo 1.1 shows a largely cleared paddock, typical of the site, currently used for cropping and grazing. Figure 1.2 also shows an indicative location for the project BESS facility and substation.

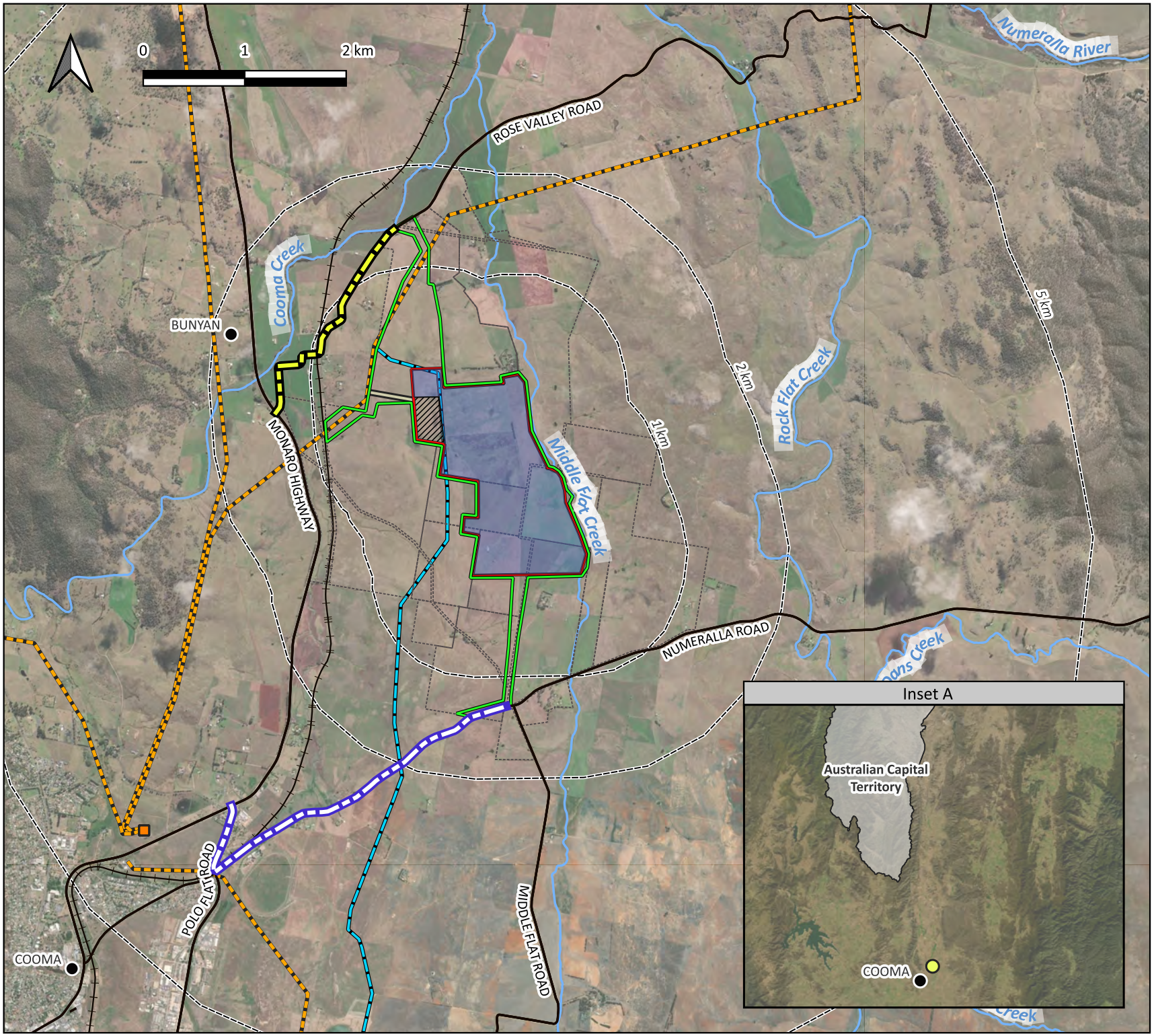
Table 1.2 Project overview

Component	Description
Name	Cooma Solar and Battery Project
Address	254 Rose Valley Road Bunyan 2630
Applicant	ACEN Australia
Council	Snowy Monaro Regional Council (also referred to as the Council in this report).
Titles	The project area comprises the following Lot/Deposited Plans across two freehold properties: 197/DP750530, 3/DP1190826, 1/DP1190826, 53/DP750530 15/DP750530, 54/DP750530, 55/DP750530, 59/DP750530 2/DP1269467, 2/DP1259141, 1/DP1269467
Total indicative area	**Secured land tenure**: approximately 290 hectares (ha), which (in combination with external road/intersection upgrades, and grid connection) forms the project area. **Proposed site development footprint**: up to approx. 200 ha.
Land use and permissibility	RU1 – Primary Production, rural land use, predominantly used for cropping and grazing. 'Electricity generating works' such as the Cooma Project is permitted on RU1-zoned land with consent, pursuant to the Cooma-Monaro Local Environmental Plan (LEP) 2013[1]
Capacity	100 MW solar energy capacity, and up to 80 MW, 2 to 4 hour BESS capacity.
Connection	The Cooma Project will be connected to an existing TransGrid 132 kilovolt (kV) line (the 97D line) approximately 1 km to the west of the project area. A new easement for the transmission line would be created within 1/DP1190826 between the existing 132 kV line and the project, which forms the proposed grid connection footprint for the project. The indicative transmission line easement is shown in Figure 1.2.

[1] Cooma-Monaro Shire became part of the larger Snowy Monaro Regional LGA in May 2016. The former Council's plans are still current and applied across the former areas. Further details are available at: https://www.snowymonaro.nsw.gov.au/Building-and-Planning/Development/Planning-Controls

Component	Description
Access	The following two options are under consideration to access the proposed site development footprint: • The northern access option is via the Monaro Highway/Rose Valley Road to a proposed access easement on Lot 1 DP1190826. • The southern access option is via the Monaro Highway/Polo Flat Road/Numeralla Road to an access easement located on Lot 2 DP1259141, 53/DP750530 and 54/DP750530 These access options would form the proposed external road upgrades footprint for the project. Both options will be assessed in the EIS, but only the preferred option will form part of the proposal.
Estimated Development Cost	The project is currently in the feasibility and design stage. Accordingly, the Estimated Development Cost of the project is not yet determined. However, the project cost will easily exceed the A$30 million threshold for electricity generating works, for it to be classified as an SSD, as defined under Schedule 1, Clause 20 of the State Environmental Planning Policy (SEPP) (Planning Systems) 2021.

Photo 1.1 Cleared paddock typical of the site, currently used for cropping and grazing



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AE1270 Cooma Project
Figure 1.2 Project area and proposed site development footprint
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Page size: A4

- Project location (inset A)
- Towns
- Exisiting substation
- Arterial roads
- Existing railway line
- Northern access option
- Southern access option
- Existing transmission lines
- Underground gas pipeline
- Main watercourses
- Lot boundaries
- Radius from the proposed site development footprint
- Proposed site development footprint
- Project area
- Indicative BESS and substation/switchyard
- Indicative transmission line easement
- Indicative maximum solar panel extent

Basemap: ESRI Satellite (ArcGIS/World_Imagery)
Additional data: NSW_Hydroline, NSW_TransportTheme

1.3 Project proponent

The proponent for the Cooma Project is ACEN Australia. ACEN Australia develops, constructs and operates large scale renewable energy projects. The company has more than 1 gigawatt (GW) capacity of large-scale renewable energy in construction, and more than 13 GW capacity in the development pipeline. Their renewable energy assets include solar, wind, battery and pumped hydro energy storage projects across Australia.

ACEN Australia is a wholly owned subsidiary of ACEN, the listed energy platform of the Ayala Group. ACEN has been a partner of UPC Renewables in Australia since 2018. In 2021, ACEN began a transaction to eventually own 100 percent of UPC Renewables by early 2023. With this transaction, the company is now called ACEN Australia. The Cooma Project was initially assessed for development by UPC Renewables.

Table 1.3 has key information about the project proponent.

Table 1.3 Project proponent details

Item	Details
Proponent name	ACEN Australia Pty Ltd (ACEN Australia)
Australian Business Number (ABN)	27 616 856 672
Postal address	Suite 2, Level 2, 15 Castray Esplanade Battery Point, Hobart Tasmania, Australia 7004
Website	https://acenrenewables.com.au/
Project contact	Cédric Bergé – Project Director Carolay Guarin – Project Developer
Contact details	https://acenrenewables.com.au/contact-us/

2 Strategic context

2.1 Project justification

Australia is pursuing a policy and planning pathway towards achieving a net zero emissions' energy supply system. The development of renewable energy is a primary vehicle towards achieving this goal. Described below are the key policy instruments that are guiding Australia's energy transition at national, state, and local (LGA) levels.

This section provides an overview of the strategic context for the Cooma Project. As part of the EIS, the project's benefits and risks will be evaluated against the Commonwealth, state and local policies and strategies discussed in this section.

2.1.1 Renewable energy targets

In 2022 the Australian Government legislated greenhouse gas (GHG) emissions reductions targets of 43% by 2030 (on 2005 levels) and net zero by 2050. The replacement of energy from fossil fuel sources with energy from renewable sources, such as solar and wind power, is a key mechanism for reducing GHGs.

Large-scale solar energy projects, such as the Cooma Project, are therefore aligned with current national and state-level goals and targets for renewable energy generation and security of supply. Through the anticipated generation of 100 MW of solar-based electricity, and the addition of 80 MW, 2 to 4 hour BESS capacity, the Cooma Project will contribute to:

- meeting the Commonwealth's Renewable Energy Target (RET) of 33,000 gigawatt hours (GWh) every year from 2020 to 2030, while also creating and selling large-scale generation certificates to high-energy users to meet their RET obligations
- fulfilling the Australian 2015 Paris Agreement Nationally Determined Contribution of 43% GHG emissions reductions below 2005 levels by 2030
- achieving NSW's 35% emissions reduction target by 2030, and net-zero emissions target by 2050, as described in the Net Zero Plan Stage 1: 2020-2030 and enshrined in law through the *Climate Change (Net Zero) Act 2023* (NSW)
- supporting Snowy Monaro Regional Council's aspirations to net zero emissions, as defined in the Snowy Monaro Local Strategic Planning Statement 2020.

2.1.2 Energy security

The transition to renewables is also being driven by forecast gaps in the reliability of electricity supply, brought on by the recent and pending closure of many of Australia's large-scale coal-fired power stations. In NSW, four of the state's five coal-fired power stations, which currently generate approximately 75% of the state's annual electricity, will have come to their scheduled end of life by 2035. The May 2024 update to the 2023 Electricity Statement of Opportunities (2023 ESOO) predicted that the closure of these power stations will cause an electricity reliability gap in NSW between 2025 – 2026 and 2027 – 2028 (AEMO 2024). To abate this gap, the NSW Government has secured a two-year extension with Origin Energy to operate the

Eraring Power Station for an additional two years. This extension provides time to deliver renewable energy projects that will replace the power station's generation capacity (DCCEEW 2024).

The Cooma Project, and in particular its storage component will support the strengthening of energy security in NSW and throughout the National Electricity Market (NEM). The project will:

- assist the NEM to provide a reliable, secure electricity supply, thereby ensuring that electricity services operate for the long-term interests of electricity consumers (in line with the National Electricity (NSW) Act 1997)
- reduce forecast electricity generation shortfalls, which are due to increased electricity demand and the retirement of coal fired power in NSW – thereby allowing NSW to meet its energy security target under the Electricity Infrastructure Investment Act 2020 (NSW) and the interim reliability measure of 0.0006% unserved energy set out by the Australian Energy Market Commission
- by developing the BESS facility, complement ongoing efforts by TransGrid (identified in the Transmission Annual Planning Report 2023) to reduce transmission congestion and provide capacity for more renewable generation in southern NSW and the Australian Capital Territory (ACT).

2.1.3 Economic development

The Cooma Project would enhance the economic development of the South-East and Tablelands region, where other large-scale renewable projects such as Snowy 2.0 are already providing economic and social benefits to communities in the region.

The project will contribute to the development of renewable energy projects within the region, thereby:

- enhancing the South East and Tablelands region's reputation as a hub of renewable energy excellence, as well as diversifying the agricultural base of the region (South East and Tablelands Regional Plan 2036)
- creating new job, procurement and education opportunities through work in the renewables sector and its supporting industries (complementing the actions described in the Canberra Region Economic Development Strategy, 2022 South East NSW Resilience Blueprint and the Canberra Region Joint Organisation's Statement of Strategic Priorities)
- providing opportunities for carbon markets and biodiversity offsets through the potential generation of tradeable large-scale generation certificates (LRETs), in line with the South East NSW Resilience Blueprint
- building social licence for renewable energy projects and providing equitable outcomes for communities through community benefit schemes, as noted in the Snowy Monaro Regional Economic Development Strategy – 2023 Update.

The *Snowy Monaro Regional Economic Development Strategy – 2023 update*, recognises renewable energy generation as one of the region's economic growth engine industries, providing a key source of economic output for the region. The strategy acknowledges the following challenges with large-scale energy generation projects:

- investment in renewables may be constrained by lack of current capacity in parts of the region to facilitate transmission lines to transport the power to the grid
- action to build community support and enhance the social licence for additional renewable projects in the region is needed to support future investment in the renewable energy sector.

2.1.4 Land use planning

Several state and local planning strategies define land use planning priorities for the Snowy Monaro LGA which are relevant to the project. Key planning priorities are discussed in the subheadings below.

Environment

- Promote well-planned, efficient and sustainable development that complements an area's natural and cultural values (South East and Tablelands Regional Plan 2036).
- Manage biosecurity risks associated with weeds, pests and disease (South East and Tablelands Regional Plan 2036 and 2022 South East NSW Resilience Blueprint).
- Protect biodiversity corridors and areas of high environmental value from development (South East and Tablelands Regional Plan 2036, Snowy Monaro Local Strategic Planning Statement 2020 and Draft Snowy Monaro Rural Land Use Strategy 2020).
- Specific environmental initiatives to enhance biodiversity, as defined in the 2022 South East NSW Resilience Blueprint. This includes:
  - using regenerative agriculture practices
  - mitigating nutrient run off into waterways
  - enhancing riparian buffers are enhanced for wildlife refuge corridors and water quality purposes
  - installing fish screens in agricultural landscapes are installed to protect native aquatic species and support sustainable water management.

Amenity

- Protect the unique alpine environment within the Snowy Monaro LGA (South East and Tablelands Regional Plan 2036).
- Minimise the potential for negative impacts of industrial traffic on residential and tourism traffic and uses (Snowy Monaro Local Strategic Planning Statement 2020).

Land use conflict and siting considerations

- Protect agricultural land and rural industries from land use conflicts and fragmentation (Draft South East and Tablelands Regional Plan 2041 and Snowy Monaro Local Strategic Planning Statement 2020)
- Encourage the co-location of renewable energy projects to maximise infrastructure, including corridors with access to the electricity network (South East and Tablelands Regional Plan 2036).
- Renewable energy projects often require a large amount of physical space, which is an increasingly in-demand resource to accommodate commercial, industrial and residential growth (Snowy Monaro Regional Economic Development Strategy – 2023 Update).
- Locate development to reduce exposure to natural hazards (South East and Tablelands Regional Plan 2036).

The Council's Draft Rural Land Use Strategy, 2023 states the Council's policy position on large-scale renewable energy proposals (solar and wind). All proposals need to:

- avoid biodiversity corridors
- avoid areas of high environmental value
- avoid areas of high scenic quality and importance.

2.2 Key features of the site

The project area is in the NSW South Eastern Highlands bioregion. A temperate climate dominates the region containing the project area, with significant areas to the north and south of the Cooma Project at higher elevations having a montane climate and milder summers. Soils and vegetation vary in relation to altitude, temperature and rainfall. The Lachlan, Macquarie, Murray, Murrumbidgee, Shoalhaven and Snowy Rivers all cross the bioregion (Office of Environment and Heritage (OEH) 2003).

There are several national parks and reserves along with private conservation agreements in the bioregion, including Kosciuszko National Park which is located 79 km to the east from Bunyan (where the Cooma project is located). The Ramsar-listed Blue Lake wetlands is located in Kosciuszko National Park.

The Bureau of Meteorology (BOM) (2022) climate records available from the nearest climate station established in 1973 at the Cooma Visitor's Centre (station 070278) approximately 7 km southwest from the project area show the following:

- Mean monthly maximum temperatures range from a high of 27.4°C in January to a low of 11.5°C in July. Mean monthly minimum temperatures range from a high of 23.3°C in January to a low of 9.9°C in July.
- Mean annual rainfall is 539.6 millimetres (mm). Rainfall is generally highest over summer with a maximum mean monthly rainfall of 59.7 mm in February, and lowest

in early spring with a minimum mean monthly rainfall of 27.2 mm in July. The mean annual number of days of rain is 69.5.

The elevation of weather station 070278 (778 metres (m) Australian Height Datum (AHD)) is broadly comparable to the project area, as described below.

A visualisation of this topography is presented in Figure 2.1. The project area is characterised by slope relief classes of undulating low hills and rises, with gently inclined rises stretching from north to south along the western boundary of the proposed site development footprint (National Map 2024). A large north-south ridgeline runs along the western boundary of the footprint running roughly parallel to the Monaro Highway (see). About 1 km east of the indicative BESS facility and substation location, the ridgeline crest ranges from 810 to 815 m AHD in elevation, descending to approximately 795 to 780 m AHD to the northwest before further sloping down towards Rose Valley Road.

Towards the eastern boundary of the project area, elevations decline to approximately 755 m AHD, with the majority of the eastern side of the proposed site development footprint lying within 770 m AHD and 760 m AHD. Middle Flat Creek which runs closely parallel to the eastern- boundary of the proposed site development footprint, has an elevation of approximately 750 m AHD. Approximately 500 m east of the project area, elevations increase once more into rolling low hills.

The steepest slope determined on the proposed site development footprint is estimated at 6.7° (approximately 11.9%). The average slope across the footprint is estimated at 2.0° (3.5%).

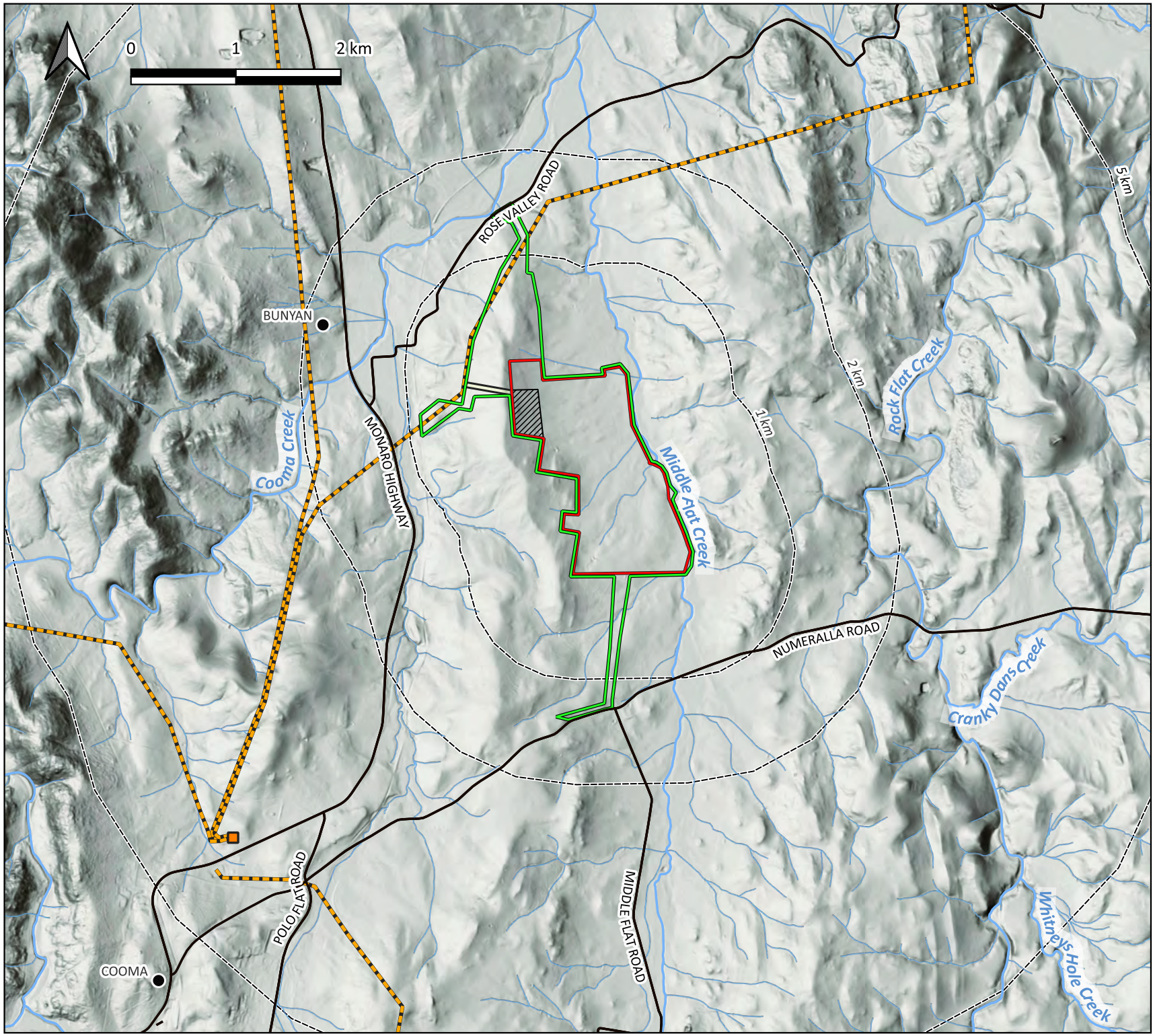
The project area has been highly disturbed by past land clearing for agriculture purposes and is now dominated by exotic pasture with isolated areas of native vegetation, particularly along some drainage lines. The primary land use is cropping and grazing.

Merrimans Local Aboriginal Land Council (LALC) is the representative body for the Aboriginal people residing in the areas encompassed by and surrounding the project area. Additionally, the project area lies within the territory of the Ngarigo nation (Tindale 1974). Two Aboriginal heritage sites were identified within the project area boundary; however, both sites are located outside the proposed site development footprint. These archaeological sites are located along the northern access route from Rose Valley Road (see Section 6.3.1 for further details).

The nearest town to the project area is Cooma at a distance of 7 km south west of the site, with a population of 6,447, in 2021 (Australian Bureau of Statistics (ABS) 2021). Jindabyne, located at a distance of 90 km west of the project area, is the next nearest town with a population of 3,136 (ABS 2021). The city of Canberra is located 110 km north of the project area and has a population of 452,670 persons (see Section 6.10 for further details).

2.3 Potential sensitive receivers

Sensitive receivers as defined in this report are those aspects of the human environment that may be impacted by a proposed development. Typically, sensitive receivers are residences, schools, childcare centres, aged-care facilities, or hospitals. Places where people gather to appreciate the natural environment may also be sensitive receivers. Roads can also be considered sensitive receivers, particularly in areas of scenic quality.



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AE1270 Cooma Project
Figure 2.1 Topographic setting

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Scale: 1:60,000 @ A4
Page size: A4

- Towns
- Existing substation
- Watercourses
- Arterial roads
- Existing transmission lines
- Northern access option
- Southern access option
- Radius from the proposed site development footprint
- Proposed site development footprint
- Project area
- Indicative BESS and substation/switchyard location
- Indicative transmission line easement

Basemap: ESRI World Hillshade
Additional data: NSW_Hydroline, NSW_TransportTheme

Potential residential sensitive receivers in relation to the project area are shown in Figure 2.2. Approximately, 133 potential dwelling-type visual receptors were identified within a 4 km radius of the site and eight road and rail receptors were identified with a 2.5 km radius of the site[2]. Of the potential dwellings, 26 are located within 2 km of the project area, three associated. The nearest residence is an associated receiver[3] approximately 116 m from the northern boundary of the proposed site development footprint. The closest non-associated dwelling is 711 m northeast of the proposed site development footprint. Further investigation will be required during the EIS phase to confirm whether all the potential residential receivers are dwellings.

2.4 Cumulative impacts

There are five approved or proposed energy-related SSDs and State Significant Infrastructure (SSIs) in the Snowy Monaro Regional LGA listed on the DPHI Major Projects website in addition to the Cooma Project (NSW Government 2024a). It is noted that three are within 30 km of the project area (the Billilingra Solar Farm, the Monaro Solar Farm and the Coonerang Wind Farm).

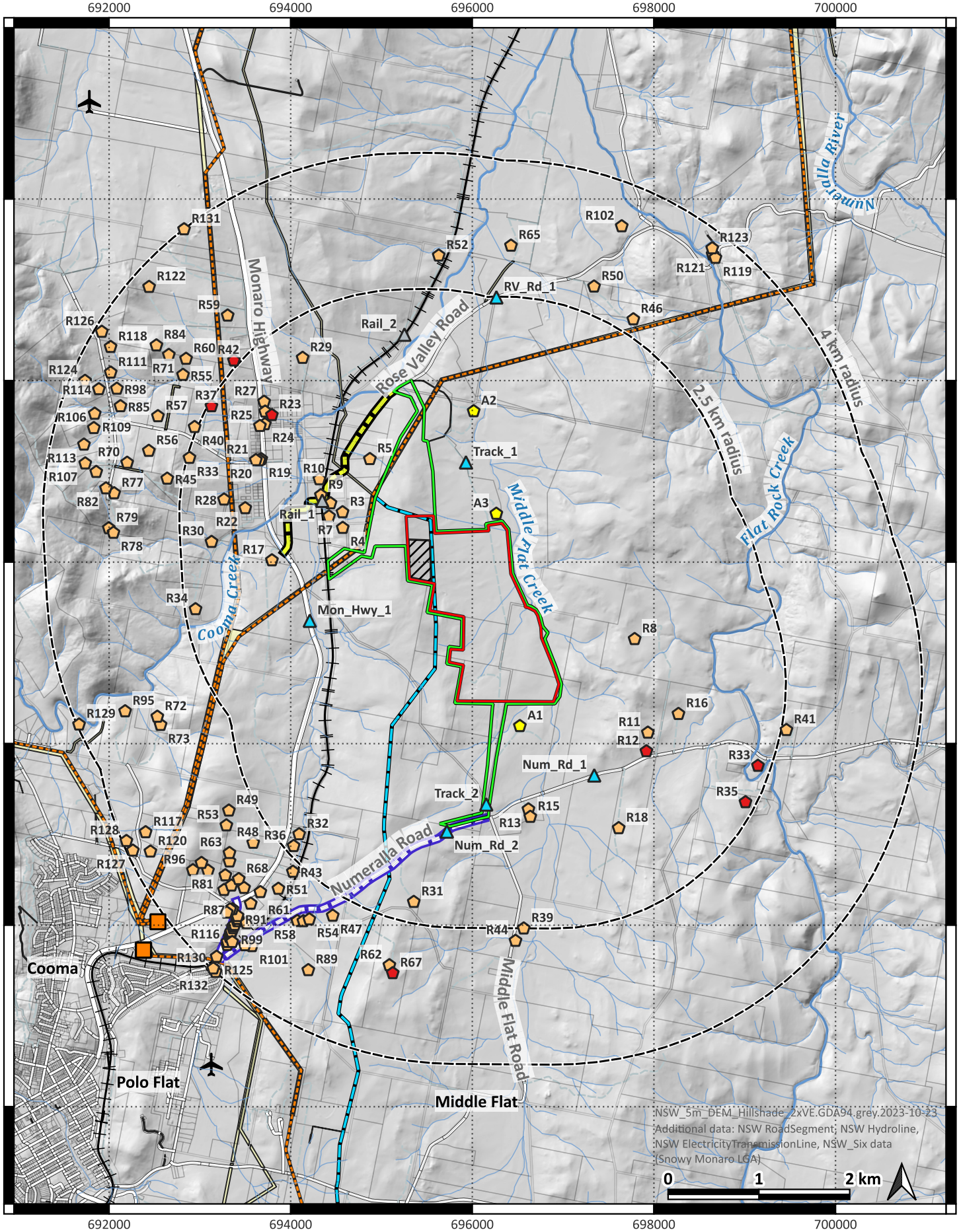
Table 2.1 and Figure 2.3 provide information on the SSDs in the Snowy Monaro Regional LGA.

Table 2.1 SSDs and SSIs within 80 km of the project site

Name	LGA	Number	Status	Distance from project
Billilingra Solar Farm	Snowy Monaro Regional	SSD-45953716	Prepare EIS	18.6 km north of the project area
Monaro Solar Farm	Snowy Monaro Regional	SSD-67433711	Prepare EIS	13 km southwest of the project area
Coonerang Wind Farm	Snowy Monaro Regional	SSD-62164459	Prepare EIS	27.6 km south of the project area
Boco Rock Wind Farm	Snowy Monaro Regional	SSD-MP09_0103	Determination	42 km south of the project area
Snowy 2.0	Snowy Monaro Regional	SSI-9687	Determination	82 km northwest of the project area

[2] The distances of 2.5 km and 4 km are used in this report as these are the distances specified for preliminary visual assessment in the *Technical Supplement - Landscape and Visual Impact Assessment* of the Solar Guideline (DPE 2022a).

[3] An associated receiver has a direct financial interest in the project proceeding, such as the owner of the land on which the project is to be located.



- Location
- Associated receiver
- Non-associated receiver
- Receiver - rail
- Receiver - road
- Receiver to be confirmed
- Existing substation
- Airport
- Underground gas pipeline
- Existing transmission line

Potential access route

- Northern access option
- Southern access option
- Project site
- BESS and substation (indicative location)
- Study area
- Scenic protection zone
- Lot boundary

AE1270 Cooma SF

Figure 2.2 Potential visual receivers

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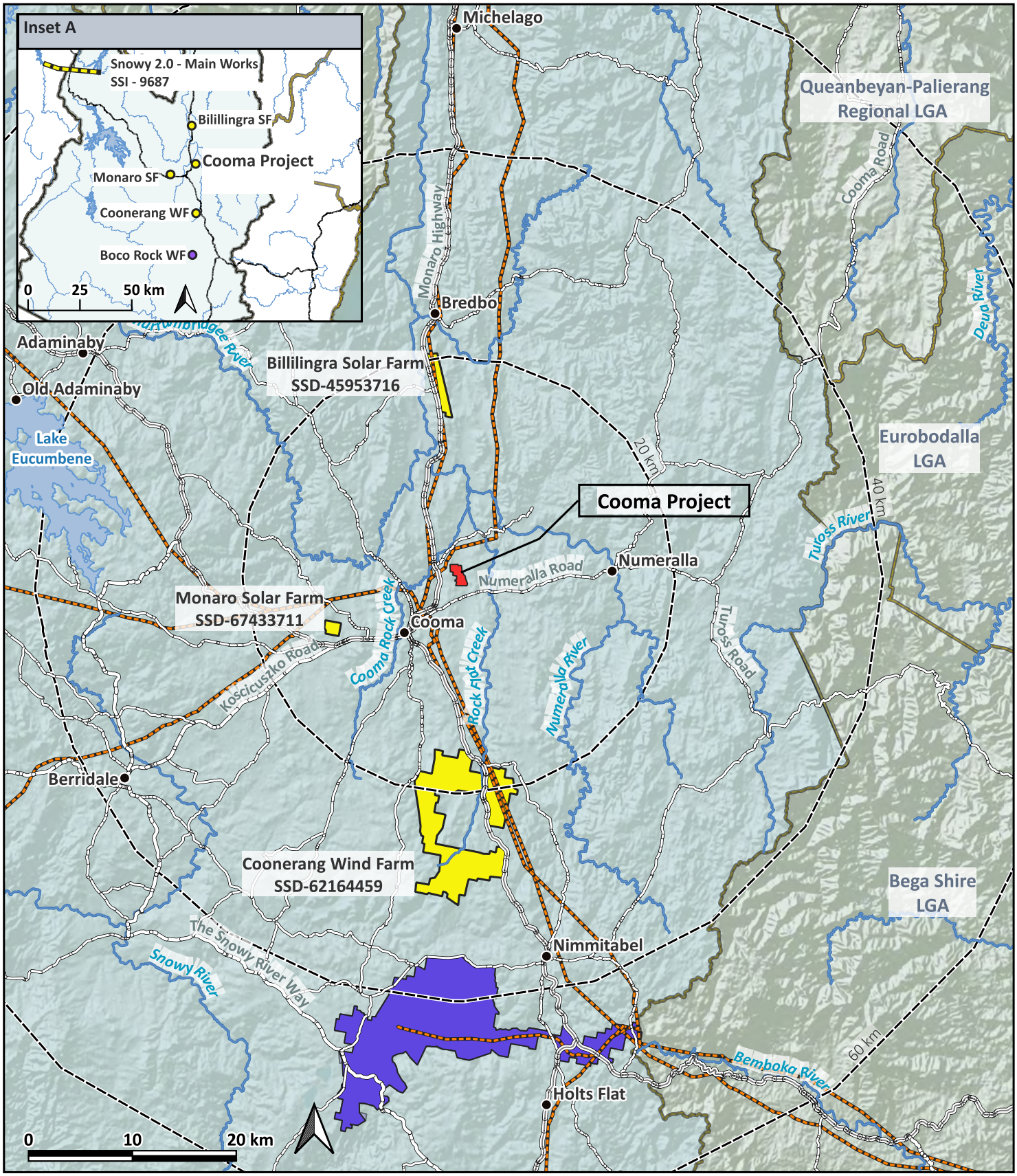

Project Site
SSI (Inset A)

SSDs (Inset A)
- Operational
- Proposal
- Town (main map)
- Main watercourse
- Existing transmission line

SSDs (main map)
- Operational
- Proposal
- Snowy Monaro LGA
- Radius from project site
- Lake

N

0 10 20 km

AE1270 Cooma Project
Figure 2.3 SSDs in the Snowy Monaro Regional LGA
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Basemap (main map): ESRI World Hillshade [Jun 2024]
Additional data: NSW RoadSegment, NSW Hydroline, NSW Hydroarea, NSW ElectricityTransmissionLine, NSW_Six data (Snowy Monaro LGA)

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The EIS will assess the cumulative impacts of the proposed Cooma Project and existing, approved or proposed developments in the region. The assessment will consider cumulative impacts on aspects such as land use, traffic and social environment. In particular, the cumulative impact assessment will consider the potential for cumulative impacts associated with the nearby Billilingra Solar Farm, Monaro Solar Farm and Coonerang Wind Farm, particularly if construction timeframes are likely to overlap. Such cumulative impacts can include noise, visual and amenity impacts on residencies located in proximity to both the Cooma Project and one or more of the other projects, and broader traffic and social impacts on the community if construction is concurrent.

2.5 Agreements with other parties

2.5.1 Land-owner agreements

ACEN Australia has reached agreements with associated landholders for the use of the land within the project site. The legal agreements allow the use of part of their property in accordance with regulations and with the relevant development approvals. The associated landholders are kept informed of the process, timing and impacts of the project over their land.

2.5.2 Other agreements

ACEN Australia has not yet entered into any agreements with other parties and stakeholders for benefit-sharing purposes related to the Cooma Project. However, ACEN has commenced discussions on community contributions in line with current guidelines and may include discussions of a Voluntary Planning Agreement (VPA) with the Snowy Monaro Regional Council. ACEN notes that in November 2023, the NSW Government (DPIE, now DPHI) released the Draft Energy Policy Framework, which includes the Benefit Sharing Guideline. The guideline proposes a benefit rate of $850 per megawatt per annum for solar projects, paid over the life of the project and indexed to the Consumer Price Index (CPI). This rate may include contributions paid through a VPA, through ACEN managed community fund (Social Investment Program) and a Neighbour Benefit Sharing Program. Although the guideline is yet to be finalised, ACEN supports this mechanism and may continue the discussion with Council on this basis.

3 Project description

The project is a utility scale photovoltaic (PV) system with a BESS facility and ancillary infrastructure, such as storage units, substation, switchyard, laydown area and other associated buildings. The 100 MW alternating current (AC) solar project is expected to generate sufficient electricity to power approximately 45,000 homes.

3.1 Key components

Key components of the project are summarised in Table 3.1.

Table 3.1 Project components

Component	Description
Photovoltaic modules	Approximately 200,000 PV modules (solar panels) using a single axis tracker racking system. The size and number of photovoltaic modules and inverters is yet to be finalised. The maximum height of the PV modules is anticipated to be up to 2.5 m in a one panel (1P) configuration or up to 5 m above ground level in a dual panel (2P) configuration. The panel height is dependent on the technology type which is yet to be finalised. The clearance of the base of the modules above the would typically range from 0.3 to 1.5 m.
Electrical infrastructure	Electrical infrastructure is expected to comprise: • approximately 25 power conversion units (PCUs) • an onsite substation containing main transformers and associated switchgear • overhead and underground electrical reticulation connecting the solar project elements (underground cabling) • BESS units, likely be approximately 3.5 m high, with an active gas-based fire protection systems would be installed in the BESS unit.
Other permanent onsite ancillary infrastructure	Other permanent onsite ancillary infrastructure is expected to include: • an operational and maintenance facility • a temperature-controlled spare parts storage facility • supervisory control and data acquisition (SCADA) facilities for remote monitoring of the solar project • a workshop and associated infrastructure • access roads, both to the project area and internal access roads • carparking area • security fencing and landscaping.

Component	Description
Temporary construction ancillary infrastructure	Temporary construction ancillary infrastructure is expected to include: • construction compounds • laydown areas • parking areas • concrete batching plant • access tracks and associated infrastructure, including gates and fencing. The locations of all temporary infrastructure would be determined following detailed site investigations during preparation of the EIS and will be located within the proposed site development footprint. Where possible, areas that are to be disturbed through the temporary construction activities would be repurposed for operational uses to prevent further land disturbance and maximise use of the land available.
Grid connection	To connect the project to TransGrid's network, a new 132 kV switching station will be built on site. A transmission line from the switching station will cut into the TransGrid existing 132 kV (Williamsdale to Cooma) transmission line, approximately 1 km west of the indicative location of the project substation. The indicative transmission line easement for the connection to grid is shown in Figure 1.2. The transmission line is expected to be above ground.
Water source	Water required for construction would be preferentially sourced from: • commercial suppliers of treated wastewater in the nearby region • town water or underground licenced bores within the development site or nearby.

3.2 Staging, timing and sequencing

The project involves a construction (including commissioning), an operational and a decommissioning phase, the details of which are discussed below.

3.2.1 Project timing

The project construction date is expected to fall within quarter 1 (Q1) and Q2 of 2027. The construction phase is expected to be approximately 18 - 24 months including a peak period of up to six months. Commencement of operations is expected to occur by Q4 of 2028.

3.2.2 Construction stage

Phasing

Construction of the project would be undertaken in the following phases:

- Phase 1 – detailed design and site investigations: includes the design of electrical reticulation, geotechnical design, and other project elements.
- Phase 2 – site preparation: includes pre-construction activities, such as site preparation and vegetation clearing, installation of environmental management measures (e.g., erosion and sediment controls) and protection mechanisms for watercourses and exclusion zones, utility adjustments, erection of site and workers compounds; and upgrades to public roads if any are required.
- Phase 3 – main construction works: will involve onsite civil works including construction/installation of access tracks and permanent drainage works, solar arrays, BESS facility and electrical infrastructure construction, and installation of electrical reticulation and ancillary infrastructure.
- Phase 4 – commissioning: includes any activities to be undertaken prior to operation, such as testing of modules and tracks, and energising of substations.

Program and hours

Construction would likely be undertaken during standard daytime construction hours consistent with the Interim Construction Noise Guideline (Department of Environment and Climate Change 2009), as follows:

- 7 am to 6 pm Monday to Friday
- 8 am to 6 pm on Saturdays
- no works on Sunday or public holidays.

ACEN Australia proposes exceptions to these hours under the following circumstances that will not require additional approval of the Secretary:

- activities that are inaudible at non-associated residences
- the delivery of materials as requested by the NSW Police Force or other authorities for safety reasons
- emergency work to avoid the loss of life, property and/or material harm to the environment.

The construction program, hours and workforce are subject to further refinement during detailed design, including the development of a construction methodology and associated scheduling.

Workforce and workforce accommodation

The project would likely require approximately 150 - 200 construction workers during peak periods, which are expected to be during Phase 3 of the construction phase when the main construction works would be undertaken.

No onsite accommodation is planned for the project. The existing short-term accommodation facilities in the Cooma region will be used to accommodate the non-local project construction workforce where it can be demonstrated that this will not impact on the local tourism industry. During the peak tourist season, accommodation in locations as far afield as Canberra may need to be sourced to minimise project-related impacts on short-term accommodation availability. Shuttle buses are a potential option for transporting workers to and from site.

3.2.3 Operation

The project would likely operate 24 hours per day, seven days per week with the operations and maintenance team attending site during standard working hours unless responding to an alarm, fault, or major maintenance works. Between 2 to 5 full time equivalent employees would be required to operate and maintain the project.

Ongoing monitoring and maintenance during operation would include maintenance of the solar panels, associated infrastructure, vegetation, and internal access tracks. Regular light vehicle access will be required throughout operation. Heavy vehicles would be required occasionally for replacing larger components of project infrastructure including inverters, transformers or components of the BESS facility.

The operational lifespan of the project is indicatively 30 years, with potential for upgrades, including repowering.

3.2.4 Decommissioning

At the end of its operational life, the project would be decommissioned and land that is impacted by the project would be appropriately rehabilitated in consultation with the affected landholders and regulatory authorities.

3.3 Haulage routes and traffic movements

It is anticipated that construction materials and infrastructure would be largely transported to the project site via road from the Port of Newcastle or from Sydney. However, other port options, such as port of Melbourne or Port Kembla, will also be considered. Haulage options and preferred route(s) will be assessed and described further in the EIS.

Investigations into the suitable access route for construction would be undertaken in consultation with Snowy Monaro Regional Council, Transport for NSW, the Transport Asset Holding Entity of New South Wales (TAHE) and TransGrid. Other stakeholders would be consulted as appropriate.

It is anticipated that materials would primarily arrive via the most effective route and be transported to site by heavy vehicles up to B-double in size, however some high risk (escorted) oversize overmass (OSOM) vehicles will also be required. It is estimated that the project would require approximately two to three OSOM vehicles per day during peak construction. The majority of these OSOM movements would be low risk and would not trigger escort requirements. High risk (escorted) OSOM vehicles would primarily be required for deliveries of transformers and other major equipment. These numbers would be further investigated and refined, and presented in the EIS.

Two site access options, a northern and southern option, have been identified during project scoping (see Figure 1.2):

- Northern access option – via the Monaro Highway/Rose Valley Road to a proposed access easement on Lot 1 DP1190826
- Southern access option – via the Monaro Highway/Polo Flat Road/Numeralla Road to an access easement located on Lot 2 DP1259141, 53/DP750530 and 54/DP750530

The site access options will be further evaluated during the EIS process and a preferred option presented in the EIS.

Some public road and intersection upgrades would likely be required to facilitate construction traffic, particularly along the site access option. Upgrade requirements would be confirmed during the EIS, as part of the detailed traffic and transport assessment. Any required external road upgrades would be included in the proposed external road upgrades footprint and assessed in the specialist studies for the EIS including biodiversity, heritage, and noise.

3.4 Community benefit

In consultation with the Council and community, ACEN Australia will develop community benefit schemes as part of the Cooma Project. Such schemes may include the following:

- Cooma Solar and Battery Social Investment Program (SIP), to provide funding for community-driven initiatives and partnerships that seek to build more resilient and vibrant communities in the region, both economically and socially
- Neighbour Benefit Sharing Program for the Cooma and Solar Battery, for eligible neighbours only
- Any other agreements reached during the course of the planning approvals process for the project.

3.5 Alternatives considered

3.5.1 Site selection

ACEN undertakes a constraints and opportunities analysis process to identify potential development sites for its projects. For the Cooma Solar and BESS project, this process has included consideration of factors such as:

- access to existing transmission infrastructure and available grid capacity
- requirement for replacement generation/storage capacity
- land suitability (e.g. topography, existing land use, flood risk, zoning)
- need to minimise environmental and social impacts (e.g. avoiding sensitive environments, areas of cultural heritage value, population centres).

The proposed location for the project was identified as a suitable site for the development of a solar energy and battery project, for the reasons outlined below:

- location is in proximity to an existing 132 kV Transgrid transmission line, which was identified by ACEN as having capacity in the National Electricity Market
- location is not visible from population centres and has few potentially impacted neighbours
- location is on an area of land that is mostly cleared and used for grazing
- generally low biodiversity values due to historical disturbance and agricultural activities
- topography that is compatible with the technical requirements of the project.

3.5.2 Project design

The design of a solar project considers factors including the availability and extent of land for housing solar arrays, the consequent potential capacity for generation, the capacity of the grid to receive the generated electricity, the capital and operational costs of the project, and anticipated market conditions.

The project proposes the installation of PV panels mounted on single-axis-tracking structures that will be configured in rows positioned to maximise the use of the solar resource at the site. Panels will be fixed to, and supported by, ground-mounted framing. Where ground conditions allow (likely across most of the site), ACEN's preferred method of panel installation is to pile drive or screw the steel supports for the panels directly into the ground without the need for excavation or the laying of foundations.

Depending on the final technology selected, the height of the bottom of the solar modules would typically range from 0.3 to 1.5 metres above ground level. The maximum height of modules is anticipated to be up to a maximum of 2.5 metres above ground level in a 1P configuration (vertical one panel configuration) or up to five metres above ground level in a 2P configuration (vertical two panel configuration).

The inclusion of a BESS facility within the solar project provides the ability to store power during lower demand periods for feeding into the grid during higher demand periods (including power fed in and out of the BESS from the grid itself). The BESS provides increased reliability and security to the network during peak periods.

The sizing of the BESS will be driven by factors such as the generating capacity of the solar project, the capital and operational costs, and the need for, and economics of, the grid stability offered by a BESS. The BESS will comprise containerised lithium-ion batteries.

3.5.3 Project configuration

The design and configuration of the project will reflect the findings of EIS studies and investigations and will follow the hierarchy of impact avoidance, minimisation and mitigation. This will include consideration of environmental and social factors such as the need to:

- identify and operate within environmental constraints (such as, where practical, avoiding areas within the project site that may be of conservation or cultural significance)

- minimise disruption to local landholders
- minimise amenity issues
- consider the expectations and concerns of the local community and the Monaro Regional Council.

These considerations will be balanced against the need to achieve design, construction and operational efficiencies to reduce projects costs and maximise solar farm and BESS efficiency.

ACEN is undertaking assessment of two alternatives for site access, to determine the access option with the least traffic disruptions and access related issues. The route and design of the grid connection transmission line will also be further assessed to minimise biodiversity and other impacts.

3.5.4 Restrictions or covenants

No known restrictions or covenants apply to the proposed use of the project site.

4 Statutory context

This section describes the permissibility of the Cooma Project, as well as planning and environmental matters that must be considered before a development approval is provided.

4.1 Power to grant consent

The Cooma Project is eligible to be declared as an SSD under Part 4, Division 4.7 of the EP&A Act as it fulfils the criteria defined in the Planning Systems SEPP.

The development meets the SSD criteria for electricity generating works defined in Schedule 1, Section 20:

- The total estimated development cost (EDC) of the Cooma Project will exceed $30 million.
- The purpose of the development is to generate electricity from solar energy.

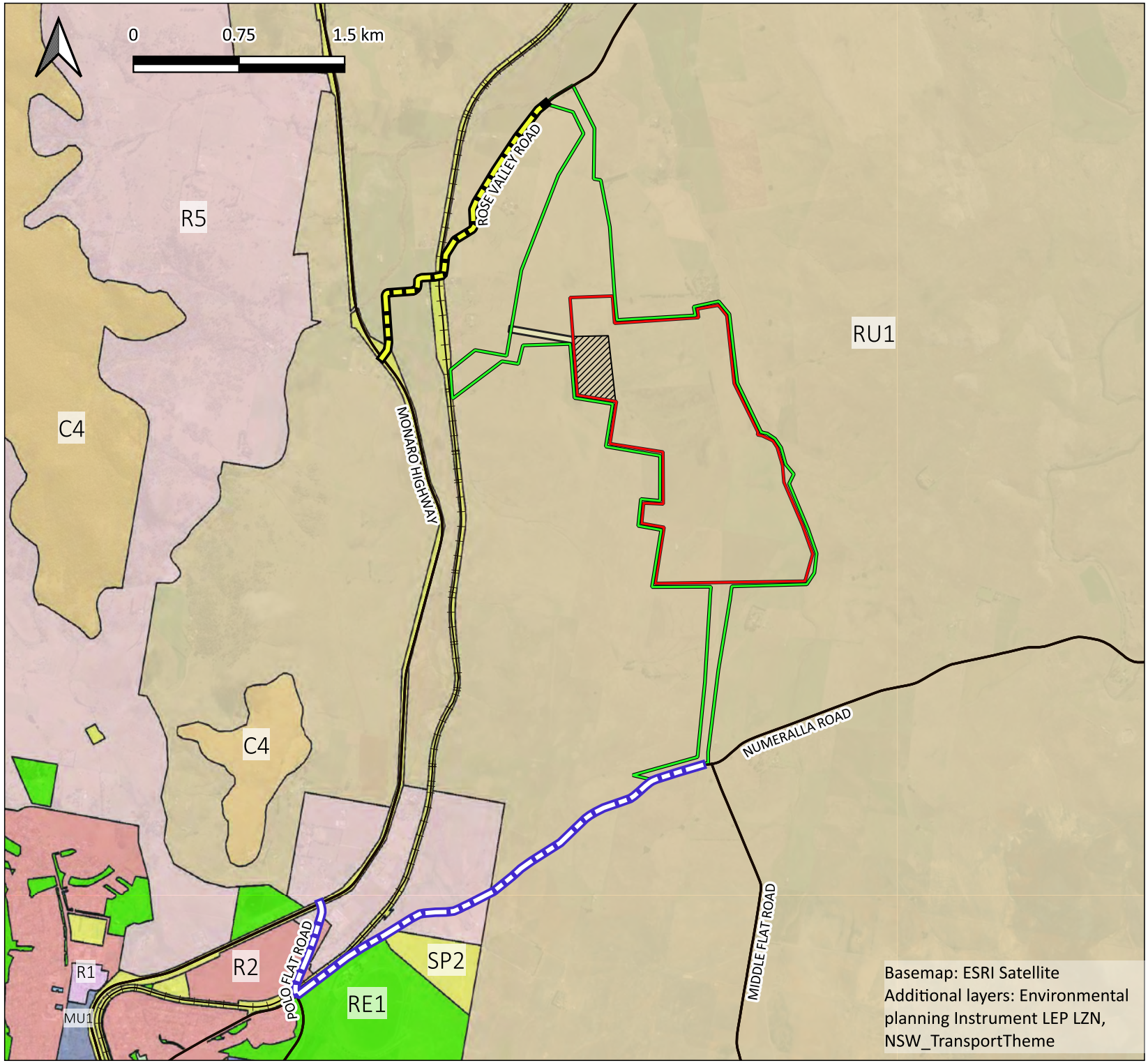
The consent authority for SSDs is either the Minister for Planning or the Independent Planning Commission (IPC).

4.2 Permissibility

The project is zoned RU1 Primary Production as shown in Figure 4.1. The permissibility of the project is set out in Table 4.1.

Table 4.1 Permissibility

Legislation	Remarks
Cooma-Monaro LEP	
Land use table RU1 Primary Production	Electricity generation works are permitted with consent as it is a development that is not specified either as permitted without consent (item 2) or prohibited (item 4).
Clause 4.1 Minimum subdivision lot size	The project site is mapped as having an 80-ha minimum lot size on the Lot Size Map. The Cooma Project may be required to subdivide land for the purpose of the TransGrid switchyard within the proposed development footprint. This will be smaller than the minimum lot size and is therefore prohibited under Clause 4.1 of the Cooma-Monaro LEP. However, Section 4.38(3) of the EP&A Act allows the consent authority to provide development consent even when development is partially prohibited by an environmental planning instrument.



Basemap: ESRI Satellite
Additional layers: Environmental planning Instrument LEP LZN, NSW_TransportTheme

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AE1270 Cooma Project
Figure 4.1 Land Zoning

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- Arterial roads
- Existing railway line
- Northern access option
- Southern access option
- Proposed site development footprint
- Project area
- Indicative BESS and substation/switchyard
- Indicative transmission line easement

Land zoning

- RU1 - Primary Production
- R5 - Large Lot Residential
- C4 - Environmental Living
- RE1 - Public Recreation
- R2 - Low Density Residential
- SP2 - Infrastructure
- MU1 - Mixed Use
- E1 - Local Centre
- R1 - General Residential
- RE2 - Private Recreation

4.3 Commonwealth approvals

Potential Commonwealth (Cth) approvals for the Cooma Project are considered in Table 4.2.

Table 4.2 Commonwealth approvals

Legislation	Remarks
Native title *Native Title Act 1993 (Cth)*	Native title is a 'bundle of rights' that acknowledges that the native title holder has a connection with claimed land and water and provides for rights to land and water consistent with native title holder traditional laws and customs. Based on a preliminary search of Native Title Vision undertaken on 10 April 2024, no Native Title claims apply to the project site.
EPBC Act referral and approval Chapter 4, *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act)	If an action is expected to have an impact on Matters of National Environmental Significance (MNES), the action must be referred to the Commonwealth Minister for the Environment under Section 68 of the EPBC Act. The Minister will then determine if the action is a 'controlled action'. The project is likely to have an impact on a listed threatened ecological community ('Natural Temperate Grassland of the South Eastern Highlands Critically Endangered Ecological Community' – see Section 6.2) and EPBC Act referral is therefore required. The project's impacts to MNES can be assessed by the NSW Government on behalf of the Commonwealth through Schedule 1, sub-clause 2(a)(ii) of the NSW Assessment Bilateral Agreement (2020).

4.4 Other approvals

Consistent and non-integrated approvals required for the Cooma Project are considered in Table 4.3.

Table 4.3 Consistent and non-integrated approvals

Legislation	Remarks
Consistent approvals (Section 4.42 of the EP&A Act)	
Environment protection license Chapter 3, ***Protection of the Environment Operations Act 1997 (NSW)*** (POEO Act)	An environment protection licence (EPL) is required for Schedule 1 premises-based activities under Section 48 of the POEO Act. However, solar energy and BESS activities do not fall within the definition of 'general electricity works' in Schedule 1. Therefore, an EPL is not expected to be required.
Consent to impact a public road Section 138, *Roads Act 1993 (NSW)* (Roads Act)	Consent must be provided by the relevant roads authority (Snowy Monaro Regional Council) to create a new site access point on the preferred access route. Section 138(2) requires that TfNSW concurrence is required before consent to conduct works on a road reserve is provided.

Legislation	Remarks
Non-integrated approvals	
Construction, subdivision and occupation certificates Part 6, EP&A Act	The work involves building work, subdivision work and/or the occupation or use of a building within the meaning of Section 6.3 of the EP&A Act. An application for construction, subdivision and/or occupation certificates is required after the development approval is received and prior to construction and operation of the Cooma Project.
OSOM permit Chapter 4, *Heavy Vehicle National Law 2013 (NSW)*	Use of OSOM vehicles on the road network during the construction phase is expected. Therefore, a permit for OSOM vehicles is required from the National Heavy Vehicle Regulator (NVHR).
Water access licence Section 56, *Water Management Act 2000 (NSW)* (Water Management Act)	The project is in the Murrumbidgee Water Management Area. A water access licence from the NSW DCCEEW may be required to allow extraction of water from a river or aquifer (although such extraction by the project is not currently proposed).
Approvals that do not apply (Section 4.41 of the EP&A Act)	
Permit to obstruct the free passage of fish Section 219, *Fisheries Management Act 1994 (NSW)*	The Water Management (General) Regulation 2018 hydroline spatial data reveals several Cooma and Middle Flat Creek tributaries traversing the proposed site development footprint. As part of the Cooma Project EIS, the presence of these tributaries will be confirmed. If watercourses are present, as defined under the Fisheries Management Act, mitigation measures will be specified to manage impacts to fish passage.
Water use approval Water management work approval Sections 89 and 90, Water Management Act	The project may extract water from an existing farm dam or bore for construction and operational purposes.
Controlled activity approval Section 91, Water Management Act	The Water Management (General) Regulation 2018 hydroline spatial data reveals several Cooma and Middle Flat Creek tributaries traversing the proposed site development footprint. As part of the Cooma Project EIS, the presence of these tributaries will be confirmed. If watercourses are present, as defined under the Fisheries Management Act, mitigation measures will be specified to manage impacts to waterfront land.
Approval for works or activities that impact heritage-listed items **Excavation permit** Sections 60 and 139, *Heritage Act 1977 (NSW)*	There is one local heritage item adjoining the project site – Cottage-Cloyne (I19). This item is located outside of the proposed Cooma Project area. A historical heritage impact assessment will be undertaken to assess and mitigate impacts to historical heritage.

Legislation	Remarks
Aboriginal heritage impact permit Section 90, *National Parks and Wildlife Act 1974 (NSW)*	There are two Aboriginal heritage sites within the project area boundary, though both sites will be located outside the proposed site development footprint. An Aboriginal cultural heritage assessment will be undertaken in consultation with Aboriginal groups and the Merrimans LALC.
Bushfire safety authority Section 100B, *Rural Fires Act 1997 (NSW)*	The project is located on Category 3 bushfire prone land. As the project does not seek to subdivide bushfire prone land for residential purposes, an authority is not required.

4.5 Pre-conditions to exercising the power to grant consent

Pre-conditions that must be satisfied before approval of the Cooma Project are considered in Table 4.4.

Table 4.4 Pre-conditions that must be satisfied before approval

Statutory reference	Pre-condition	Comment
EP&A Act		
Section 4.12	An SSD development application is to be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by Part 8, Division 5 of the EP&A Regulation.	An EIS will be developed for the Cooma Project, having regard for the: • State Significant Development Guideline • Large-Scale Solar Energy Guideline.
EP&A Regulation		
Section 23(2)	A development application may only be made by the owner of the land to which the development application relates, or another person with the written consent of the landowner.	Landowner consent will be acquired and attached to the EIS.
Resilience and Hazards SEPP		
Section 4.6	A consent authority must be satisfied that the land is suitable in its contaminated state – or will be suitable, after remediation – for the purpose for which the development is proposed to be carried out.	A search of the NSW Environmental Protection Authority (NSW EPA)'s contaminated land record of notices on 3 June 2024 shows no contaminated land notices apply to the project site.

Statutory reference	Pre-condition	Comment
Transport and Infrastructure SEPP		
Section 2.119	The consent authority must not grant consent to land development adjacent to classified roads (Monaro Highway) unless the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development.	A traffic and transport assessment will be conducted as part of the EIS to assess the project's impact to classified roads, and propose mitigations for the life of the project.
Biodiversity Conservation Act 2016 (NSW)		
Part 7.9	An application for development consent under Part 4 of the *EP&A Act* for an SSD is to be accompanied by a biodiversity development assessment report (BDAR), unless the Planning Agency Head and the Environment Agency Head have determined that the proposed development is not likely to have any significant impact on biodiversity values.	A BDAR will be developed as part of the EIS.
Cooma-Monaro LEP		
Clause 5.10 (4) Heritage conservation	The consent authority must, before granting development consent, consider the proposed development's impact on the heritage significance of the heritage item (Cottage - Cloyne) or area concerned.	A historical heritage assessment will be undertaken as part of the Cooma Project's EIS.
Clause 6.3 (4) Terrestrial biodiversity **Clause 6.4 (4)** Groundwater vulnerability **Clause 6.6 (4)** Riparian lands and watercourses	Development consent must not be granted to development unless the consent authority is satisfied that the development: • is designed, sited and will be managed to avoid any significant adverse environmental impact • if an impact cannot be reasonably avoided by adopting feasible alternatives, the development is designed, sited and will be managed to **minimise** that impact • if the impact cannot be minimised, the development will be managed to **mitigate** that impact.	Biodiversity and hydrology impacts arising from the Cooma Project will be assessed as part of the EIS.
Clause 6.10 Essential services	Development consent must not be granted to development unless the consent authority is satisfied that the development has, or will arrange: • water and electricity supply • disposal and management of sewerage	Essential services will be considered as part of the EIS.

Statutory reference	Pre-condition	Comment
	• stormwater drainage • suitable vehicular access.	

4.6 Mandatory matters for consideration

Mandatory matters for consideration for the Cooma Project are listed in Table 4.5.

Table 4.5 Mandatory matters for consideration

Statutory reference	Consideration	Comment
EP&A Act		
Section 1.3	Relevant objects of the Act: • promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources • facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment • promote the orderly and economic use and development of land • protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats • promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage) • promote good design and amenity of the built environment • promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants • provide increased opportunity for community participation in environmental planning and assessment.	The objects of the EP&A Act will be considered as part of the EIS.

Statutory reference	Consideration	Comment
Section 4.15	Provisions of any environmental planning instruments • Resilience and Hazards SEPP • Transport and Infrastructure SEPP • Cooma-Monaro LEP 2013	See rows below where the two SEPPs and the LEP are listed.
	Development Control Plans (DCPs): • Cooma-Monaro Shire DCP	Section 2.10 of the Planning Systems SEPP note that DCPs do not apply to SSDs.
	The likely impacts of that development, including: • environmental impacts on both the natural and built environments • social and economic impacts in the locality.	As part of the Cooma Project EIS, the assessments conducted will include: • BDAR • Social Impact Assessment.
	The suitability of the site for the development	The suitability of the site and assessment of alternative options will be considered as part of the Cooma Project EIS.
	The public interest	Stakeholder engagement will be conducted as part of the Cooma Project EIS.
Section 5.5	Duty to consider environmental impact – a determining authority must examine and take into account all matters affecting or likely to affect the environment by reason of that activity.	The Cooma Project EIS will consider environment-related impacts, including: • biodiversity • Aboriginal and historical heritage • land capability and stability • hydrology and water quality.
Resilience and Hazards SEPP		
Section 3.12	Current departmental circulars or guidelines. • Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis and Multi-Level Risk Assessment (HiPAP 6). • International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for	The requirements will be addressed by a Preliminary Hazard Analysis (PHA) to be conducted as part of the EIS and other EIS documentation.

Statutory reference	Consideration	Comment
	limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields • Multi-Level Risk Assessment (DoP 2011a)	
	Whether any public authority should be consulted concerning any environmental and land use safety requirements.	
	Preliminary hazard analysis	
	Feasible alternatives to the carrying out of the development and the reasons for choosing the development.	
	Any likely future use of the land surrounding the development.	
Transport and Infrastructure SEPP		
Section 2.97 Development involving access via level crossings	Before determining a development application, the consent authority must consider: • any responses received within 21 days from the rail authority for the rail corridor • implications of the development on traffic safety, including the costs associated with ensuring an appropriate level of safety • feasibility of access to the development that does not involve using level crossings.	Light and heavy vehicles may need to access the project site through the Rose Valley Road level crossing. This will be assessed as part of the EIS, through a Traffic Impact Assessment.
Cooma – Monaro LEP		
Clause 6.3 Terrestrial biodiversity	Before determining a development application, the consent authority must consider whether the development is likely to have adverse impacts on the: • condition, ecological value and significance of the fauna and flora on the land • importance of the vegetation on the land to the habitat and survival of native fauna • fragmenting, disturbance or diminishing of the biodiversity structure, function and composition of the land • habitat elements providing connectivity on the land	A BDAR will be completed as part of the EIS.
Clause 6.4 Groundwater vulnerability	Before determining a development application, the consent authority must consider: • the likelihood of groundwater contamination from the development	A contamination risk assessment, a BDAR and a cumulative impact assessment will be

Statutory reference	Consideration	Comment
	• any adverse impacts the development may have on groundwater dependent ecosystems • cumulative impacts the development may have on groundwater.	completed as part of the EIS.
Clause 6.6 Riparian land and watercourses	Before determining a development application, the consent authority must consider whether the development is likely to have adverse impacts on the: • water quality and flows within the watercourse • aquatic and riparian species, habitats and ecosystems of the watercourse • stability of the bed and banks of the watercourse • free passage of fish and other aquatic organisms within or along the watercourse • future rehabilitation of the watercourse and riparian areas. The consent authority must also consider whether or not the development is likely to increase water extraction from the watercourse.	An assessment of waterway impacts and a BDAR will be completed as part of the EIS.

5 Engagement

5.1 Relevant guidelines

ACEN Australia's stakeholder and community engagement strategy is guided by the requirements of relevant policies and guidelines including:

- Undertaking Engagement Guidelines for State Significant Projects (DPHI 2024a)
- Social Impact Assessment Guideline for State Significant Projects (DPE 2023)
- Large-Scale Solar Energy Guideline (DPE 2022a)
- Clean Energy Council's Community Engagement Guidelines for Building Powerlines for Renewable Energy Development (Clean Energy Council 2018).
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010a).

5.2 Scoping phase stakeholder engagement

ACEN Australia has prepared a community and stakeholder consultation plan to guide consultation during the Scoping and EIS phases of the project. The plan outlines methods of information dissemination (such as letterbox drops and face-to-face meetings with local landholders) and identifies opportunities for stakeholder engagement at key milestones.

ACEN Australia has identified a range of stakeholder groups and individual stakeholders relevant to the development of the Cooma Project. These include regulators who have a decision-making role in project approvals, and groups or individuals who may be directly or indirectly affected by the project. Initial consultation has included formal and informal engagement with the following stakeholders:

- DPHI
- Snowy Monaro Regional Council
- local community (neighbouring landholders).

In May 2024, ACEN created a dedicated project email address (info@coomasolar.com.au) and project hotline (1800 319 333) to enable community members to contact the project team and provide 24-hour, seven-day-a-week feedback. ACEN also sent letters, with two project factsheets attached, to all landholders within 2 km of the project area. Those letters were followed up by targeted phone calls, in which six people were successfully contacted and consulted over the phone.

In June 2024, a Cooma Solar project website was launched as a central reference point for information and feedback for the community.

A community information drop-in session was held on 3 July 2024 to introduce the project to community members and provide an initial opportunity for feedback. The session was held at a central point in the CBD, the Alpine Hotel, from 10 am to 6 pm to maximise opportunity for community members to attend and to accommodate a broad spectrum of community

members. Twenty-six community members attended the session, including nearby project neighbours, councillors and representatives of the Cooma Monaro Progress Association, Climate Action Monaro, the Chamber of Commerce and NSW Farmers Association.

A total of 32 community members have been directly consulted during the early consultation process. The majority have indicated they were generally very pleased with the information they received from ACEN Australia and supportive of the proposed Cooma Solar project.

A summary of the consultation undertaken, and the matters raised by stakeholders is provided in Table 5.1 at the end of Section 5. Consultation to date has provided stakeholders with initial opportunities to contribute to the project development process and raise any concerns or matters of interest. It has also contributed to the identification of potential impacts.

5.3 Future stakeholder consultation

The EIS process requires project applicants to undertake detailed consultation with affected landowners surrounding the project, the local community and local council.

The formal process of consultation that began during the scoping phase will continue in support of the EIS process, in accordance with requirements described in the SEARs.

In addition to DPHI, Council and local community listed in Section 5.2 (above), stakeholders will include, but not limited to:

- local members of the State and Federal Parliaments
- local community groups
- Cooma Chamber of Commerce
- local businesses
- Registered Aboriginal Parties (RAPs)
- Local Aboriginal Land Councils
- Commonwealth Department of Climate Change, Energy, the Environment and Water (Cth DCCEEW)
- NSW DCCEEW, including the Biodiversity and Conservation Department (BCD)
- Transport for NSW
- Rural Fire Service (RFS)
- Fire and Rescue NSW (FRNSW).

Table 5.1 Summary of scoping phase consultation activities undertaken

Stakeholder	Date	Activity and purpose	Consultation issues raised/outcomes	Consideration of issues raised
Neighbours (adjacent landholders)	Ongoing (began 20 May 2024)	Addressed mail: introduction letter and two factsheets (provided in **Appendix A**) outlining project and solar technology. Sent to all project neighbours within 2 km of project area. Phone calls: to further discuss project, provide neighbours with chance to provide initial feedback.	• Four neighbours raised concerns about the visual impact on their properties.	ACEN Australia is prepared to collaborate with any affected landowners to implement mitigation measures, such as vegetation screening and buffer zones, in order to minimize impacts. In addition, ACEN Australia is also seeking opportunities to establish a neighbour agreement with eligible project neighbours in accordance with the guidelines.
Wider community	May 2024 June 2024	Feedback phone service established Project email address established to enable community feedback Information materials produced: three factsheets outlining project and solar PV technology Project website launched	• Visual impacts: Community members asked whether they would see the project from their properties. • Decommissioning of the project: Community members asked who would be responsible for decommissioning the project. • Access to the project: Community members sought clarification as to where the access to the project would be • First Nations involvement: A community member mentioned that the Local Aboriginal Land	• Preliminary visual studies have demonstrated that a small number of dwellings may be visually impacted. ACEN Australia is prepared to collaborate with any affected landholders to mitigate impacts as mentioned above. • ACEN Australia is committed to responsible stewardship of its projects throughout their lifecycle, including of the decommissioning of Cooma Solar under the current land agreements and restoring the site before returning to the host landholder. • ACEN Australia is currently studying two access routes to the project site. During the EIS phase, the access route will be defined.

Stakeholder	Date	Activity and purpose	Consultation issues raised/outcomes	Consideration of issues raised
	July 2024	Newspaper advertising: Promoted community information session, direct readers to project website Community drop-in information session took place on the 3 July 2024 from 10 am to 6 om at the Alpine Hotel in Cooma.	Council is coastal-based and not representative of Cooma community • Increase in insurance premiums for neighboring properties • Valuable agricultural land lost to renewable projects • Community members enquired about project alternatives, such as nuclear energy.	• ACEN Australia will begin consulting with Merrimans Local Aboriginal Land Council. ACEN Australia also works collaboratively with Registered Aboriginal Parties in each community and will look to establish those partnerships with RAPs in the Cooma Monaro region. • ACEN Australia advised that current advice from insurance brokers indicates there has not been an increase in insurance premiums for landholders next to solar projects. This issue will be further discussed during the EIS phase. • Solar grazing has been successful introduced to ACEN Australia's first operational utility solar project, New England Solar. So far, around 6,000 merinos and cross breeds have been reintroduced to the precinct on a six-week rotational cycle and host landholders are providing anecdotal evident that the pastures and sheep are responding well to grazing around the panels. • ACEN Australia responded that the current legislation in Australia does not allow energy generation by nuclear reactors, and it is not in line with current government policy.
DPHI	17 May 2024	• Microsoft Teams meeting was undertaken. A presentation was given,	• Issues further discussed included: • considerations of the issues relating to Numeralla road access	• Issues raised by DPHI to be considered in this Scoping Report and in more detail in the EIS.

Stakeholder	Date	Activity and purpose	Consultation issues raised/outcomes	Consideration of issues raised
		jointly run by ACEN Australia and Accent, introducing the Cooma Project, while focusing on: • project overview including project location and timeline • key findings from the biodiversity investigations carried out to date • findings from the preliminary visual assessment • findings from desktop assessment of aboriginal heritage sites in the vicinity of the project • future assessment needs.	option, including its proximity to Cooma town presenting traffic related issues and presence of high-value biodiversity matters in this part of the project area (see Section 6.5) • discussion on the engagement strategy for the project, with priority to engage with the council as well as sensitive receivers located within 2 km of the project area • the following were raised by DPHI as key potential issues specific to the project's location: – biodiversity – Aboriginal and historical heritage – transport • project EPBC referral timelines and pathway • in engaging with the Council, there is need to understand any future plans for the development of the Cooma town and if there are any potential plans of the Council for the project area	• Commitment by ACEN Australia to ongoing engagement with DPHI.

Stakeholder	Date	Activity and purpose	Consultation issues raised/outcomes	Consideration of issues raised
			• presence of the nearby (seasonal) airport and investigation of related potential issues.	
Snowy Monaro Regional Council	23 May 2024 and 18 June 2024	An in-person meeting was held between the ACEN Australia and Council representatives in the Cooma Office – committee room in Cooma town. A presentation was given by ACEN Australia including the following information: • project details including: – location of the project and access options under consideration – sensitive receivers and associated landholders for the project – employment figures • status of investigations: – completed preliminary visual impact assessment (little to no visual impact anticipated from Cooma town, Monaro Highway or close neighbours)	The Council had the following observations: • suggest most effective consultation for broad community engagement in Cooma may be a pop-up in shopping centre or outside visitor centre in park, or at markets • not seeking regular updates, but Council is interested in outcome of community engagement • Council will discuss access and use of rural roads (Rose Valley Road and Numeralla Road) with Council's road department when project has progressed • ACEN should consider Council's Voluntary Planning Agreements and Land Dedication Policy with respect to community benefits.	• Commitment by ACEN Australia to ongoing engagement with Council, though it is noted that the Council is not seeking regular updates.

Stakeholder	Date	Activity and purpose	Consultation issues raised/outcomes	Consideration of issues raised
		– preliminary heritage impact assessment – biodiversity surveys and assessment completed • engagement: – ACEN has spoken with DPHI and will begin broader community consultation • community benefits programs: – ACEN's Social Investment Program – ACEN Neighbour Benefit Sharing Program On 18 June 2024, ACEN emailed the Councillors to introduce the project and invite them to the community information session.		
Members of Parliament	19 June 2024	ACEN emailed the Federal and State MPs to introduce the project and invite them to the community information session.	None received at the time of report submission.	N/A

Stakeholder	Date	Activity and purpose	Consultation issues raised/outcomes	Consideration of issues raised
Cooma Chamber of Commerce	20 June 2024	ACEN emailed the Cooma Chamber of Commerce to introduce the project and invite them to the community information session.	The Cooma Chamber of Commerce has requested ACEN to give a presentation to the organisation.	ACEN will organise a time in August or September to present to the Cooma Chamber of Commerce.
Cooma Monaro Progress Association	20 June 2024	ACEN emailed the Cooma Monaro Progress Association to introduce the project and invite them to the community information session.	None received at the time of report submission.	N/A
Climate Action Monaro **REAL Monaro** **(Action groups)**	20 June 2024	ACEN emailed these action groups to introduce the project and invite them to the community information session.	A representative of the Climate Action Monaro attended the community drop-in session and express his support of this project.	ACEN is committed to continue engagement with action groups and the community.

ACEN Australia plans to conduct a range of activities to allow the community to understand the project and to ensure there are opportunities to provide feedback and suggestions that will help shape the project through the EIS process. See Table 5.2 for future engagement activities and timeframes, including:

- community updates using a variety of communication media to target the different sectors of the Cooma community, as well as the regional and wider community. Engagement methods will give residents, businesses and community groups a range of opportunities to learn about the project and provide informed feedback.
- continued dialogue with surrounding neighbours
- regular updates to the project website, including the latest project details, an opportunity to register to receive project updates and a mechanism for feedback
- one-on-one meetings with the ACEN Australia project representatives as required.

Table 5.2 Future engagement and stakeholder consultation plan

Engagement activity	Stakeholder name	Consultation level	Dates
Social impact assessment	• All stakeholders	Involve	• 3rd quarter & 4th quarter 2024 and 1st quarter 2025
Community information session	• General community • Local community • Non-associated neighbours • Environmental, advocacy and community interest groups • Snowy Monaro Regional Council/councillors • Cooma Chamber of Commerce • Local businesses and community service providers	Consult	• 1st quarter 2025
Newsletters to subscribers (and on project website 'updates), notifications, and factsheets	• Neighbours within 2km of the project area • General community • Environmental, advocacy and community interest groups • Snowy Monaro Regional Council/councillors • Cooma Chamber of Commerce	Inform	• Aug/Sep 2024 • Nov/Dec 2024

Engagement activity	Stakeholder name	Consultation level	Dates
Factsheets	• All stakeholders	Inform	• Updates as required
Project website updates	• All stakeholders	Inform/ consult	• Updates at key milestones required
Project email address and free 1800 community hotline	• All stakeholders	Consult	• Promote in all correspondence and promotional materials
One-on-one meetings	• Host landholders • Associated neighbours • Non-associated neighbours within two kilometres of the project area	Collaborate Involve	• Ongoing as required and as requested by landholders
Direct letters	• Associated neighbours • Non-associated neighbours within two kilometres of the project area	Inform	• Quarterly and as required
Direct letter and one-on-one meetings **Newspaper advertisement**	• Merriman Local Aboriginal Land Council • Project neighbours with properties adjacent to the project area	Consult	• July 2024 • Sept 2024 • As required and as requested
Involvement in ACHAR process	• Registered Aboriginal Parties (RAPs)	Collaborate	• July 2024
Project presentations and briefings	• Snowy Monaro Regional Council/councillors • Cooma Chamber of Commerce • Cooma Multicultural Centre	Consult	• Nov 2024 • Sep 2024
	• NSW Rural Fire Service	Collaborate	• Nov 2024
Letters and offer for presentations	• Local MPs – State and Federal • Police and ambulance services • Environmental community interest groups • Community advocacy groups • NSW Farmers Association • Schools • Community Service Organisations	Consult	• Sep 2024

Engagement activity	Stakeholder name	Consultation level	Dates
Emails and offers for one-on-one meetings	• Advocacy groups • Real estate agents and other accommodation providers	Consult	• Sep 2024
Cumulative impacts consultation (one-on-one meetings, email)	• Other developers or contractors undertaking construction in the area	Consult	• Nov 2024

6 Proposed assessment of impacts

6.1 Project issues and risks

A preliminary environmental assessment has been carried out as part of project scoping to identify matters requiring further assessment in the EIS and the level of assessment that should be carried out. In accordance with the Scoping Report Guidelines (DPIE 2022a), the following factors have been considered in the identification of matters needing further assessment for the project:

- the scale and nature of the likely impact of the project and the sensitivity of the receiving environment
- whether the project is likely to generate cumulative impacts with other relevant future projects in the area
- the ability to avoid, minimise and/or offset the impacts of the project (to the extent known at the scoping phase).

An initial assessment of environmental issues together with experience of SEARs requirements from other comparable projects has identified ten areas that will require particular focus during the EIS process, as follows:

- **biodiversity** – potential impacts on biodiversity values
- **heritage** – potential impacts on Aboriginal and historic cultural heritage
- **land** – land use impacts including the temporary loss of agricultural land
- **transport** – traffic impacts on local roads and along site access routes, including any road upgrades
- **landscape and visual** – impacts landscape character and on visual amenity (including glint and glare impacts)
- **noise** – noise impacts on nearest sensitive receivers
- **water** – risk of flood impacts, potential impacts on hydrology, and impacts on water resources and quality
- **hazards** – including hazards associated with the BESS facility and bushfire hazard
- **social and economic** – social and economic impacts on the local and regional community
- **waste** – assessment of wastes generated by the project and their management

The potential impacts associated with the ten issues listed above and the proposed programs of work to address them under the project EIS are outlined in Sections 6.2 to 6.11. The initial assessment of environmental issues also identified additional potential environmental impacts that are readily manageable by implementing standard environmental management and mitigation procedures, as will be described in the EIS. They are assessed in Section 6.1 and include:

- air quality and dust

- airfield impacts
- existing land contamination in the project area.

Issues that have been considered but do not need further assessment in the EIS are listed in **Appendix B**, together with the reasoning behind their exclusion.

The EIS will be prepared in accordance with the *State Significant Development guidelines – preparing an environmental impact statement* (DPIE 2021) and related guidelines including the *Social Impact Assessment Guidelines for State Significant Projects* (DPE 2023) and *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE 2022b).

6.2 Biodiversity

Arcadis Australia Pacific Pty Ltd (Arcadis) were engaged by ACEN Australia to carry out biodiversity surveys for the Cooma Project. **Appendix C** includes the Preliminary Biodiversity Assessment for the project and the key findings of the preliminary assessment are summarised in this section.

The study area for the biodiversity assessment of the project is the entirety of the project area (see Section 1.1.1 for project area definition).

6.2.1 Existing conditions

Databases and landscape descriptions were consulted to understand landscape features and classifications within the study area and a surrounding 1,500 m assessment circle that may be relevant to the project. A summary of landscape features in and surrounding the subject land is provided in Table 6.1.

Table 6.1 Landscape features of the study area

Landscape feature	Subject land
Interim Biogeographic Regionalisation of Australia (IBRA) bioregions and subregions	The study area lies within the South Eastern Highlands IBRA bioregion and the Monaro IBRA subregion.
NSW landscape regions (Mitchell landscapes)	The study area lies within Upper Murrumbidgee Valley Mitchell Landscape and the Monaro Plains Basalts and Sands Mitchell Landscape. The Upper Murrumbidgee Valley Mitchell Landscape is described as a narrow valley and channels system of the Murrumbidgee above Cooma in montane and subalpine communities (DECC 2002). The Monaro Plains Basalts and Sands Mitchell Landscape is described as extensive tablelands and rolling hills on Tertiary (Eocene) basalts with associated sub-basaltic sands and gravel of the pre-eruption land surface (DECC 2002).
Rivers and streams	Several unnamed first and second-order streams are mapped as crossing the study area, and the Middle Flat Creek runs along the eastern boundary of the study area. However, none of the

Landscape feature	Subject land
	unnamed first or second-order streams mapped by NSW Hydrography (DFSI 2016) were apparent during fieldwork, even following rainfall, except for a second-order stream above the southern entrance. Middle Flat Creek was flowing throughout the period of survey.
Wetlands	There are no natural wetlands in the study area. There are several small farm dams; however, these generally lack fringing aquatic native vegetation.
Connectivity features	The study area adjoins and is surrounded by large areas of native vegetation mapped on the NSW State Vegetation Type Map (SVTM) as PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland.
Areas of Geological Significance and Soil Hazard Features	The study area does not contain any karst, caves, crevices or cliffs. There are extensive areas of basaltic outcrops on the ridgeline in the northern portion of the property and along the flanks of that ridgeline. The Bredbo, Middle Flat and Murrumbidgee variant b soil landscapes lie within the study area. The Bredbo landscape consists of undulating low hills on volcanics and sediments. The Middle Flat landscape is a gently undulating plain on Quaternary and tertiary (Lake Bunyan) sediments. The Murrumbidgee variant be landscape consists of floodplains, recent alluvials and terraces of the Murrumbidgee and Numeralla Rivers, and includes high terraces.

The SVTM (DCCEEW 2022) was used to map native vegetation within the 1,500 m buffer area. The area of native vegetation cover within the study area plus 1,500 m buffer area is calculated below in Table 6.2.

Table 6.2 Native vegetation within the study area plus 1,500 metre buffer area

Location	Extent (ha)	Native vegetation extent (ha)	Percent native vegetation cover
Study area plus 1,500 m buffer area	2,998.30	1,612.65	53.80%

The NSW State Vegetation Type Map (DCCEEW 2022) identifies a single Plant Community Type (PCT) within the subject land and study area: PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland. This PCT is associated with the following threatened ecological community (TEC) within the NSW BioNet Vegetation Classification:

- EPBC Act: Natural Temperate Grassland of the South Eastern Highlands Critically Endangered Ecological Community (CEEC).

Vegetation, topography and levels of development/disturbance are highly variable across the study area. The northern and western portion of the study area comprises a long ridge running north-south, with basalt outcrops common along the ridge, and to a lesser degree, on the

flanks. This ridge and its flanks have not been improved (sowed) for agriculture or for fodder crops, but the exotic *Eragrostis curvula* (African Lovegrass) is highly dominant. Native vegetation is sparse, and in places non-existent. The southern and eastern portion of the study area, with the exception of an access corridor south of the development footprint, consists of flat pasture land that is sowed periodically. Generally, this land is dominated by exotic flora. Where land has been left fallow for a period of time, some native species have established, and in places these native species are the predominant groundcover.

All portions of the study area are currently used for the grazing of sheep and cattle. There are exotic planted trees (*Populus* spp. (cottonwoods and poplars) and *Pinus* spp. (pines) along the boundaries of the study area, but there are no native trees on the site. Existing buildings within the study area are a working farm shed and a dilapidated shed in the southern portion of the study area.

6.2.2 Preliminary impact assessment and management

Native vegetation surveys and targeted surveys for threatened flora and fauna were undertaken in accordance with the requirements of the Biodiversity Assessment Method (BAM) (DPIE 2020) over the months of August, October, November and December 2023 and January, February, March and April 2024. Twenty nine BAM vegetation integrity plots were completed, and threatened species surveys were carried out for ten flora species and six fauna species. In addition to the study area, rapid vegetation assessments were conducted within the proposed external road upgrades footprint; five locations on Rose Valley Road and six on Numeralla Road.

The native vegetation community (PCT 3414) identified within the study area was stratified into three condition classes: High, Moderate and Low. In addition, three vegetation communities dominated by exotic vegetation were identified. The areas of vegetation communities within the study area are summarised in Table 6.3 and shown in Figure 6.1.

Table 6.3 Vegetation communities and areas

PCT No.	PCT Name	Condition class	Area (ha and %) within study area
3414	**Monaro Snowgrass-Kangaroo Grass Grassland**	High	13.29 (4.6%)
		Moderate	34.59 (11.9%)
		Low	11.96 (4.1%)
		Rocky-ridgeline (exotic-dominated)	44.52 (15.3%)
		Lovegrass (exotic-dominated)	52.08 (17.9%)
n/a	**Improved/exotic pasture**		134.10 (46.2%)
Total (ha)			**290.54**

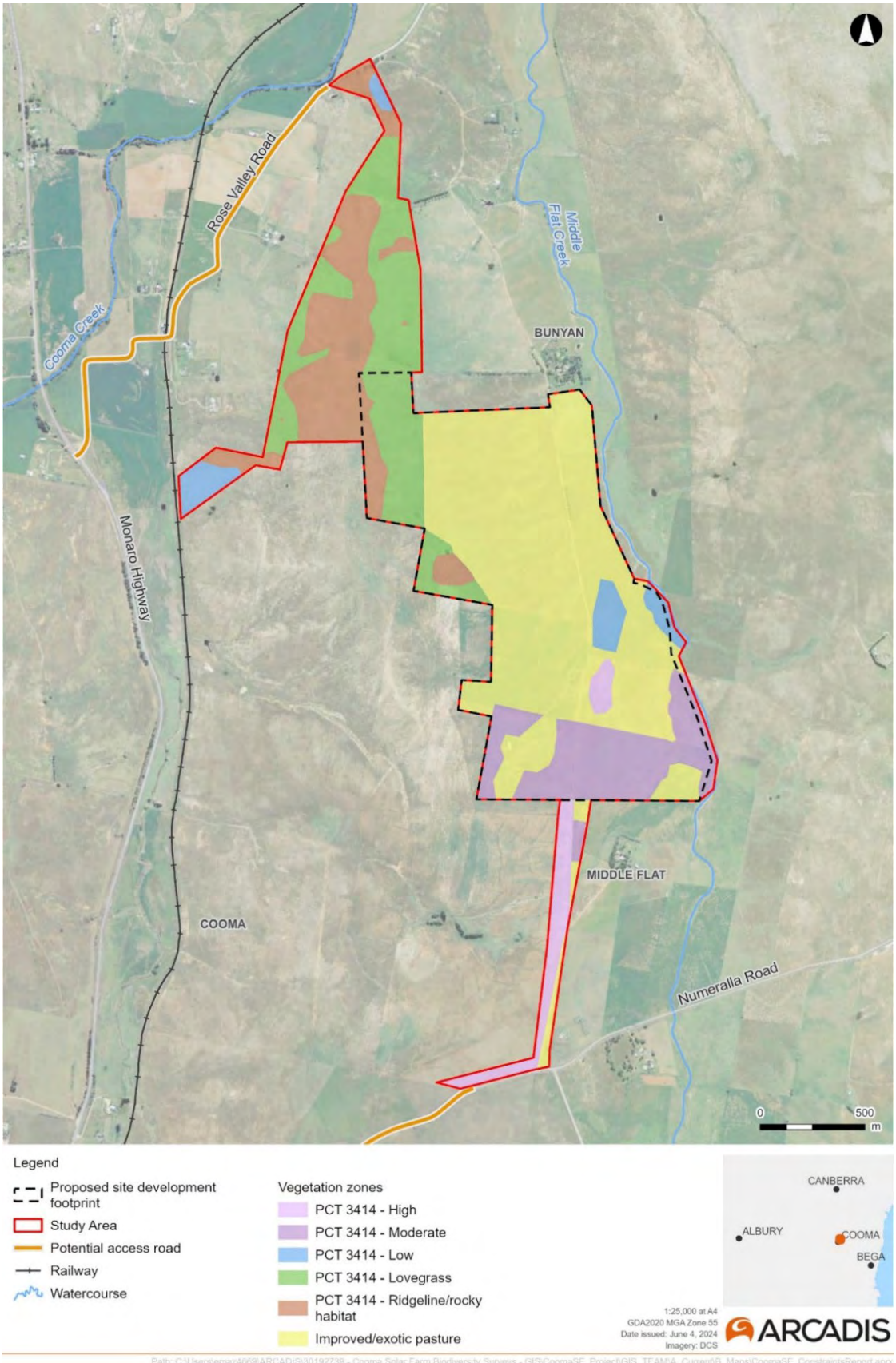


Figure 6.1 Ground-truthed vegetation

PCT 3414 corresponds to the Natural Temperate Grassland of the South Eastern Highlands CEEC listed under the EPBC Act where the condition of the vegetation meets specified thresholds. Within the study area, it is likely that vegetation in the High and Moderate condition classes meet these thresholds. This will be assessed in detail in the BDAR.

Six threatened species were recorded during targeted surveys or incidentally, comprising one flora species and five fauna species:

- *Miniopterus australis* (Little Bent-winged Bat), listed as Vulnerable under the NSW *Biodiversity Conservation Act 2016* (BC Act)
- *Miniopterus orianae oceanensis* (Large Bent-winged Bat), listed as Vulnerable under the BC Act
- *Petroica phoenicea* (Flame Robin), listed as Vulnerable under the BC Act
- *Suta flagellum* (Little Whip Snake), listed as Vulnerable under the BC Act
- Swainsona sericea (Silky Swainson-pea), listed as Vulnerable under the BC Act
- Tympanocryptis *osbornei* (Monaro Grassland Earless Dragon, listed as Endangered under the BC Act and the EPBC Act.
- Four of these species, the Flame Robin, the Little Whip Snake, the Little Bent-winged Bat and the Large Bent-winged Bat are ecosystem species for the purposes of this project. This means that impacts to these species are assessed in conjunction with impacts to native vegetation communities.
- Two species, Silky Swainson-pea and the Monaro Grassland Earless Dragon, are species credit species, meaning that potential impacts to this species are assessed separately from impacts to native vegetation. Figure 6.2 shows the record locations for the species credit species.

The mitigation of biodiversity impacts will focus on the hierarchy of avoidance, minimisation and offsetting. Where practical, the development footprint will be designed to avoid or minimise impacts on areas of high biodiversity significance. Offsetting will only be adopted where avoidance is not practical, or for impacts on areas of lower biodiversity significance.

6.2.3 Need for further assessment

Impacts from the proposed Project to the biodiversity values recorded in the study area will be assessed in a BDAR. Key areas for assessment will include:

- measures to avoid, minimise and mitigate impacts from the project to biodiversity values
- impacts to PCT 3414
- impacts to the threatened Swainsona sericea and Monaro Grassland Earless Dragon
- impacts to the EPBC-listed Natural Temperate Grassland of the South Eastern Highlands CEEC
- prescribed biodiversity impacts
- impacts to MNES
- calculation of credits for residual impacts that cannot be avoided.

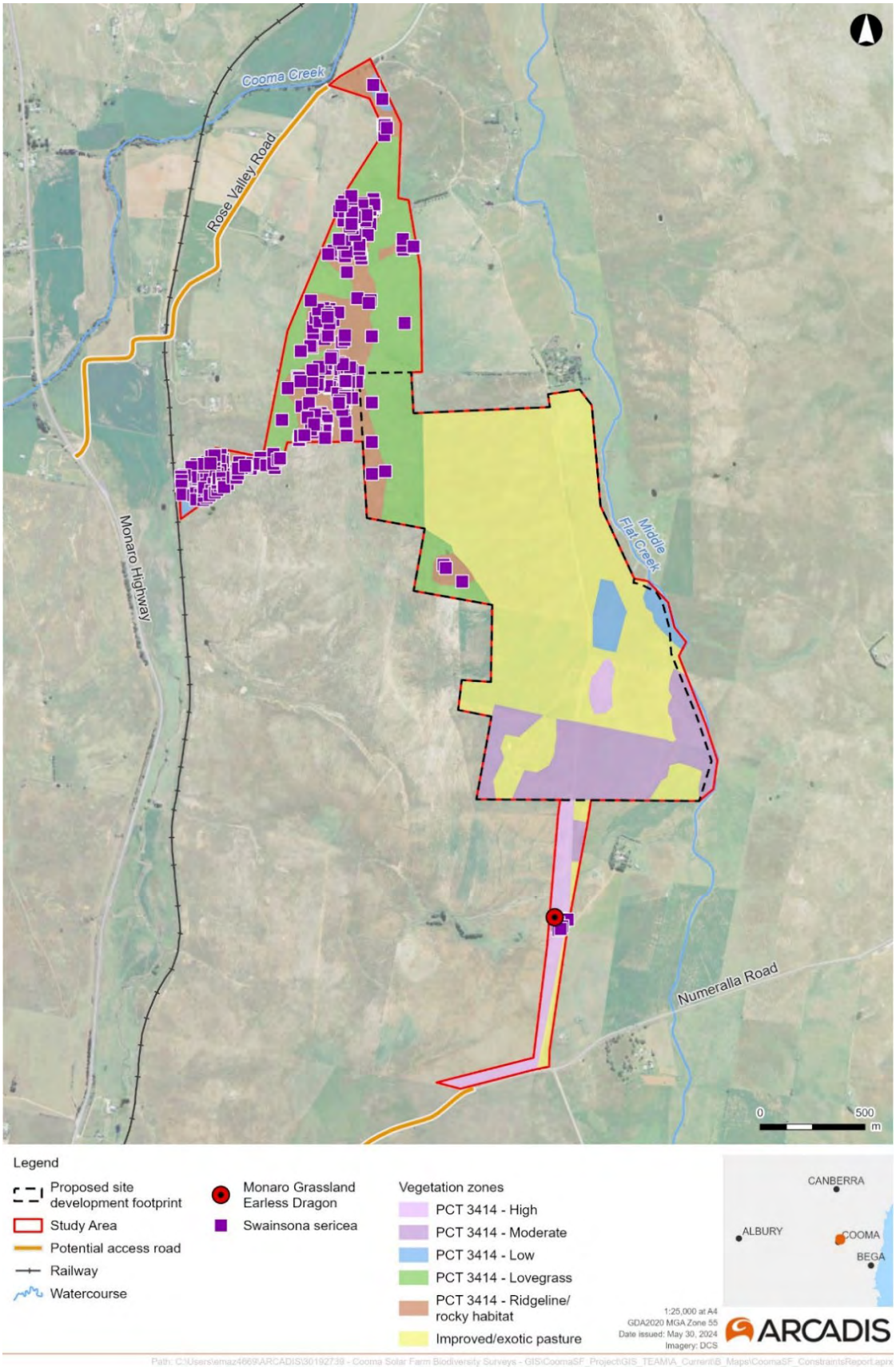


Figure 6.2 Threatened flora and fauna records for species credit species

The assessment of MNES will require a referral to the Cth DCCEEW under the EPBC Act. Should the project be determined to be a controlled action, then supplementary SEARS will be issued by DPHI and the Cth DCCEEW requirements will be addressed in the BDAR and EIS under the NSW Assessment Bilateral Agreement (2020).

6.3 Heritage

6.3.1 Aboriginal cultural heritage

Aboriginal people of the project area

Merrimans LALC is the local land council representing the Aboriginal people inhabiting the areas within the project site. The project area is also located within the boundaries of the Ngarigo nation's territory (Tindale 1974). Some of the surrounding Aboriginal groups include the Walban and Djirngandj to the east of Cooma, and Djilamatang to the west.

The Ngarigo nation territory is located within the mountainous region south of Canberra. Significant landscape features of the Ngarigo territory include the Bombala and Numeralla rivers, Lake Jindabyne and surrounding mountain ranges of Snowy Mountain Range to the west and Mount Wadbilliga to the east. The project area is located within the central southern part of the Ngarigo territory near Cooma.

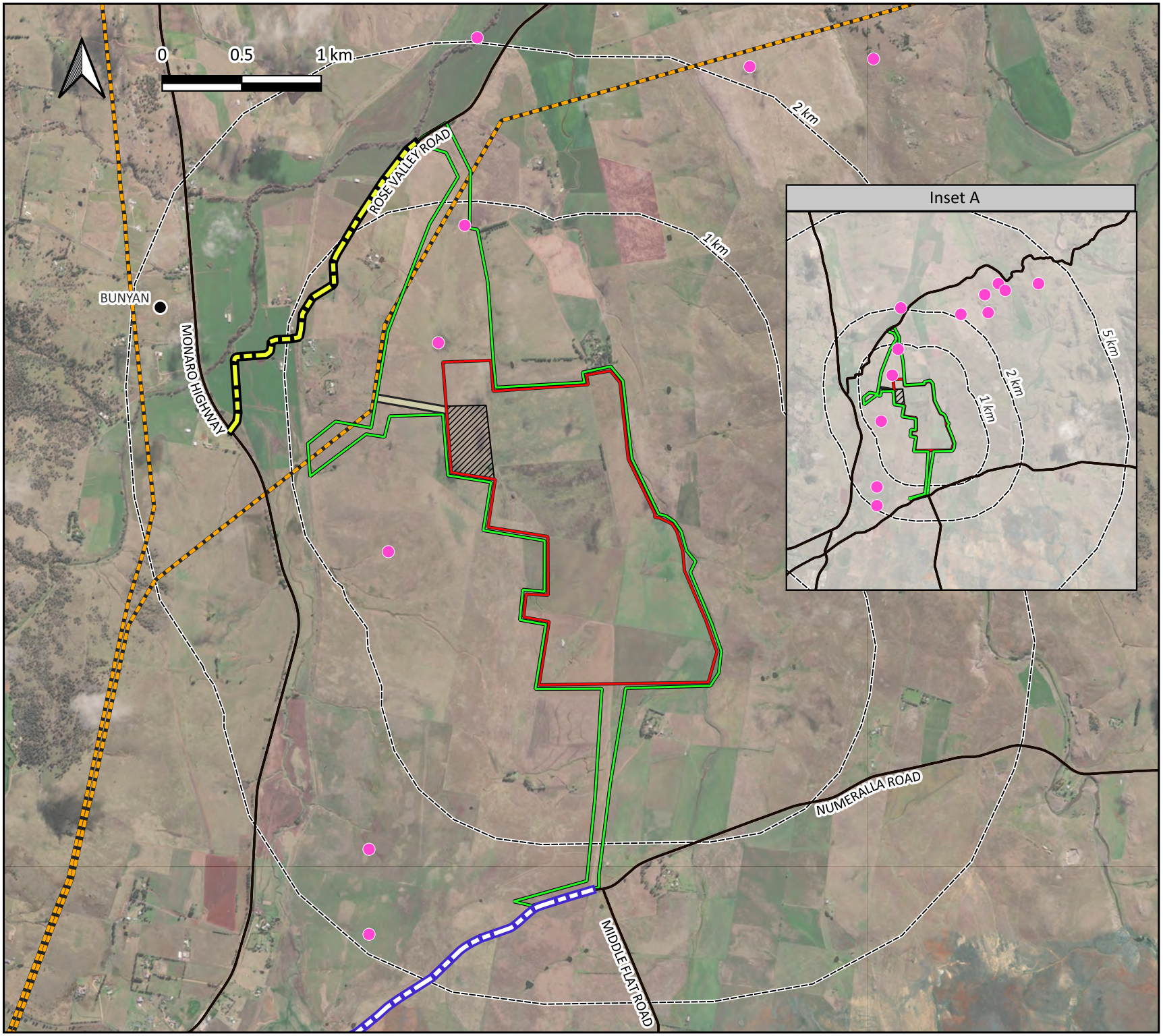
The Ngarigo people occupied the area for around 15,000 years prior to European colonisation (Plowman 2007). However, thousands of migrants settled in the area in the early 1800sand many Ngarigo people died from exotic diseases. Initially the Ngarigo remained on reasonably friendly terms with the settlers, and were occasionally employed on farms, but over time many left the region and integrated with surrounding Aboriginal groups.

Existing conditions

A desktop search was undertaken to identify Aboriginal heritage sites in the project area. The results of this search are summarised in Table 6.4 and shown in Figure 6.3. Two Aboriginal heritage sites were identified within the project area boundary, though both sites are located outside the proposed site development footprint of the project. Both archaeological sites are located along the potential route of the northern access option (access from Rose Valley Road).

Table 6.4 Aboriginal cultural heritage desktop database search results

Name of database searched	Date of search	Type of search	Comment
National Native Title Claims Search	6 May 2024	Native Title Vision	No Native Title claim covers the project site.
Aboriginal Heritage Information Management System (AHIMS)	26 April 2024	Seach by shapefile of project area	Two sites returned in the designated search area; however, both are outside the proposed site development footprint.



ACCENT ENVIRONMENTAL

AE1270 Cooma Project
Figure 6.3 AHIMS sites in relation to the Cooma Project

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- Towns
- AHIMS sites
- Arterial roads
- Existing transmission Lines
- Northern access option
- Southern access option
- Radius from proposed site development footprint
- Proposed site development footprint
- Project area
- Indicative BESS and substation/switchyard
- Indicative transmission line easement

Basemap: ESRI Satellite (ArcGIS/World_Imagery)
Additional data: NSW_TransportTheme, Aboriginal Heritage Information Management System.

Table 6.5 shows that the two sites found within the project area belong to the same site type, which is an open camp site with associated artefacts.

Table 6.5 AHIMS site types

Site Name	Site Features	Site Types
Bunyan 10 Cowra Creek 1	Artefact	Open Camp Site
EGP,2-31	Artefact	Open Camp Site

Preliminary impact assessment and management

Activities such as vegetation clearance and civil works during the construction of major projects can potentially impact heritage sites. However, the nature of solar project construction is that direct ground disturbance is generally minimal, reducing risk of disturbance to Aboriginal or historic heritage objects that may be present on or near the project site. Where ground conditions allow (likely across most of the site), ACEN's preferred method of panel installation is to pile drive or screw the steel supports for the panels directly into the ground without the need for excavation or the laying of foundations.

The BESS units are expected to be containerised lithium-ion batteries supported by concrete footings. Concrete pads will be required for the substation and may be required for inverters, site office and the operations and maintenance building. Access roads will be generally levelled and gravelled, requiring some surface disturbance.

The mitigation of Aboriginal cultural heritage impacts will focus on the avoidance, where practical, of any identified sites of cultural heritage significance, and the excavation and salvage (potentially including relocation) of any sites to be impacted – in discussion with the RAPs. Chance find protocols will be implemented for any ground disturbance activities.

Need for further assessment

A detailed assessment of the potential impacts to Aboriginal heritage from the development of the project will be undertaken. This will be in the form of an Aboriginal cultural heritage assessment and be reported in an Aboriginal cultural heritage assessment report (ACHAR). The ACHAR will expand on the desktop research carried out to date by carrying out consultations and field investigations with Aboriginal groups and the Merrimans LALC.

The preparation of the ACHAR and associated consultation and field investigations will be undertaken in accordance with the:

- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (Code of Practice) (DECCW 2010a)
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (the Guide) (OEH 2011)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (ACHCRs) (DECCW 2010b).

The ACHCRs require the identification of Aboriginal people who may have an interest in the proposed project area and hold relevant cultural heritage knowledge. The names of those who express an interest in being involved in consultation are recorded as RAPs and must be consulted in relation to the proposed development and the preparation of the ACHAR.

The primary deliverable will be the ACHAR which will include management options and mitigation measures based on best practice heritage management and input from the RAPs.

6.3.2 Historic heritage

History

European colonisation began in the region in the 1830s and accelerated with the arrival of the Gold Rush in 1850. It was during this period that the Cooma town was established. The region is the famed setting of the romantic and heroic stories surrounding the Snowy Mountains. Imagery from Banjo Patterson's poem 'The Man from Snowy River' inspired by the region's mountains, rivers and brumbies remains culturally significant to local residents and tourists.

In the late 20th century, the Snowy Scheme was constructed, which again brought thousands of migrants to the region. The Snowy Monaro Regional Council claims the assembly of over thirty nationalities at that time as the 'birth of multiculturalism in Australia' (SMR 2024).

The agriculture industry in the region has been one of its largest industries since European settlement began, particularly wool, sheep and cattle. Tourism and forestry industries are also prominent in the region.

Existing conditions

A desktop search was conducted of several databases to identify any heritage items previously recorded within the Snowy Monaro Regional LGA. The results of this search are summarised in Table 6.6.

The search of the National Heritage List administered heritage databases returned no records for historic heritage sites in the township of Cooma. However, the Heritage Council of NSW, and the Cooma-Monaro LEP 2013 returned one record for historic heritage sites which is summarised in Table 6.7.

Table 6.6 Historic heritage desktop database search results

Name of database	Date of search	Type of search	Comment
Commonwealth Heritage Listings	6 May 2024	Snowy Monaro LGA	No items are listed near the project site.
State Heritage Inventory (SHI)	6 May 2024	Local and state heritage significance	One item is listed near the project site (Cottage-Cloyne).
LEP	8 May 2024	Cooma-Monaro LEP 2013	One item is listed near the project site (Cottage-Cloyne).

Table 6.7 Historic heritage item summary

Name	Address	Property description	Site significance
Cottage-Cloyne	264 Rose Valley Road, Bunyan	Lots 17 and 31, DP 750530	Barn built of limestone during the 1840s. A small example of an early steading (i.e., multipurpose farm building) including stables, dairy, tackroom, single quarters and loft.

Data source: SHI 2015

Preliminary impact assessment and management

One known historic heritage item (Cottage-Cloyne) is located in proximity to the site, but outside the project area. There may be potential for indirect impacts on this site (e.g. loss of amenity, or road upgrade and construction traffic impacts) as a result of the project. It is also possible that undiscovered historic heritage of value may be present within the project area and could be disturbed or affected by project development.

The mitigation of impacts on heritage items will be primarily based on their assessed significance as well as the likely impacts of the proposed development. In terms of best practice and desired outcomes, impacts to historic items will be avoided where practical. However, where a historic site has been assessed as having no heritage value, impact to these items does not require any legislated mitigation. If the historic site has heritage value and disturbance of the site cannot be avoided, then other measures such as official documentation of the site and salvage of items of value will be considered to manage the impact.

Need for further assessment

To fulfil the requirements of an EIS, a standard assessment of the likely impacts to historic heritage from the development of the project will be undertaken. This will include expanding on the desktop research carried out to-date and undertaking field investigations that assist with an informed assessment of any potential impacts. This will allow the development of tailored management and mitigation strategies in relation to any impacts, as required.

The historic heritage assessment will follow the:

- Heritage Council's *Historical Archaeology Code of Practice* (Heritage Council 2006)
- Burra Charter (2013)
- Heritage Office's *Assessing Heritage Significance* (Heritage Council 2001).

The assessment, including field investigations, will:

- identify whether historic heritage items or areas are, or are likely to be, present within the project area
- assess the significance of any recorded heritage items or areas
- determine whether the proposal is likely to cause harm to recorded historic heritage items or areas

- provide management recommendations and options for mitigating impacts.

A Historic Heritage Impact Assessment (HHIA) will be prepared, which will document the findings of the survey and provide heritage assessments of items with potential heritage significance.

6.4 Land

Agricultural production is of great importance to the communities residing in the Snowy Monaro Regional LGA, both economically (see Section 6.10) and culturally. Local and regional impacts on agricultural land and primary production over the duration of project operation will need to be considered carefully to ensure that balanced land use outcomes are being achieved. The use of the project land for renewable energy generation will need to be balanced against the loss of agricultural activity.

6.4.1 Existing conditions

The NSW Government's spatial databases, including the Sharing and Enabling Environmental Data in NSW (SEED) database (NSW Government 2024b), the MinView database (NSW Government 2024c) and the eSpade database (NSW Government 2024d), were accessed to assess the following:

- Land and Soil Capability (LSC)
- Strategic Regional Land Use Policy (SRLUP) land, including Biophysical Strategic Agricultural Land (BSAL), Future Residential Growth Area, Equine Strategic Agricultural Land and Viticulture Strategic Agricultural Land
- geology and soil types
- mines and quarries and exploration licences.

The results of the spatial database searches are presented in Table 6.8.

As described in Section 2.2, the project area is characterised by broad undulating terrain on the northern side with elevations ranging between 760 m AHD and 820 m AHD.

BSAL

DPHI has mapped areas of land throughout NSW that are considered to be BSAL. BSAL is land with high-quality soil and water resources capable of sustaining high levels of productivity (DPHI 2024b). The SEED database check found no BSAL area within project area, which is consistent with the site's LSC Class 4 and LSC Class 6 classification. The nearest BSAL area is located just north of the project area, along the Rose Valley Road.

Mineral exploration, mining and quarrying

A review of data on MinView identified current exploration and mineral titles within 1 km of the project area. However, no current mineral title is located within the project area. The mineral exploration licences are in the name of Jarvis Minerals EL8628 (83.2 square kilometres (km^2)) southeast of the project area and Delta Minerals EL9039 (83.2 km^2) north of the project area.

Table 6.8 Soil and land parameters

Name	Parameter	% of project area (approximate)	Source
Surface geology	Pleistocene- Claypan and Lacustrine deposit along the ridge line running down the centre of proposed site development footprint.	40%	MinView
	Quaternary Alluvial deposits on western side of the proposed site development footprint.	20%	
	Ludlow coarse grained rhyolitic meta-porphyry on the north-eastern side of the proposed site development footprint.	40%	
Australian Soil Classification	Rudosols and Tenosols	20%	MinView
	Chromosols	70%	
	Ferrosols near access points	10%	
Great Soil Group	Red Brown Earth Moderately high fertility.	70%	Minview
	Earthy Sands Low fertility.	30%	
LSC	Majority is LSC Class 4, which has moderate to severe limitations.	70%	eSpade
	Some areas on western side of the project area are LSC Class 6, which has very severe limitations.	30%	
BSAL	No BSAL area within the project area, which is consistent with the project area's LSC Class 4 and LSC Class 6 classification.	0%	SEED
Other SRLUP land	No other SRLUP land within the project area but present on the northern side of Rose Valley Road.	0%	SEED
Acid sulfate soils	None	0%	SEED
Mines and quarries and exploration licences	None within the project area. There is a Minerals Exploration Licence to the North held by Delta Gold by Pty Ltd and one to the south held by Jarvis Minerals Pty Ltd.	0%	MinView

6.4.2 Preliminary impact assessment and management

Land capability, as detailed in the Land and Soil Capability Assessment Scheme; Second Approximation (LSC Guideline) (OEH 2016), is the inherent physical capacity of the land to

sustain a range of land uses and management practices in the long term without degradation to soil, land, air and water resources. Failure to manage land in accordance with its capability, risks degradation of resources both on- and off-site, leading to a decline in natural ecosystem values, agricultural productivity, and infrastructure functionality.

Impacts on existing agricultural uses of land within the project area, all of which is mapped as moderate to low capability, will be an inevitable outcome of the construction and operation of the Cooma Project. However, on other solar project sites, ACEN has successfully integrated solar panel installation and agricultural use – specifically sheep grazing. The New England Solar site accommodates up to 6,000 merinos to graze within the project area. ACEN are also finalising farming agreements with landholders at their Stubbo Solar Project. ACEN will investigate this possibility for the Cooma Project, as a means of reducing such impacts**.**

The use of the project area for solar energy generation for an expected period of 30 years is expected to have an insignificant impact on the region's output from primary industry, particularly as no sensitive agricultural activities such as intensive plant or livestock agriculture, or livestock breeding, are undertaken within the project area or its immediate surrounds.

As stated above, the nature of solar project construction is that direct ground disturbance is generally minimal and is primarily associated with the installation of the BESS units, the substation, buildings and access roads. The construction of the solar project and associated facilities will not require any major reshaping of landforms**.**

The main ground disturbance is expected to be associated with cable trenching (e.g. between inverters), infrastructure footings (including PV panel mounting frames, inverters), access road construction within the project area and the establishment of concrete foundations for the BESS units and substation. The project is therefore not anticipated to result in significant changes to existing drainage or erosive potential, although in areas where soils are disturbed during construction, soil erosion and sedimentation issues can result and will require management.

Impacts on land capability can also result from the introduction and/or spread of pests, weeds and pathogens. Increases in the distribution and prevalence of weeds or pathogens within the project area could impact on adjacent farms. Pest animals such as rabbits can also lead to land degradation as a result of burrowing and feeding activity.

The project facilities will be located within moderate (LSC Class 4) and low capability (LSC Class 6) land and return to pre-existing capability is expected to be achievable at the end of project life.

Impacts on land capability and stability during construction and operation are expected to be readily avoided or minimised. Mitigation measures are expected to include:

- the application of standard erosion and sediment controls (particularly during construction), such as those outlined in the Landcom (2004) guidelines (commonly referred to as the 'Blue Book')
- the implementation of an effective land management regime, including pest and weed control, during both construction and operation

- effective rehabilitation at the end of project life, with a detailed decommissioning and rehabilitation plan being prepared.

Overall, it is expected that there will be minimal impact on land and soil capability, and stability, during the life of the project. Once infrastructure is removed and rehabilitation has been undertaken, it is anticipated that current agricultural activities such as cattle grazing could be resumed. Accordingly, agricultural impacts are expected to be temporary in nature.

The use of the land within the project area for electricity generation and storage is therefore considered a balanced land use outcome for the region given the temporary (approximately 30 year) exclusion of the project area from agricultural activity, the general absence of intensive, high-value agricultural activity (including BSAL) within the area, and the importance of renewable electricity generation and storage to the region and the State.

6.4.3 Need for further assessment

An Agriculture Impact Assessment (AIA) will be undertaken, and it is expected that a Land Use Conflict Risk Assessment (LUCRA) will also be required.

The AIA will include field inspection to assess current agricultural context including land use, soil types and land capability. The AIA will include verification of the mapped Land and LSC classes, and assessment of issues such as erosion and sedimentation risk. The assessment of land capability will be used to help quantify agricultural losses during project operation.

The level of agricultural impact assessment, including the need for and extent of soil sampling and analysis, will be determined by the verification of LSC classes on or adjacent to the project area in accordance with Section 5.2 of the Solar Guideline and *Appendix A – Agricultural impact assessment requirements* (DPE 2022a).

The EIS will consider the compatibility of the project with adjacent land uses during operation and after decommissioning, with reference to the zoning provisions applying to the land. If the presence of LSC Class 4 or higher land is confirmed within the project site during soil surveys carried out under the EIS phase, a LUCRA will be prepared in accordance with the *Land Use Conflict Risk Assessment Guide fact shee*t (DPI 2011).

The EIS will also cover other issues such as the potential for existing land contamination, permissibility, strategic context, and potential project impacts on Crown lands, mining, quarries, mineral or petroleum rights.

Biosecurity issues will also be addressed in the EIS, including the need for pest, weed and pathogen management measures to be implemented within the project area (particularly during construction).

6.5 Transport

6.5.1 Existing conditions

The Cooma Project lies to the east of the Monaro Highway. The Monaro Highway is a 285 km long single-carriageway rural highway, which is a key freight, commuter and recreational route

linking Cann River in Victoria to Canberra in the Australian Capital Territory (ACT) via the Monaro region.

At a local level, two potential access routes have been identified. The first access route (northern access option) is off the Monaro Highway via Rose Valley Road to the north of the site. The other access route (southern access option) is off the Monaro Highway/Polo Flat Road via Numeralla Road to the south of the project area (see Figure 1.2). Rose Valley Road is largely an unsealed country road with several residential and agricultural properties alongside it. Numeralla Road is largely sealed. The main access roads are listed in Table 6.9.

Table 6.9 Potential main access roads

Road name	Classification	Roads authority
Monaro Highway	State road	Snowy Monaro Regional Council
Rose Valley Road	Local road	Snowy Monaro Regional Council
Polo Flat Road	Regional road	Snowy Monaro Regional Council
Numeralla Road	Regional road	Snowy Monaro Regional Council

Section 138 of the Roads Act requires TfNSW concurrence before an approval is provided for works on classified road reserves.
Source: TfNSW

Transporting major components for the solar array, BESS facility and substation infrastructure will require B-double and OSOM vehicles. The Monaro Highway and Polo Flat Road are listed by TfNSW as NSW OSOM Load Carrying Vehicles Network Approved Roads, meaning these vehicles can travel along the highway without additional assessment or controls. However, where OSOM or B-double vehicles enter (or exit) a site, the access points must be evaluated. Rose Valley Road and Numeralla Road are currently not listed as approved roads for OSOM or B-double vehicles (TfNSW 2024). There are existing sharp turns along Rose Valley Road, which is a single land road, immediately after turning off from the Monaro Highway (Photo 6.1).

It is anticipated that construction materials and infrastructure would be largely transported to the project area via the road from the Port of Newcastle or from Sydney. Other ports such as Port of Melbourne and Port Kembla will also be taken into consideration during the transportation assessment.

Photo 6.1 *View of a sharp left turn after entering Rose Valley Road from the Monaro Highway*

6.5.2 Preliminary impact assessment and management

The use of main roads and local access roads by project-related traffic, particularly during construction, may result in a number of environmental and social impacts that will require consideration in the EIS, including:

- changes to traffic conditions
- impacts on the use of the road by other road users
- impacts on road condition (e.g. the potential for pavement deterioration)
- modifications of the road network, including widening and intersection upgrade, where required to accommodate heavy vehicle or OSOM vehicles
- potential disruption to local traffic and access during upgrade works.

Existing turn treatments from the Monaro Highway into Rose Valley Road or Polo Flat Road, as well as Polo Flat Road into Numeralla Road, may require upgrade to ensure accessibility for OSOM and B-double vehicles, and road widening may be required along the preferred site access route. Such works may result in native vegetation clearance or the disturbance of cultural heritage. It is expected that the rest of the proposed site development footprint will be accessed internally through a series of access roads between 4 to 6 m wide.

Transport impacts will be largely limited to the construction phase and may result from factors including haulage of materials and components to the project area, movements of workers to

and from the project area and the movement of trucks, vehicles, and construction machinery within the proposed site development footprint.

To mitigate traffic impacts, standard traffic management measures will be implemented. Such measures will include obtaining NHVR permits for OSOM vehicle movement, ensuring vehicle roadworthiness, enforcing speed limits, erecting signage, proper design of site access points, ensuring access roads within the site are properly engineered.

6.5.3 Need for further assessment

A detailed traffic and transport assessment will be undertaken as part of the EIS process, including an evaluation of the haulage route options (and determination of preferred option(s)), an evaluation of site access options (and determination of the preferred option), the conceptual design of any required road or intersection upgrades, and likely transport impacts of the project on the capacity and condition of roads.

Existing traffic volumes and volume growth rates will be obtained from Council and/or TfNSW, or from published data for the roads identified in Table 6.9. The need for turn treatments will be considered in accordance with AustRoad guidance and the conceptual design will be supported by swept path and SIDRA analyses. A high-level assessment of high-risk (escorted) OSOM routes will be undertaken to assess the suitability of the proposed route, and to identify potential pinch points and the need for temporary route modification measures.

In-principle, agreement will be obtained from Council and/or TfNSW for the proposed use of roads, preferred haulage/OSOM route(s), the proposed site access option, and for any proposed works.

Cumulative impacts will be considered by identifying other projects being developed or proposed locally that might increase traffic along the site access routes that will be used for the Cooma Project, particularly if peak construction periods overlap.

6.6 Landscape and visual

6.6.1 Existing conditions

The Cooma Project is located in a rural region characterised by rolling plains country and mountain ranges and including national parks and reserves. Views from the project area are shown in Photo 6.2 and Photo 6.3. The project may have the potential to visually impact on local road users and nearby rural residents. Key visual elements include solar panel arrays, BESS facility, substation (fitted with lightning rods), control room, site roads and an operations and maintenance building.

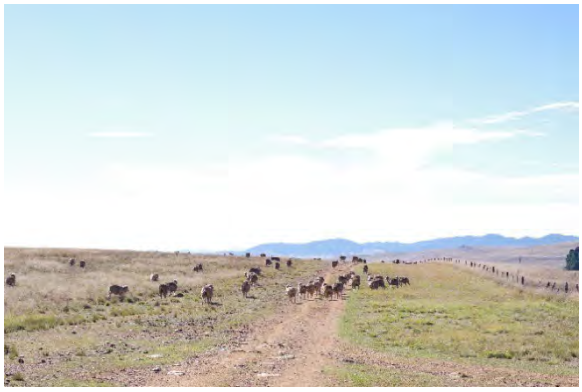


Photo 6.2 Dirt track south of the project area

Photo 6.3 Looking south from the northwest project area boundary

A preliminary landscape character and visual impact assessment (Preliminary LCVIA) has been undertaken using industry-accepted methodologies and guidance, including methodology provided in the Solar Guideline technical supplement *Landscape and Visual Impact Assessment* (DPE 2022b). The preliminary analysis does not take into account the potential screening effects provided by existing vegetation in the area – such screening effects will be considered in the EIS.

As outlined in Section 2.3, there are an estimated 133 potential residential receivers located within 4 km of the project area, numbered as A1 to A3 (associated receivers) and R3 to R132 (non associated receivers) based on their distance from the site. Of these, 26 are located within 2 km of the project area. Three are associated with the project (A1, A2 and A3) and belong to the project site landholders. Two of the three associated receivers reside within 1 km of the proposed site development footprint. There are also eight potential road and rail receivers located within 2.5 km of the project area. The number and type of receivers based on their proximity to the project area is provided in Table 6.10.

The numbers of residential receivers in Table 6.10 assume that all potential dwellings identified during the scoping phase are residences and not other types of buildings. For a number of potential dwellings, further assessment is required during the EIS phase to confirm the use of the identified buildings.

Table 6.10 Sensitive receivers summary

Distance from project site	Number of receivers	Receiver type
0 to 500 m	2	Associated receiver residences
>500 m to 1 km	7	Residences
	3	Two road, one rail
>1 km to 2 km	17	Residences (1 associated)
	3	Road
	35	Residences

Distance from project site	Number of receivers	Receiver type
>2 km to 3 km	2	One road, one rail
> 3 km to 4 km	71	Residences

6.6.2 Preliminary impact assessment and management

The Preliminary LCVIA comprised desktop analysis, viewshed analysis (using an open-source digital elevation model) and site inspection to identify nearby receivers with the potential to have views of the project site. Figure 6.4 shows the results of the viewshed analysis undertaken as a part of the Preliminary LCVIA.

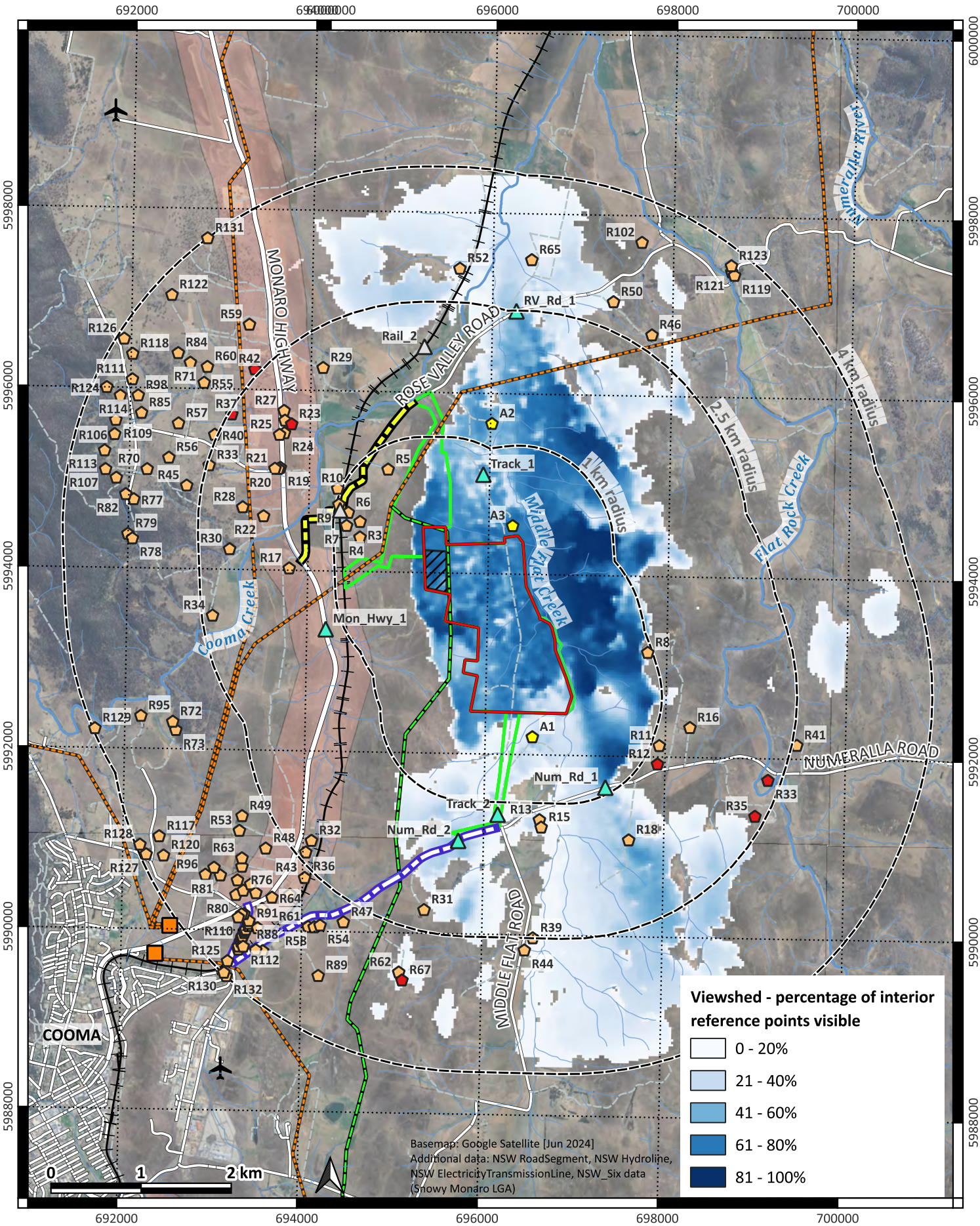
Note that an additional initial assessment of sensitivity to project-related visual impacts indicates that the majority of the 130 non associated residential receivers within 4 km of the project area are likely to have the view of the project obscured by topography and/or vegetation.

The preliminary assessment also identified two non associated residential receivers (R13 and R15) located between 100 m and 1.27 km to the south of the project area, that may have a filtered view of the project – though R15 might be a shed. The potential for visual impacts on these residential receivers will be subject to further assessment, although impacts are likely to be filtered due to the presence of mature vegetation along property boundaries and possibly by local topography. More detailed analysis will be required to confirm the findings of the initial analysis and, in particular, to identify whether visual impacts will occur at the two identified non associated residential receivers.

Roads and railway lines with a 2.5 km radius of the project include the Monaro Highway, Rose Valley Road, Numeralla Road (900 m south of the project), Middle Flat Road (1.4 km south) and various dirt tracks together with the Bombala Railway line that is disused since 1989 (Wikipedia 2024). The Preliminary LCVIA eliminated six of the eight road and rail receivers and determined that two roads will require further analysis. One is the dirt track to the north of the project area whilst the other is a point along the Numeralla Road.

More detailed analysis will be required to confirm the outcomes of the Preliminary LCVIA and, in particular, to identify whether visual impacts occur on Numeralla Road and the dirt track to the north of the site.

Activities such as vegetation clearance and civil works during the construction of major projects can potentially impact heritage sites. However, the nature of solar project construction is that direct ground disturbance is generally minimal, reducing risk of disturbance to Aboriginal or historic heritage objects that may be present on or near the project site. Where ground conditions allow (likely across most of the site)**,** ACEN's preferred method of panel installation is to pile drive or screw the steel supports for the panels directly into the ground without the need for excavation or the laying of foundations.



- Associated receiver
- Non-associated receiver
- Receiver to be confirmed
- Receiver - rail
- Receiver - Road
- Existing substation
- Airport
- Underground gas pipeline
- Northern access option
- Southern access option
- Existing transmission line
- Proposed site development footprint
- BESS, switchyard and substation (indicative location)
- Lot boundary
- Radius from project site
- Project area

AE1270 Cooma Project
Figure 6.4 Preliminary viewshed analysis
Created: 17/06/2024
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ACCENT ENVIRONMENTAL

The BESS units are expected to be containerised lithium-ion batteries supported by concrete footings. Concrete pads will be required for the substation and may be required for inverters, site office and the operations and maintenance building. Access roads will be generally levelled and gravelled, requiring some surface disturbance.

Where landscape and visual impacts are identified, they will be mitigated (where required under the Solar Guideline) by measures such as establishing vegetation screening zones, adopting colours for site facilities that are sensitive to the surrounding visual environment, or modifying panel resting angles (if required to avoid glint and glare impacts).

6.6.3 Need for further assessment

An LCVIA will be undertaken as part of the EIS process, including an assessment of the likely visual impacts of the project (including glare, reflectivity and night lighting) on surrounding residences, road users, scenic or significant vistas and air traffic. The visual assessment will generally conform to the requirements and method outlined in the *Technical Supplement - Landscape and Visual Impact Assessment* of the Solar Guideline (DPIE 2022). The assessment will also consider the guidance documents *Guidelines for Landscape and Visual Impact Assessment* (LIIEMA 2013), *Guideline for landscape character and visual impact assessment* (TfNSW 2020a) and *Beyond the Pavement 2020* (TfNSW 2020b).

The LCVIA will be based upon a project footprint refined following consideration of various detailed assessments and stakeholder consultation outcomes.

Where relevant, the LCVIA will include a draft landscaping plan for any proposed planting or other visual screening. The draft plan will be developed in consultation with affected landowners.

A Glint and Glare Assessment will also be undertaken in accordance with *Appendix C – Glint and Glare Assessment* of the Solar Guideline to model and assess glint and glare risk to residential receivers, road users and aircraft.

6.7 Noise

6.7.1 Existing conditions

Background noise levels are expected to reflect the site's location in a rural setting. The Monaro Highway is a potential source of local noise although separated from the site by the large north-south ridgeline. Other background noise sources would include local traffic, farm equipment (e.g. harvesters, boom sprayers and tractors), wind through trees, and insects.

The nearest sensitive receivers are residences within 2 km of the project area (see Figure 2.2) and will potentially be subject to noise associated with the project.

6.7.2 Preliminary impact assessment and management

Impacts from noise during the construction period will occur mostly from construction vehicles and equipment. Best practice mitigation measures would be implemented to reduce potential noise disturbance (e.g., working within standard hours, maintaining equipment in good condition, or fitting vehicles with silencing devices).

Operational noise sources associated with the solar and BESS project will include the PV panel trackers, BESS units, transformers and inverters. Other noises during operation, such as from maintenance works, will be minimal, short in duration, and unlikely to disturb surrounding residences.

It is expected that noise impacts will be effectively mitigated through the adoption of standard management practices, as will be outlined in the EIS. If necessary, there may be potential to reduce noise impacts by the careful location of noise generating components within the site to increase the distance to sensitive receivers or potentially by noise shielding. However, the two closest non-associated sensitive receivers (R3 and R4) are both approximately 700 m to the west of the site, and both are likely to be shielded from noise by topography (see Figure 2.2).

A preliminary assessment of construction noise impacts was undertaken in accordance with the Interim Construction Noise Guideline (ICNG) (DECC 2009), and of operational noise impacts in accordance with the Noise Policy for Industry (NPI) (EPA 2017).

The noise assessment equations and allowances are taken from: AS2436-2010 *Guide to noise and vibration control on construction, demolition and maintenance sites*. *Appendix B: Estimating Noise from Sites*. This approach uses two-dimensional (2D) modelling and is generally a conservative approach to estimating noise impacts.

Construction

The construction activities will be undertaken in four phases, over a period of 18 to 24 months, involving detailed design and site investigations, site preparation, delivery, installation and commissioning.

The preliminary assessment has assumed a worst-case scenario with one of each plant item expected for each stage, concurrently in operation at the nearest point to the receiver. Typical noise levels for the plant have been used in the calculations. The assessment is conservative as it does not take the usage factors into account, instead assuming continuous operation of all equipment.

In accordance with the ICNG, a calculation was used to estimate the magnitude of expected noise levels.

Construction Phase 2 (site preparation) has the potential for the greatest impact on nearby residences due to the number and types of plant likely to be active during the site establishment phase. At the Phase 2 construction peak (the worst-case scenario) a noise level of 44 A-weighted decibels (dB(A)) was estimated at the nearest residences (R3 and R4). This is well below the ICNG Noise Management Level of 50 dB(A) and the highly noise affected level of 75 dB(A).

The preliminary construction noise impact assessment has shown that construction activities should not generate noise levels that exceed the applicable criteria at the nearest sensitive receivers.

Vibration issues are not expected to be significant during either construction or operation due to the distance between the site and the nearest sensitive receivers (greater than 200 m).

As such, a draft noise management plan is not likely to be necessary as the preliminary assessment shows construction noise is not likely to exceed criteria and general noise mitigation measures will suffice.

Operation

The calculation used to estimate the magnitude of expected noise levels during operation is the same as used for project construction. Some of the loudest noise generating types of equipment currently on the market have been used in the calculations. The assessment has conservatively assumed that all the key operational noise sources are concurrently in operation at the nearest point to the receiver.

Daytime and evening noise criteria are higher than nighttime limits and activities during these periods are less likely to impact on nearby residences. The main focus of this preliminary assessment was therefore the night-time period.

The night-time operation of the BESS facility (at 100% utilisation) has the potential for the greatest impact on nearby residences due to the lower noise criteria of 35 dB(A) for a typical rural residence during this time period. The calculation of the operation noise level for the worst-case scenario also includes penalties for tonal sound and adverse weather conditions that in combination result in a 10 dB(A) penalty (meaning that 10 dB(A) is added to the modelled noise levels).

A reduction of 5 dB(A) was applied to many of the non-associated sensitive receivers as they are shielded from noise by topography. However, even with these reductions, the noise estimations for a number of nearby residences to the west of the project resulted in noise levels above the criteria, up to 41 dB(A).

The preliminary operation noise impact assessment has shown that operational activities and noise levels may have the potential to exceed the night period criteria during adverse weather conditions, if the project selects the loudest equipment on the market. These results would warrant further investigation using 3D noise modelling and potentially undertaking background noise monitoring.

6.7.3 Need for further assessment

The assessment undertaken for the scoping stage is preliminary in nature and based on 2D modelling using assumed sound power levels and conservative assumptions regarding equipment placement. Whilst the application of the 2D modelling in this manner is generally a conservative approach, the project noise assessment will ultimately require detailed, 3D modelling combined with updated equipment and design assumptions to provide more comprehensive and accurate noise predictions.

As with the preliminary noise assessment, the detailed noise assessment will be undertaken in accordance with the ICNG, the NPI and the NSW Road Noise Policy (DECCW 2011).

As the project progresses from concept stage through to the detailed design phase, there are a range of noise attenuation factors the project should consider to inform the final design, including layout and selection of equipment, and other measures such as setbacks, orientation, shielding or other treatments on plant and equipment in relation to managing noise levels and mitigating potential impacts on the nearby sensitive receptors.

6.8 Water

6.8.1 Existing conditions

Local hydrogeography

The Upper Murrumbidgee River Catchment, where the project is located, is home to numerous streams and creeks feeding into major local waterways like the Numeralla and Murrumbidgee rivers (Table 6.11). Cooma Creek is the main perennial river running through the Cooma region. At its closest point, approximately 1.4 km north of the project area, Cooma Creek passes under the Monaro Highway and comes within 300 m of Rose Valley Road (DPIE Water 2018).

Table 6.11 Main waterways within 10 km of the project area

Main waterways	Classification	Distance from site (km)	Direction from site
Murrumbidgee River	River	<8	Northwest
Numeralla River	River	<7.5	Northeast
Cooma Creek	Perennial river	<2	North
Middle Flat Creek	Ephemeral stream/creek	<0.3	East

Middle Flat Creek is an ephemeral waterway located just outside the eastern border of the project area which flows into Cooma Creek to the northeast of the site (see Photo 6.4). Middle Flat Creek comes within 20 m of the eastern site boundary in some places. According to SMEC 2020, the creek likely serves various purposes such as irrigation and supporting local ecosystems. Desktop analysis suggests a number of ephemeral tributaries of Middle Flat Creek may traverse the proposed site development footprint; however, site inspection[4] was unable to confirm the presence of these waterways, indicating they may be seasonal or only present after high rainfall events.

Another ephemeral waterway is located approximately 1 km to the west of the development footprint. This waterway runs in a northerly direction past the project area and discharges into Cooma Creek several kilometres downstream of the site near the northern access option.

Previous flood management studies

According to flood studies conducted by SMEC (2021) on behalf of the Snowy Monaro Regional Council, the Cooma township and surroundings have been historically subjected to flooding and flash flooding events. In particular, the Cooma Creek has been subject to flooding in flood events of 10% annual exceedance probability (AEP) and larger.

[4] A site visit was undertaken by the Accent team on April 15 and 16, 2024.

The ephemeral waterway located approximately 1 km to the west of the development footprint is modelled to flood in 10% AEP design events or larger (SMEC 2021). The waterway starts south of Numeralla Road and flows north into Cooma Creek just past Rose Valley Road. The area of inundation includes a section of Rose Valley Road along the northern access option and sections of Numeralla Road along the southern access option.

The flood study conducted by SMEC during 2021 does not cover the entirety of the project area. Further assessment will therefore need to be completed to understand flood risk along Middle Flat Creek. No flood maps could be identified for the project area during the course of this study.

Photo 6.4 Middle Flat Creek along the eastern site boundary

6.8.2 Preliminary impact assessment and management

Due to the generally elevated, water-shedding nature of the majority of the proposed site development footprint and the fact that it is not located within a designated flood affected land, exposure to regional flood risk is considered minimal. However, flood risk along Middle Flat Creek will need to be assessed. According to existing flood studies within the area (SMEC 2021), flooding could affect both the northern and southern access options (e.g. sections of Rose Valley Road and Numeralla Road).

Localised flood risk and the potential for the project to affect flood flows will be mitigated by the application of standard flood design principles (such as elevated footings for site infrastructure) and, if required, by avoidance of flood prone areas when establishing the final development footprint. The construction of the project will not require any major reshaping of landforms and only minor excavation**.** The project is therefore expected to result in minimal disruption to existing hydrology. Impacts on hydrology will also be mitigated by the design of water management features such as culverts and spoon drains, if required, in accordance with current leading practice.

The main risk to water quality from the project is associated with erosion and sediment transport during construction. As outlined in Section 6.4, the potential for erosion is generally considered low and standard management measures will be applied to minimise this risk.

6.8.3 Need for further assessment

Impacts to waterways and hydrology during construction and operation will require assessment as part of the EIS process, including an assessment of:

- the extent of potential flooding and the effect of project infrastructure on water movement during flood events, including flood risk along Middle Flat Creek and the northern and southern access option routes
- potential impacts on surface water and groundwater resources, including (if identified) watercourses, wetlands, riparian land and groundwater dependent ecosystems (including impacts from acid sulphate soil disturbance), and the associated environmental values
- adjacent licensed water users and basic landholder rights.

Measures will be proposed to monitor, reduce and mitigate impacts as required.

6.9 Hazards

6.9.1 Existing conditions

The project site and surrounds are a rural landscape. The main hazards associated with the rural nature of the area are expected to be the presence of farm-scale storages of fuels, hydrocarbons and chemicals such as pesticides and herbicides.

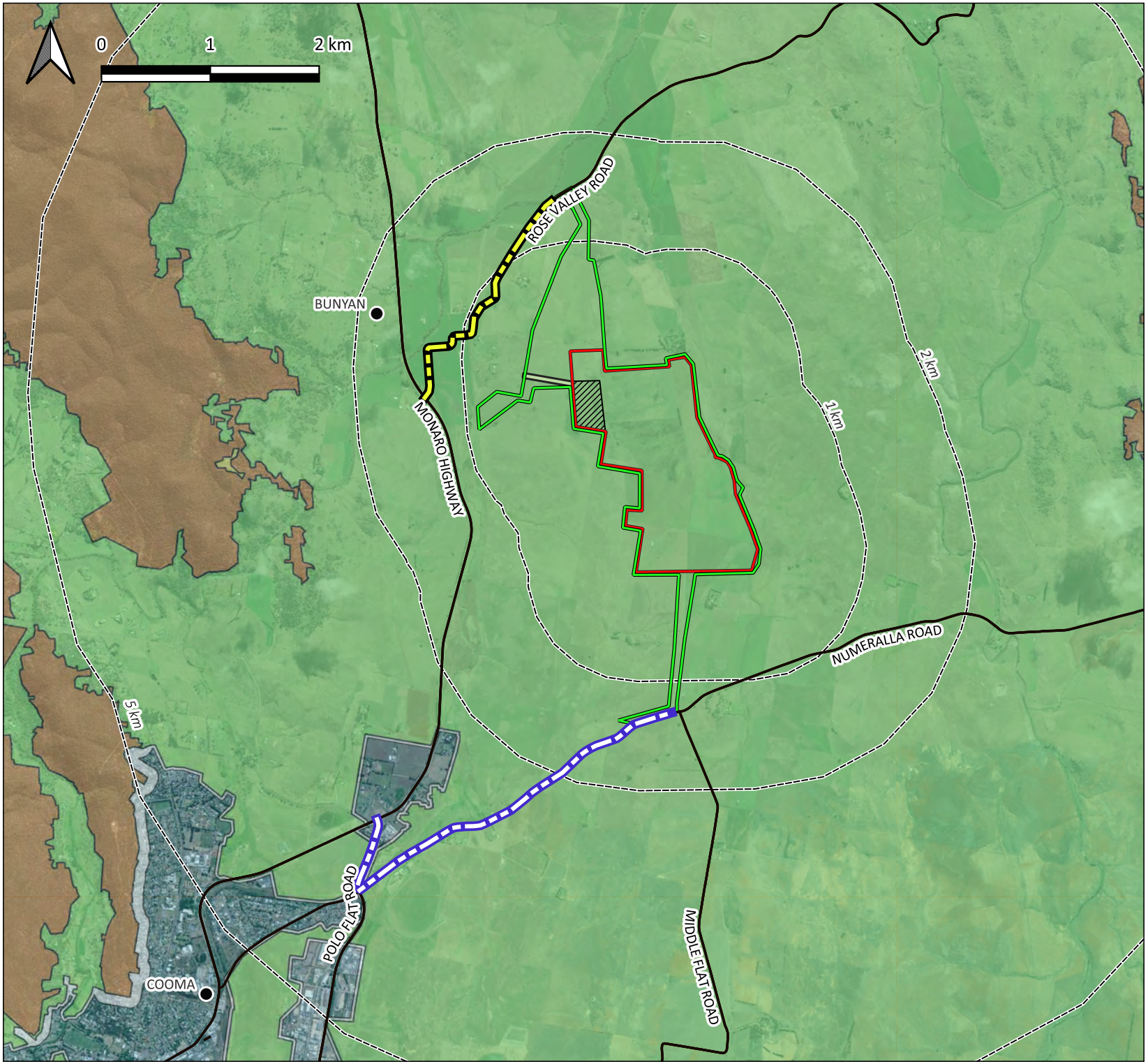
An existing TransGrid 132 kV line (the 97D line) runs approximately 1 km to the west and a Jemina underground gas pipeline runs through the northwestern section of the proposed site development footprint (see Figure 1.2).

The site has medium bushfire risk vegetation (Vegetation Category 3) and, as per planning provisions (Figure 6.5). If the development is to include habitable structures (such as any on-site accommodation) the development application would be accompanied by a Bushfire Assessment Report.

6.9.2 Preliminary impact assessment and management

Hazards associated with the project facilities include the presence of potentially flammable lithium-ion batteries in the BESS units. The design of these units includes operational controls such as ventilation and cooling systems to limit associated risks and to quickly detect and respond to issues such as over-heating. The individual, containerised BESS units will also be physically separated and configured to mitigate the risk of an issue such as a fire spreading from one unit to the next. Detailed operational, maintenance and emergency response procedures will be implemented to further mitigate risk.

Dangerous goods are not expected to be transported, stored or used in large quantities but their potential impacts and management will need to be considered in the EIS.



ACCENT ENVIRONMENTAL

AE1270 Cooma Project
Figure 6.5 Bushfire prone land

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- Towns
- Arterial roads
- Northern access option
- Southern access option
- Radius from proposed site development footprint
- Proposed site development footprint
- Project area
- Indicative BESS and substation/switchyard
- Indicative transmission line easement

NSW Bushfire prone land

- Category 0
- Category 1
- Category 2
- Category 3

Basemap: ESRI Satellite
Additional layers: © State Government of NSW and NSW Rural Fire Service 2024, NSW Bush Fire Prone Land, accessed from The Sharing and Enabling Environmental Data Portal [https://datasets.seed.nsw.gov.au/dataset/d6f2d89f-3cdc-4da0-add2-f2da74bc0bfc], date accessed 2024-07-01., NSW_TransportTheme

Hazards associated with the proposed on-site substation will be managed in accordance with the standard requirements of SafeWork NSW and applicable legislation.

The solar panels and BESS units, cabling, power conversion units, transformers and substation will produce some electromagnetic emissions. However, these are expected to be below the guideline for public exposure.

Bushfire risk will be mitigated by the development of fire prevention and management measures for the project in consultation with NSW RFS and FRNSW. A Bushfire Management Plan will be prepared. Asset protection zones will be included as part of the proposed design in accordance with the requirements of the *Planning for Bushfire Protection* (NSW RFS 2019).

6.9.3 Need for further assessment

Although the project is not expected to trigger the need for a PHA under the current guidelines published by DPHI, it is anticipated that such an assessment will be required by the SEARs. A PHA will need to be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis* (DoP 2011b) and *Multi-Level Risk Assessment* (DoP 2011a). The PHA will include SEPP 33 risk screening assessment for the battery storage component (for either an AC or direct current (DC) coupled BESS facility). The PHA will consider recent standards and codes and verify separation distances to on-site and off-site receptors to prevent fire propagation and compliance with *Hazardous Industry Advisory Paper No. 4, Risk Criteria for Land Use Safety Planning* (DoP 2011c).

In addition, the EIS will include an assessment of potential health related hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the International Commission on Non-ionizing Radiation Protection (ICNIRP) *Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*. A preliminary dangerous goods risk screening will also be completed in accordance with the SEPP (Resilience and Hazards).

An assessment of the risk of bushfire is another anticipated requirement of the SEARs. The site will be assessed against clause 8.3.5 of *Planning for Bushfire Protection* (NSW RFS 2019). The assessment will need to ensure road access for firefighting vehicles and the protection of essential equipment is managed. In addition, ACEN Australia will engage with FRNSW and NSW RFS and seek their advice regarding fire risk and management.

6.10 Social and economic

6.10.1 Existing conditions

The Snowy Monaro Regional LGA has an area of 15,165 km^2 and a population of 21,666 (ABS 2021). The LGA is home to 665 Aboriginal and/or Torres Strait Islander, forming 3.1% of the total population. The main population centres in the LGA are Cooma, with a population of 6,447 persons, Jindabyne with 3,136 persons, Bombala with 1,136 and Berridale with 1,030 persons (ABS 2021). The population of the LGA is projected to grow at a rate of 0.63%, increasing to 23,845 persons by 2041 (DPE 2021).

The LGA forms the Snowy Monaro Functional Economic Region (FER) and has an economic output of $1.4 billion (Department of Regional NSW 2023). The construction sector, at 14.1%, and agriculture, forestry and fishing sector at 13.4%, have the highest contribution to the LGA's total economic output (economy.id 2023). The accommodation and food services sector is the largest employer, accounting for 18.8% of the local jobs (economy.id 2023). The Snowy Monaro FER had an unemployment rate of 4.2%, which is higher than the NSW rate of 3.3%.

Tourism sector is another strong driver of economic output for the Snowy Monaro FER, with major tourist attractions such as Lake Jindabyne, Thredbo and Perisher Resorts, shared trails and the Kosciuszko National Park. The sector has an estimated direct contribution of 6.5% to the total economic output of the LGA (economy.id 2022).

6.10.2 Preliminary impact assessment and management

The project is expected to result in multiple social and economic impacts for the Snowy Monaro Regional LGA and NSW, which are both positive and negative. The impacts have been identified separately for construction and operational phases, as the intensity and scale of the project activities is different for the two phases. Table 6.12 lists the potential impacts.

Table 6.12 Potential social and economic impact

Project activity	Description of potential impact
Construction phase	
Noise from construction activities	Nearby sensitive receptors/landholders experiencing noise emissions, affecting their perceived and actual experience of peace and quiet.
Dust generated during construction activities	Potential chronic or acute exposure of nearby sensitive receptors/landholders to potentially higher dust levels, causing health and wellbeing concerns/issues.
Installation of BESS facility and other infrastructure	Loss of visual amenity and scenic value of the existing landscape for sensitive receptors including local landholders, project neighbours and visitors may cause concern and discontent.
Use of local roads by construction-related traffic	Potential road congestion and other traffic issues may disrupt daily routines and increase safety risks, both perceived and actual, for local landholders and the broader community.
Use of regional transportation routes for delivering materials and equipment to site	Local landholders and the broader community may be concerned regarding possible temporary disruptions to daily routines due to congestion from construction-related traffic.
Upgrades to local roads for site access	Improved access for local road users, although there will be temporary (and minor) disruption during the upgrades.
Influx of non-local workers for employment during construction	Changes to community structure, identity and cohesion due to presence of non-local workers.

Project activity	Description of potential impact
	Constraints on availability and capacity of local services such as healthcare.
Project employment	Potential hiring of employees from the nearby towns and within the LGA resulting in increased employment and income for local people.
Project employment and procurement	Increased patronage of local businesses (e.g. quarries, suppliers, trades, logistics, food and retail outlets). LGA and state-wide economic stimulus from increased employment and spending under the project.
Construction activities mainly those involving land disturbance	Loss of agricultural land and reduced agricultural production. Concern by RAPs and other parties over potential disturbance of cultural heritage sites and values. Local people concerned over the potential loss of biodiversity and other environmental values.
Operational phase	
Noise from BESS facility operations	Nearby sensitive receptors/landholders experiencing site-related noise emissions during project operations, affecting their experience of peace and quiet.
Hazards and risks during operations (e.g. electric and magnetic (EMF) exposure, BESS unit fire)	Local landholders experiencing or perceiving health and wellbeing issues from risk of fire and hazards.
Use of local roads by site-related traffic	Increased traffic volume along nominated haulage routes and local roads can increase commute times, causing disruptions to daily routines as well as increased noise from additional traffic.
Project employment and procurement	Hiring full-time employees from nearby towns and within the LGA providing jobs for local people. Increased patronage of local businesses.
Electric power generation and storage	Contribution of project to NSW's transition away from carbon-intensive energy generation.

The project will increase local employment opportunities and help drive economic growth in the LGA and the wider region, while helping NSW to sustainably meet its energy needs in the transition towards renewables from thermal based energy resources. Pressure on local services including accommodation, health, education and the job market could increase due to the relocation of workers into the area during construction phase.

Impact mitigation measures will be developed and implemented in consultation with the Council and service providers, such as workforce sourcing and management measures to reduce adverse impacts on local accommodation availability and provision of services.

6.10.3 Need for further assessment

Many of the project's potential social and economic impacts listed in Table 6.12 are associated with project induced changes to the natural and built environment. Their mitigation or enhancement and management will be assessed during the relevant technical assessments of the EIS. A social impact assessment (SIA) will be undertaken as a part of the EIS in accordance with the *Social Impact Assessment Guidelines for State Significant Projects* (DPE 2023). The SIA will assess the potential direct and indirect social and economic impacts, including any impacts on local community's perceived and actual experience of their natural surroundings, as well as changes to accommodation availability and the capacity of services to continue to cater for the local community. Cumulative impacts will be assessed by identifying other projects being developed or proposed locally that might also increase demand for accommodation or local services.

The SIA Scoping Worksheet developed by DPHI has been used to help assess the level of social impact assessment required for the EIS and is attached as **Appendix D**. Overall, it is likely that the project will result in some negative impacts that will require mitigation and management, but these will mainly be of short-term duration as the majority will occur during the construction phase. The project will also result in positive social and economic impacts, several of which will be long-term. As the intensity and scale of the impacts will be significantly greater during the construction period, this will be the primary focus of the SIA.

6.11 Waste

The construction, operation and decommissioning of the solar panels and BESS facility will generate a range of waste streams that will require management in line with sustainability principles and the waste hierarchy. For many of the waste streams generated by the project (e.g. metals and concrete), mature end markets exist allowing them to be recycled, thereby minimising disposal to landfill. However, the rapid growth of renewable energy projects in recent years has led to the generation of wastes such as solar panels and lithium-ion batteries for which re-use and recycling options and markets are emerging but not yet mature.

The disposal and recycling for the project will be done in accordance with current waste management legislation at the time of decommissioning. Whenever possible, efforts will be made to reduce the amount going to landfill in line with best-practice sustainability principles.

Waste management will be assessed by considering the nature of wastes generated during the different project phases and their management within the NSW regulatory framework. Waste-related impacts will be mitigated by measures such as minimising waste generation and identifying opportunities for maximising waste re-use and recycling.

No specific investigation is proposed as part of the EIS, although consultation with Council is proposed to identify if there are options for waste recycling or disposal at Council facilities. Consultation may also be undertaken with commercial waste recycling and management providers.

6.12 Other impacts

Other potential environmental or social impacts that are lower risk than those in Sections 6.2 to 6.11 and/or are readily manageable by implementing standard environmental management and mitigation procedures (as will be outlined in the EIS) are assessed in Table 6.13.

Table 6.13 Assessment of lower priority project impacts and need for further assessment

Existing conditions	Preliminary impact assessment and management	Need for further assessment
Air quality and dust		
Existing sources of air pollution at the project site are likely to result from vehicle emissions and dust from agriculture and may increase during the colder months from solid fuel heating and during summer periods if bushfires or dust storms occur in the region.	Construction has the potential to increase dust through movement of traffic on unsealed roads on dry days, vegetation removal and construction activities (such as access road construction). However, dust impacts are unlikely to be significant and standard dust suppression measures can be readily implemented to mitigate associated risk. Impacts to air quality during operation will be negligible.	Measures to manage potential air quality impacts during construction will be described in the EIS. No specific investigation is proposed as part of the EIS.
Airfields		
There is a private airport, the Polo Flat Private Airport, located adjacent to Cooma (see Figure 2.2) and the Bunyan Airfield located adjacent to the Bunyan locality (also shown in Figure 2.2), both of which have limited private and non-commercial uses. **The next nearest airfield is at Snowy Mountain Airport approximately 21 km to the southeast of the project area, which operates seasonal commercial flights.**	Air traffic could be affected by the glint or glare of the solar panels. If identified as an issue, then impact mitigation measures such as appropriate management of panel angles or use of low-reflectivity construction materials would be considered.	Any potential affects to air traffic will be discussed in the LCVIA and assessed in the Glint and Glare Assessment, prepared as part of the EIS process.
Existing site contamination		
A search of NSW EPA Contaminated Land Record of Notices identified one site within the Snowy Monaro Regional LGA (search	Historical contamination of the project site could be present because of past fertiliser, herbicide, pesticide, and other chemical use on the land, and	Risks associated with existing contamination are low due to the rural setting of the project and the minimal need for

Existing conditions	Preliminary impact assessment and management	Need for further assessment
undertaken 20 May 2024). This relates to a former Shell service station in Cooma township, 7 km to the southeast of the project site and the notice is dated 6 July 2000. This notice is not relevant to the project site. **In addition, a search of NSW EPA Notified Contaminated Sites identified 7 nearby contaminated sites (search undertaken 21 May 2024). The nearest contaminated sites are also located in Cooma.**	may be uncovered during excavation works at the site. Field visits to date have not identified any visible land contamination. If contamination is identified, standard contamination assessment and remediation measures would be implemented to mitigate risk.	excavation during project construction. Standard construction procedures for the identification and management of existing contamination will be applied. However, an assessment of contamination risks consistent with the requirements of Section 4.6 of SEPP (Resilience and Hazards) 2021 (as outlined in DUAP 1998) will be undertaken as part of the EIS.

6.13 Assessment summary

A summary of the proposed assessment studies for the EIS is provided in Table 6.14. For each matter to be assessed, the summary includes:

- The proposed level of assessment (detailed or standard – see definitions below), based on the outcomes of the EIS scoping process outlined in this report
- whether a consideration of cumulative impacts in relation to the matter are to be included in the cumulative impact assessment
- the nature of stakeholder engagement (i.e. whether specific engagement in relation to the matter will be undertaken, or whether the matter will be covered as part of general EIS engagement)
- key government plans, policies and guidelines that will be considered
- a cross-reference to the section of this scoping report where the matter has been discussed.

Standard and detailed assessments are defined by DPHI (DPIE 2021) as follows:

- Detailed assessment – The project may result in significant impacts on the matter, including cumulative impacts. The assessment of these impacts will require detailed studies and investigations to be carried out by technical specialists.
- Standard assessment – The project is unlikely to result in significant impacts on the matter, including cumulative impacts. While the assessment of these impacts will involve technical specialists, the impacts are likely to be well understood, relatively easy to predict using standard methods, and capable of being mitigated to comply with relevant standards or performance measures.

Table 6.14 Scoping summary table

Matter	Level of assessment	CIA	Engage-ment	Relevant government plans, policies and guidelines	Scoping report reference
Biodiversity	Detailed	No	General	• BAM (DPIE 2020) and related BAM guidance documents and BAM Calculator • MNES, Significant impact guidelines 1.1, *Environment Protection and Biodiversity Conservation Act 1999* (DoE 2013)	Section 6.2
Heritage – Aboriginal and historic cultural heritage	Detailed	No	Specific	• Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Part 6 National Parks and Wildlife Act 1974 (DECCW 2010b) • Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW, Part 6 National Parks and Wildlife Act 1974 (OEH 2011) • Historical Archaeology Code of Practice (Heritage Council 2006) • Cooma-Monaro Local Environmental Plan (LEP) 2013	Sections 6.3.1 and Section 6.3.2
Land	Standard	Yes	General	• Appendix A – Agricultural impact assessment requirements of the Solar Guideline (DPE 2022a) • Strategic Regional Land Use Policy. Guideline for Agricultural Impact Statements (NSW Government 2012) • Land Use Conflict Risk Assessment Guide (DPI 2011) • The land and soil capability assessment scheme: second approximation – A general rural land evaluation system for NSW (OEH 2012) • Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land (OEH and OAS&FS 2013) • Cooma-Monaro Local Environmental Plan (LEP) 2013	Section 6.4 and Section 6.11
Transport	Detailed	Yes	General	• AustRoads Guide to Road Design (AustRoads 2017)	Section 6.5

Matter	Level of assessment	CIA	Engage-ment	Relevant government plans, policies and guidelines	Scoping report reference
Landscape and visual	Detailed	No	Specific	• Technical Supplement - Landscape and Visual Impact Assessment of the Solar Guideline (DPE 2022a) • Appendix C – Glint and Glare Assessment of the Solar Guideline (DPE 2022a) • Guideline for landscape character and visual impact assessment (TfNSW 2020a) • Beyond the Pavement 2020 Urban design approach and procedures for road and maritime infrastructure planning, design and construction (TfNSW 2020b)	Section 6.6
Noise	Standard	No	General	• Interim Construction Noise Guideline (DECC 2009) • Noise Policy for Industry (EPA 2017) • NSW Road Noise Policy (DECCW 2011) • Cooma-Monaro Local Environmental Plan (LEP) 2013	Section 6.7
Water (including flood risk)	Standard	No	General	• Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004)	Section 6.8
Hazards	Standard	No	General	• Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (DoP 2011b) • Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (DoP 2011b) • Non-Ionizing Radiation Protection Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (ICNIRP 1998) • Multi-Level Risk Assessment. Assessment Guideline (DoP 2011a) • Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers (NSW RFS 2019)	Section 6.9

Matter	Level of assessment	CIA	Engage-ment	Relevant government plans, policies and guidelines	Scoping report reference
				• Standards for Asset Protection Zones (NSW RFS undated)	
Social and economic	Detailed	Yes	Specific	• Social Impact Assessment Guidelines for State Significant Projects (DPE 2023) • Cooma-Monaro Local Environmental Plan (LEP) 2013	Section 6.10
Waste	Standard	No	General	• Waste Classification Guidelines. Part 1: Classifying Waste (NSW EPA 2014) • Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (NSW EPA 2012)	Section 6.11
Air quality and dust	Standard	No	General	• Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004)	Section 6.11
Airfields	Standard	No	General	• Included in Glint and Glare Assessment (see above)	Section 6.11
Existing site contamination	Standard	No	General	• Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (DUAP 1998)	Section 6.11
Cumulative impacts	Standard	-	General	• Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE 2022b)	As relevant, above

7 Conclusion

This Scoping Report has been prepared in accordance with the requirements of DPHI for projects identified as SSDs and therefore requiring an EIS to be prepared under Part 4 of the EP&A Act. Specifically, the report has been prepared in accordance with *State significant development guidelines – preparing a scoping report* (DPIE 2022a). The report will support a request to DPHI from ACEN Australia for the Secretary's Environmental Assessment Requirements (SEARs) for the EIS.

Potential environmental and social issues associated with the project have been identified and prioritised according to the potential issues that they raise. Based on a preliminary assessment of these potential issues, ACEN Australia has proposed environmental assessment requirements for consideration by DPHI.

Impact avoidance and minimisation has been achieved through the initial site selection and will be further considered during project design.

A strong emphasis will be placed on engagement to fully inform stakeholders as to the potential impacts of the project and proposed management measures, and to provide opportunities for stakeholder input into the development process.

The project is expected to be a relatively low risk development compared with many SSDs. This is due to the inherently low impact nature of solar project and BESS construction and operation, and the location of the project in an area that has a long history of disturbance from primary production, is adjacent to existing electrical infrastructure, is largely confined within a valley and has few potentially impacted neighbours.

The project is expected to result in significant benefits to the local community and NSW by providing generating capacity to help replace coal-fired power stations earmarked for closure, providing increased reliability and security to the network during peak periods, and contributing to the transition to cleaner electricity generation and increased energy security.

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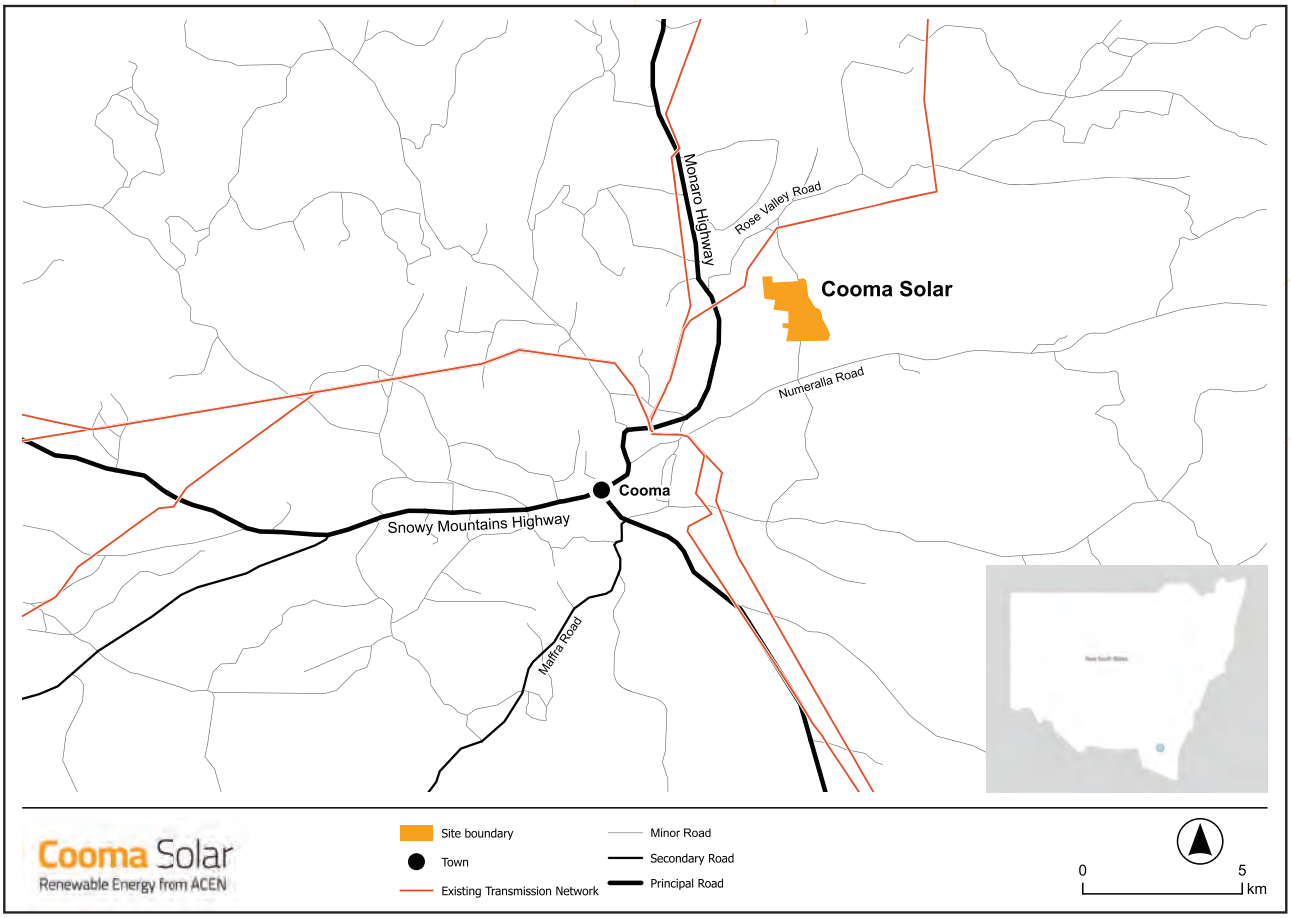
Appendix A:
ACEN Cooma Solar Fact Sheet

Cooma Solar

Renewable Energy from ACEN

Fact sheet



The Cooma Solar and battery project is a proposed 100-megawatt (MW) renewable energy generation project, with an 80MW battery.

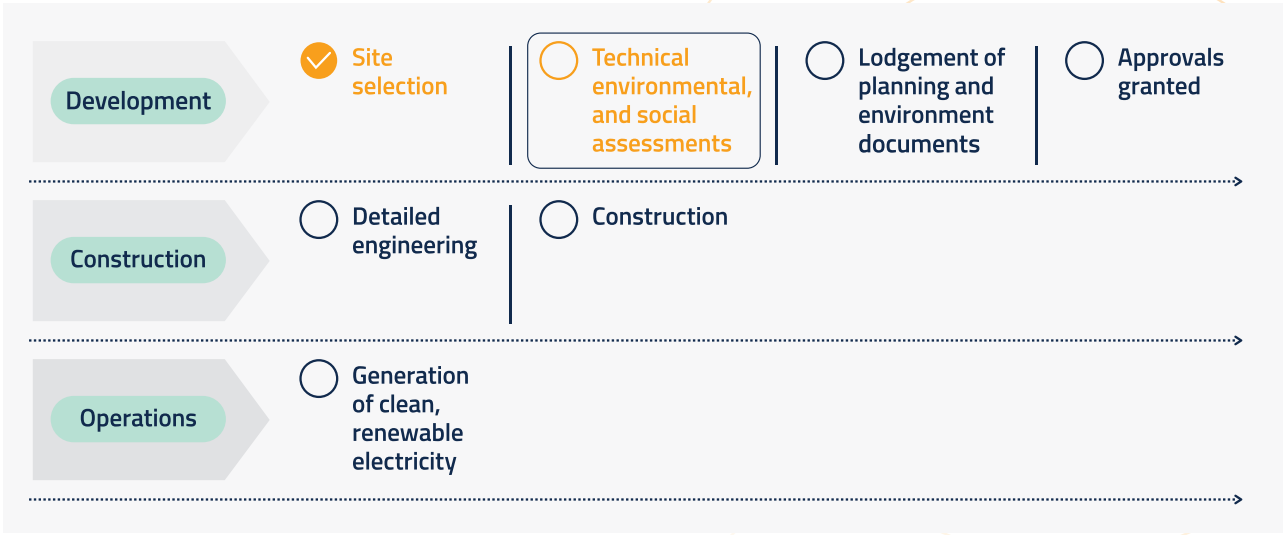
The project will involve the construction and operation of rows of solar panels, a Battery Energy Storage System (BESS), electrical infrastructure and supporting infrastructure including access roads.

Cooma Solar will power around 45,000 average Australian homes each year and contribute to the national target of 82% renewable energy by 2030. The battery, with a capacity up to 80MW, would enable energy to be stored and released during periods of increased demand.

Cooma Solar is proposed to connect to existing electricity network infrastructure approximately 1 km west from the project site.

Project assessment process

The NSW Department of Planning, Housing and Infrastructure (DPHI) is the responsible State planning authority for the project. A range of assessments and site surveys will be undertaken as part of planning and assessment.



A company that's all about community

ACEN Australia strives to be a valued part of the communities in which it operates. Through our two existing solar projects in NSW, we have sought to set the benchmark as an integral part of the regions where we develop renewable energy projects.

Our 400MW New England Solar project went into operation in late 2023 and we're preparing to start construction of Stage 2 of New England Solar later this year.

In addition, construction is underway on our 400MW Stubbo Solar project in the NSW Central West.

In each of those regions, we are committed to sourcing local product and service, employing local people whenever possible and generally being involved in the community, including our Social Investment Program to help build strong and vibrant regions.

Visit the Sustainability page on our website to learn more about ACEN's commitments to community and responsible development.

acenrenewables.com.au/sustainability/

About ACEN Australia

ACEN Australia brings utility renewable energy projects to life. Through our solar, wind and energy storage projects, our projects are producing clean electricity for Australian homes and businesses. ACEN Australia is the platform representing ACEN's renewable energy assets in Australia. With more than 1 gigawatt (GW) capacity of large-scale renewable energy generation in construction and operations, and more than 8GW capacity in the development pipeline, our portfolio includes solar, wind, battery and pumped hydro projects across Australia.

With 80+ employees and growing, our people are based in Tasmania, Victoria, New South Wales, Queensland and Western Australia.

Learn more acenrenewables.com.au

FOR MORE INFORMATION:

info@coomasolar.com.au

1800 319 333

ACEN Australia

Cooma Solar

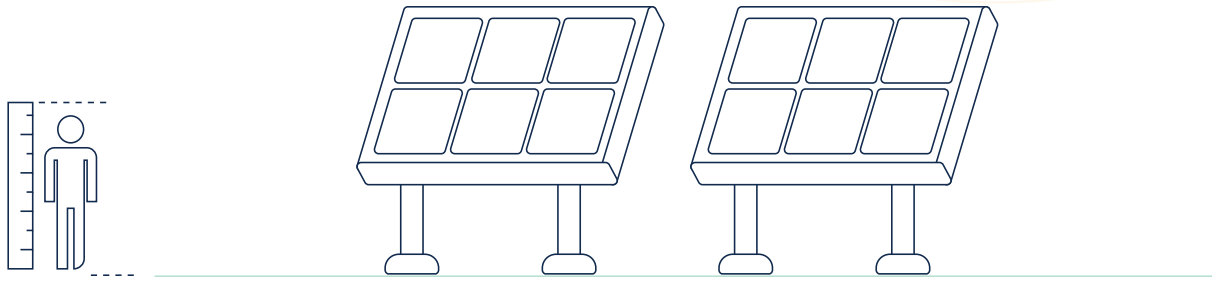
Renewable Energy from ACEN

Fact sheet

Solar Technology

Cooma Solar will utilise solar photovoltaic (PV) panels similar to those used on rooftops around Australia.

The panels convert sunlight into Direct Current (DC) energy that is converted to Alternating Current (AC) using inverters. It is then transported via underground cables to an electricity substation and injected into the main electricity grid via transmission lines. The PV panels are arranged in rows spaced several metres apart, on a single axis tracking system. The solar panels will follow or 'track' the movement of the sun through the day.



Based on preliminary designs, Cooma Solar will involve

- Arrays of PV modules, including inverters and an underground cable network
- An onsite dedicated substation will connect Cooma Solar to existing electricity network infrastructure approximately 1km west from the project site.
- Stock-proof security fencing around each of the solar fields to enable safe grazing for livestock such as sheep
- Cooma Solar will include a battery energy storage system (BESS), to firm renewable generation by providing energy storage, and help keep the lights on, even when the sun isn't shining, and the wind isn't blowing.

  Solar combined with battery storage will form a major component of Australia's mix of future energy generation.

FOR MORE INFORMATION:

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ACEN Australia

Appendix B: Issues not requiring assessment in the EIS

Appendix B: Issues not requiring assessment in the EIS

Issues that have been considered but do not need further assessment in the EIS are listed below, together with the reasoning behind their exclusion. The groupings and matters listed in the table below are from *Appendix B – Categories of assessment matters* in the SSD scoping report guidelines[1].

Group	Specific matter not considered	Reason not considered in detail
Access	Port facilities	Only relevant in relation to importation of project components during construction and associated biosecurity, which is covered in Section 6.2 (Biodiversity) of the Scoping Report.
	Road and rail facilities	Only relevant in relation to transportation of project components to site which is covered in Section 6.5 (Access and traffic) of the Scoping Report.
Air	Atmospheric emissions	The project will result in minimal atmospheric or gaseous emissions, other than dust and fumes during construction, which are covered in Section 6.11 (Other impacts) of the Scoping Report.
	Gases	
Amenity	Odour	The project will result in minimal odour emissions.
Built environment	Public land	Project disturbance will be restricted to private land mainly, though access points connecting to Monaro Highway via Rose Valley Road or Numerella Road is covered in Section 6.5 (Access and traffic) of the Scoping Report.
Hazards and risks	Coastal hazards	Not relevant as project is located inland.
	Dam safety	Not relevant as no dams are to be constructed as part of the project.
	Groundwater contamination	Excavation into the groundwater table is unlikely to be required. The risk of groundwater contamination from use of hydrocarbons or hazardous materials or other sources is low and is covered by standard management practices for hydrocarbons, hazardous materials and wastewater. If the assessment indicates that excavation into the groundwater table is required, the impact of this will be assessed as part of the EIS.
	Land movement	The project does not require the construction of engineered landforms (such as dams), major structures

[1] DPIE (2022) *State significant development guidelines – preparing a scoping report.* Appendix A to the state significant development guidelines. Department of Planning, Industry and Environment. October 2022.

Group	Specific matter not considered	Reason not considered in detail
		vulnerable to land movement, or major storage facilities for dangerous goods or hazardous substances. Land movement (such as associated with seismic activity) is therefore not considered a hazard requiring consideration in the EIS, although it will be accounted for in project design in accordance with standard engineering practice.
Heritage	Natural	No sites of high natural heritage value are present within the project area.
Social	Culture	Project not expected to have a major impact on local culture.
	Decision-making systems	Project not expected to have a major impact on decision-making systems, as: • the consent authority for the development is the Minister for Planning and Environment supported by DPHI who have robust decision-making systems for SSDs • Council decision-making systems will be applied to smaller project components such as use of land associated with the unformed/paper road that crosses the property, which are within their expertise.

Appendix C: Preliminary biodiversity assessment

Cooma Solar and Battery Project

Preliminary Biodiversity Assessment

19 JUNE 2024

Cooma Solar and Battery Project

Summary of Biodiversity Surveys and Results

JUNE 2024

Our Ref: 20192739

Prepared By:
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Version Control (optional)

Revision No.	Date Issued	Description	Author	Approver
A	30 April 2024	First Draft Report	BF	EC
B	4 June 2024	Second Draft Report	BF	EC
C	19 June 2024	Final Draft Report	BF	EC

Contents

Tables

Figures

Acronyms and Abbreviations

The table below provides a glossary for the key acronyms used within this technical report.

Term	Meaning
Acronyms	
BAM	Biodiversity Assessment Method
BC Act	NSW *Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BoM	Bureau of Meteorology
BOS	Biodiversity Offset Scheme
CEEC	Critically Endangered Ecological Community
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DEC	NSW Department of Environment and Conservation
DECC	NSW Department of Environment and Climate Change
DEWHA	Commonwealth Department of Environment, Water, Heritage and the Arts
DFSI	NSW Department of Finance, Services and Innovation
DPE	NSW Department of Planning and Environment
DPHI	NSW Department of Planning, Housing and Infrastructure
DPI	NSW Department of Primary Industries
DPIE (EES)	NSW Department of Planning, Industry and Environment (Environment, Energy and Science)
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
IBRA	Interim Biogeographically Regionalisation of Australia
LLS	Local Land Services
MNES	Matters of National Environmental Significance
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
OEH	NSW Office of Environment and Heritage
PCT	Plant Community Type
PMST	Commonwealth Protected Matters Search Tool
PV	Photovoltaics
SEARs	Secretary's Environmental Assessment Requirements

Term	Meaning
SSD	State Significant Development
SVTM	State Vegetation Type Map
TBDC	Threatened Biodiversity Data Collection
TEC	Threatened Ecological Community
WoNS	Weeds of National Significance

Executive Summary

Arcadis has been engaged by ACEN Australia Pty Ltd (ACEN) to carry out biodiversity surveys for the Cooma Solar and Battery Project, the subject of a development proposal in preparation. ACEN is currently preparing a scoping report to be submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) to assist in the issuance of Secretary's Environmental Assessment Requirements (SEARs). This summary of biodiversity surveys carried out for the project and results to date is intended for use in the preparation of the scoping report.

The Project site is located approximately seven kilometres northeast of the Cooma township and 110 kilometres south of Canberra. The site investigation study area covers approximately 290.54 hectares, across two properties comprising 11 separate lots.

Native vegetation surveys and targeted surveys for threatened flora and fauna were undertaken in accordance with the requirements of the BAM over the months of August, October, November and December 2023 and January, February, March and April 2024. Twenty-nine Biodiversity Assessment Method (BAM) vegetation integrity plots were completed, and threatened species surveys were carried out for 10 flora species and six fauna species.

One native vegetation community was identified within the study area: PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland. This vegetation community was stratified into three condition classes: High, Moderate and Low. In addition, three vegetation communities dominated by exotic vegetation were identified. The areas of vegetation communities within the study area are summarised in the table below.

PCT No.	PCT Name	Condition class	Area within study area (ha)
3414	Monaro Snowgrass-Kangaroo Grass Grassland	High	13.29
		Moderate	34.59
		Low	11.96
		Rocky-ridgeline (exotic-dominated)	44.52
		Lovegrass (exotic-dominated)	52.08
n/a	Improved/exotic pasture		134.10

PCT 3414 corresponds to the Natural Temperate Grassland of the South Eastern Highlands Critically Endangered Ecological Community (CEEC) listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) where the condition of the vegetation meets specified thresholds. Within the study area, it is likely that vegetation in the High and Moderate condition classes meet the thresholds. This will be assessed in detail in the BDAR.

Six threatened species were recorded during targeted surveys or incidentally, one flora species and five fauna species:

- *Miniopterus australis* (Little Bent-winged Bat), listed as Vulnerable under the NSW *Biodiversity Conservation Act 2016* (BC Act)
- *Miniopterus orianae oceanensis* (Large Bent-winged Bat), listed as Vulnerable under the BC Act
- *Petroica phoenicea* (Flame Robin), listed as Vulnerable under the BC Act

- *Suta flagellum* (Little Whip Snake), listed as Vulnerable under the BC Act
- *Swainsona sericea* (Silky Swainson-pea), listed as Vulnerable under the BC Act
- *Tympanocryptis osbornei* (Monaro Grassland Earless Dragon, listed as Endangered under the BC Act and the EPBC Act.

Four of these species, the Flame Robin, the Little Whip Snake, the Little Bent-winged Bat and the Large Bent-winged Bat are ecosystem species for the purposes of this Project. This means that impacts to these species are assessed in conjunction with impacts to native vegetation communities.

Two species, *Swainsona sericea* and the Monaro Grassland Earless Dragon, are species credit species, meaning that potential impacts to this species are assessed separately from impacts to native vegetation.

Impacts from the proposed Project to the biodiversity values recorded in the study area will be assessed in a Biodiversity Development Assessment Report (BDAR). Key areas for assessment will include:

- Measures to avoid, minimise and mitigate impacts from the Project to biodiversity values
- Impacts to PCT 3414
- Impacts to the threatened *Swainsona sericea* and Monaro Grassland Earless Dragon
- Impacts to the EPBC-listed Natural Temperate Grassland of the South Eastern Highlands CEEC
- Prescribed biodiversity impacts
- Impacts to Matters of National Environmental Significance
- Calculation of credits for residual impacts that cannot be avoided.

1 Introduction

Arcadis has been engaged by ACEN Australia Pty Ltd (ACEN) to carry out biodiversity surveys for the Cooma Solar and Battery Project, the subject of a development proposal in preparation. ACEN is currently preparing a scoping report to be submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) to assist in the issuance of Secretary's Environmental Assessment Requirements (SEARs). This summary of biodiversity surveys carried out for the project and results to date is intended for use in the preparation of the scoping report.

1.1 Project description

The Cooma Solar and Battery Project will have a capacity of approximately 100 MW of photovoltaics (PV) and a Battery Energy Storage System (BESS) of, indicatively, 80 MW with storage duration of 2-4 hours. The Project is intended to be connected to an existing 132 kV line approximately 0.7-1.2 kilometres west of the solar project site. An easement for the transmission line will be created within 1/DP1190826. There are two options to access the project site via a dedicated track off public roads, which would run through 1 DP1190826 and 1/DP1269467 (northern access option), or 2/DP1259141, 53/DP750530 and 54/DP750530 (southern access option).

The Project Site is located is approximately seven kilometres northeast of the Cooma township and 110 kilometres south of Canberra. The study area covers approximately 290.54 hectares, across two properties comprising 11 separate lots. The site has historically been used for sheep grazing and is mainly cleared cropping. It is expected that grazing activities will continue during the operation of the solar project.

Table 1-1 provides a high-level overview of proposed Project.

Table 1-1: Cooma Solar Project overview

Cooma Solar Project	
Council	Snowy Monaro Regional Council
Land Titles	3/DP1190826, 1/DP1190826, 2/DP1269467, 1/DP1269467, 2/DP1259141 55/DP750530, 197/DP750530, 54/DP750530, 55/DP750530, 59/DP750530, 15/DP750530
Total Indicative Study Area	Approximately 290.54 ha (including proposed area for transmission easement and access easement)
Land Use	Cropping and grazing
Capacity	100 MW PV and 80 MW BESS
Proposed connection	To be connected to an existing 132 kV line approximately 0.7-1.2 kilometres west of the solar project with a transmission line easement located within 1/DP1190826
Access	Currently studying two options to access the site. Option 1 is Access via Monaro highway/Rose valley road to the access easement within the study area. Option 2 is Access route via Monaro Highway/Polo Flat Road/Numeralla Road.

1.2 Study area

The study area for the project is that area in which biodiversity surveys have been conducted and includes all areas expected to be used the installation of solar panels, substation, BESS, access easements, temporary and permanent worker facilities & buildings, and transmission infrastructure. In addition to assessments conducted within the land formally designated as the study area, rapid vegetation assessments were conducted at five locations on Rose Valley Road and six locations on Numeralla Road to determine whether additional native vegetation assessments should be conducted. The study area is 290.54 ha in extent and is shown in Figure 1-1.

Vegetation, topography and levels of development/disturbance are highly variable across the study area. The northern and western portion of the study area comprises a long ridge running north-south, with basalt outcrops common along the ridge, and to a lesser degree, on the flanks. This ridge and its flanks have not been improved (sowed) for agriculture or for fodder crops, but the exotic *Eragrostis curvula* (African Lovegrass) is highly dominant. Native vegetation is sparse, and in places non-existent. The southern and eastern portion of the study area, with the exception of an access corridor south of the development footprint, consists of flat pasture land that is sowed periodically. Generally this land is dominated by exotic flora. Where land has been left fallow for a period of time, some native species have established, and in places these native species are the predominant groundcover.

All portions of the study area are currently used for the grazing of sheep and cattle.

There are exotic planted trees (*Populus* spp. (cottonwoods and poplars) and *Pinus* spp. (pines) along the boundaries of the study area, but there are no native trees on the site. Existing buildings within the study area are a working farm shed and a dilapidated shed in the southern portion of the study area.

1.3 Proposed site development footprint

For the purpose of this summary report, the proposed site development footprint is the area designated for the solar panel areas, BESS facility, inverters, switchroom, substation, office, operations and maintenance building, asset protection zones, construction laydown areas, internal access roads. Any refinement of this proposed site development footprint will be taking place during the preparation of the EIS. Additional footprints such as grid connection footprint and external access roads footprint will also be further defined at the EIS and BDAR phase. The current proposed development footprint is 196.28 ha in extent, subject to refinement at EIS Stage, and is shown in Figure 1-1.

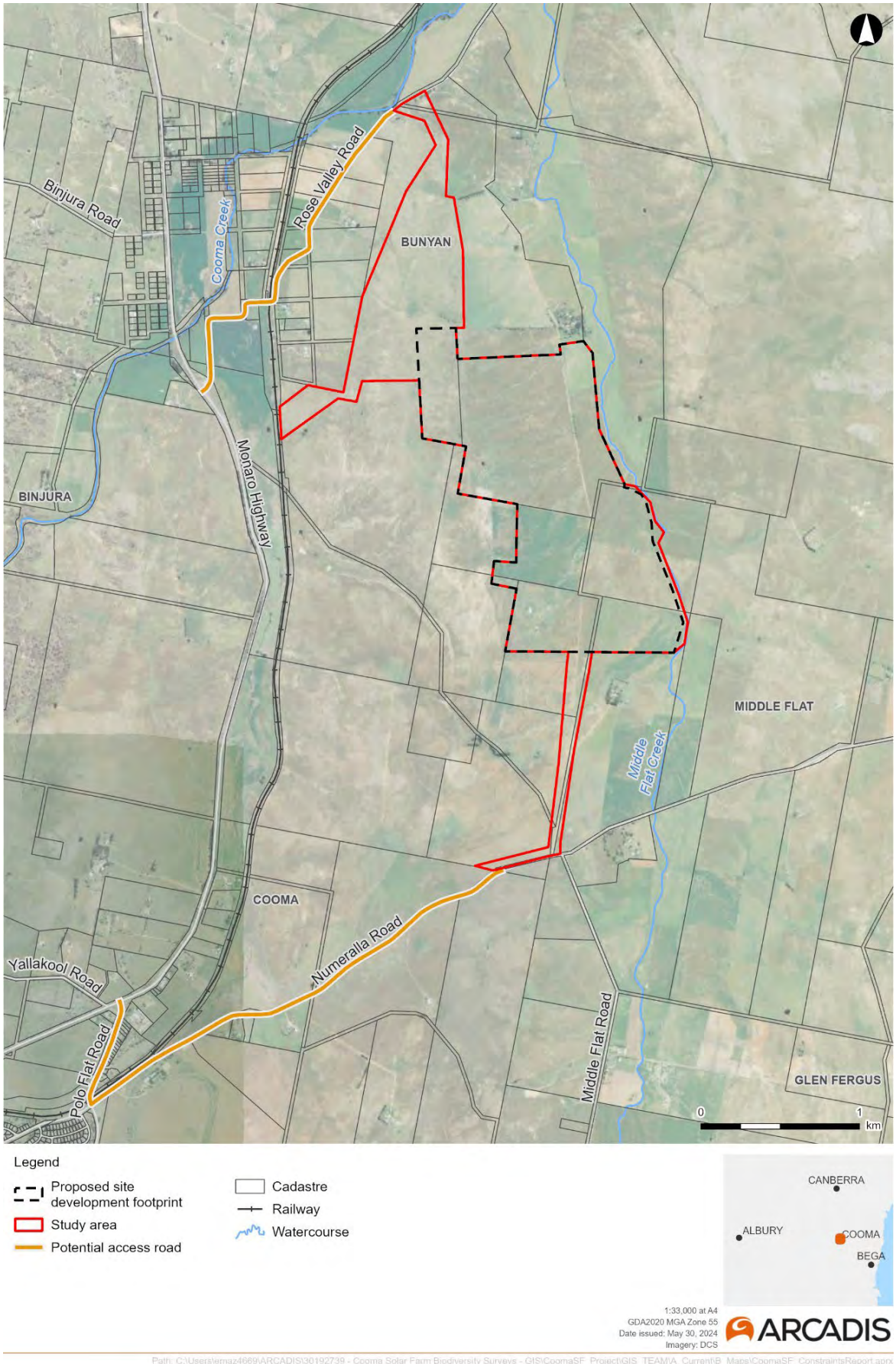

Figure 1-1: The study area and proposed site development footprint

1.4 Approval pathway

Large-scale solar projects in NSW require development consent and are subject to planning controls, guidelines and environmental assessment criteria. The capital investment value or the generation capacity of a project determines the consent authority for the development application.

Projects with a capital investment value of more than $30 million (or $10 million in an environmentally sensitive area) are classified as State Significant Developments (SSD) and assessed by the NSW Department of Planning, Housing and Infrastructure (DPHI). Planning approval for the Project will therefore be sought under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Under this development pathway, ACEN is required to lodge a Scoping Report in support of a request to DPHI for SEARs, which will inform the content of an Environmental Impact Statement (EIS).

1.5 Purpose of this report

This report has been prepared to summarise the biodiversity assessment and survey undertaken to date and to provide a brief summary of findings for the purpose of informing the Scoping Report. It includes outcomes from desktop research, brief descriptions of the methods used in field survey, and an overview of findings. It also identifies issues that will be addressed in detail in the full Biodiversity Development Assessment Report (BDAR) that will be required to accompany the EIS. The field survey for this report will be used to inform the assessment of impacts undertaken in the BDAR; however, this report is limited to factual findings and does not include an assessment of the potential biodiversity impacts of the project.

2 Methods

2.1 Personnel

A list of personnel involved in this assessment and an overview of their qualifications and experience is provided in Table 2-1.

Table 2-1: Personnel involved in assessment

Personnel	Qualifications	Role
Ed Cooper	B Sc Hons (Environmental Biology) Accredited Assessor BAAS 18047	Ed has more than 12 years' experience working in conservation land management and ecological consulting in NSW. Ed's experience ranges from initial constraints (fatal flaw) assessments to inform strategic planning, through impact assessment of complex infrastructure and development, to post approval documentation including management plans and biodiversity offsetting. As Lead Ecologist on several large scale linear infrastructure and development projects, Ed has experience designing and implementing field surveys in accordance with relevant guidelines and authoring complex assessment reports. Ed has a strong understanding of Commonwealth and State statutory requirements including the ongoing NSW reforms
Brendan Fletcher	M Env Man, M Law, Juris Doctor, BA (History and Political Science)	Brendan is a Senior Ecologist with three years of ecological consulting experience and over 20 years' experience in environmental law and policy. He has prepared multiple Biodiversity Development Assessment Reports and Flora and Fauna Assessments and has carried out field work to support Biodiversity Stewardship Site Assessments, Threatened Ecological Community mapping, and weed management strategies.
Will Terry	B Bio Sci (Zoology), Post-graduate Diploma (Env Man & Eco (honours research), PhD candidate in zoology (current).	William is a Senior Ecologist with more than 12 years' experience conducting innovative research and biodiversity monitoring. William has an extensive experience working in local government where he has developed environmental management plans and threatened species impact assessments. He has coordinated several biodiversity monitoring projects including nest box monitoring for brush-tailed phascogales, greater glider population monitoring, acoustic recording of endangered amphibians, woodland bird surveys and many more. In addition, William has led research into threatened species management with several key peer reviewed publications particularly on arboreal mammal conservation in peri-urban and degraded landscapes. More recently, William has carried out ecological surveys and monitoring on large transport infrastructure projects such as the Great Western Highway Upgrade.

Personnel	Qualifications	Role
Nathan Banks	B Sc (Zool/AnimBiol) Accredited BAM Assessor (BAAS23023	Nathan is an experienced flora ecologist and has prepared a variety of ecological deliverables for a suite of clients and has been involved in large, complex projects across New South Wales. He has experience in plant identification in the Wollongong/Illawarra region and classification of vegetation communities including riparian and aquatic vegetation assemblages. He is experienced in applying the BAM and has a good understanding of environmental planning legislation, policy, biodiversity assessment and threatened species survey guidelines in NSW
Taylor Bliss-Henaghan	M Con Biol, B Sc (Zoology, Ecology)	Taylor is a graduate ecologist at Arcadis, with experience in ecological assessments. She has worked on a variety of deliverables including large scale infrastructure projects undertaking aquatic habitat assessments, targeted threatened species surveys and reporting, GIS mapping and data analysis, including the preparation of a BDAR and management of BAM data.
Cara Parsons	B Sc Wildlife Zoo (Hons), PhD candidate in Urban Ecology (current)	Cara is an ecologist at Arcadis with experience in fauna surveys and writing ecological reports. Cara has experience with data analysis, field surveys, GIS, and report writing. She has undertaken avian and general fauna surveys, run microbat surveys through Anabat detector deployment, conducted vegetation surveys, collated in-field GIS data on habitat trees and prepared a range of ecological reports and manuscripts. She is currently delivering the biodiversity for a Green Star Building sustainability rating project, contributing to field surveys and data collection and organisation on field projects, as well as coordinating projects between the digital advisory and GIS teams. Cara is also in the process of completing her PhD in urban ecology, exploring the conservation of mature trees in urban areas, and how birds and microbats rely on these resources.
Emma Teusner	B Adv Sci Hons (Ecology, Biology)	Emma is an ecologist at Arcadis, experienced in field-based flora and fauna surveys for ecological assessments and fauna spotter-catcher work. Emma has worked on a variety of large-scale infrastructure projects, undertaking targeted threatened species surveys and reporting, GIS mapping and data analysis, including the preparation of Flora and Fauna Assessments (FFAs), Vegetation Management Plans (VMPs), Bushfire Management Plans (BMPs) and Biodiversity Stewardship Site Assessment Reports.

2.2 Background research

2.2.1 Database searches

Database searches were undertaken in October 2023 to identify State and Commonwealth records of threatened entities and Commonwealth MNES that occur or have the potential to occur in the study area (i.e. within 10 kilometres of study area). Additional database searches were undertaken in relation to fisheries, weeds and vegetation types. Databases searched are listed in Table 2-2.

Table 2-2 Database searches

Database	Purpose of search	Search extent	Date of database search
BioNet, website for the Atlas of NSW Wildlife and Threatened Biodiversity Data Collection (TBDC) (NSW DCCEEW, 2024a)	Used to compile a list of threatened species records listed under the BC Act within the study area.	10-kilometre radius	1 August 2023
Protected Matters Search Tool (PMST), managed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) (DCCEEW, 2024a)	Used to compile a list of potentially occurring Matters of National Environmental Significance listed under the EPBC Act within the study area.	10-kilometre radius	1 August 2023
BioNet Vegetation Classification database (NSW DCCEEW, 2024b)	Information on PCTs and their relationship to a vegetation formation and vegetation class is managed and maintained in the BioNet Vegetation Classification data collection.	Site investigation area	Consulted throughout assessment
BAM Calculator			Consulted throughout assessment
NSW WeedWise, managed by DPE	Identifies species listed as priority weeds for a weed control area and their control requirements.	Site investigation area	Consulted throughout assessment

2.2.2 Literature review

A review of relevant, existing information was undertaken to identify the existing environment of the study area and provide an understanding of ecological values occurring or potentially occurring in the site investigation area and locality. The review focused on relevant ecological reports and guidelines that apply to the study area and surrounding areas, as well as property boundaries, vegetation maps, topographic maps, aerial photography and relevant GIS layers.

Relevant literature included, but was not limited to:

- NSW State Vegetation Type Map (SVTM) (DPE, 2022a)
- Descriptions for NSW (Mitchell) Landscapes Version 2 (DECC, 2002).

Field surveys and the preparation of this assessment have been undertaken in accordance with, or with reference to:

- The Biodiversity Assessment Method (BAM) (DPIE, 2020a)
- Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities working draft (DEC, 2004)
- Threatened Species Assessment Guidelines: the assessment of significance (DPI, 2008)
- Matters of National Environmental Significance: Significant Impact Guidelines 1.1 (DEWHA, 2013)
- NSW Survey Guide for Threatened Frogs: A guide for the survey of threatened frogs and their habitats for the Biodiversity Assessment Method (DPIE 2020b).
- Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020c)
- NSW Threatened Species Profiles Database (DPE, 2023d)
- 'Species credit' threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method (OEH, 2018)
- Threatened reptiles Biodiversity Assessment Method survey guide (DPE, 2022b)

2.3 Vegetation assessment

2.3.1 Vegetation mapping

Prior to surveys, an assessment of the available regional vegetation mapping relevant to the assessment area was undertaken. The NSW State Vegetation Type Map is the most recent and relevant mapping of plant community types (PCTs) and was used to determine the extent of surveys required and the potential or threatened flora and fauna species that may be present on study area.

The definition of native vegetation in accordance with section 1.6 of the BC Act and Part 5A 60B of the *Local Land Services Act 2013* (LLS Act) is any trees (including any sapling or shrub or any scrub), understorey plants, groundcover (being any types of herbaceous vegetation), and plants occurring in a wetland that are native to NSW. A plant is deemed to be native to NSW if it was established in NSW before European settlement. This definition was utilised to determine the extent of PCTs in the study area.

2.3.2 Vegetation survey

Formal vegetation surveys undertaken in accordance with the requirements of the BAM were conducted over the two weeks of 18-22 March 2024 and 8-12 April 2024. These surveys consisted of ground truthing of regional vegetation mapping and PCT identification, rapid assessment points and Biodiversity Assessment Method vegetation integrity plots. In addition to formal survey carried out according to the BAM over these periods, informal survey and noting of conditions was conducted in conjunction with the threated flora and fauna surveys described in Section 5.

2.3.2.1 Plot-based vegetation survey

Twenty-nine 0.1-hectare vegetation plots were used to sample the vegetation of the study area. A sample layout of a vegetation plot is illustrated in Figure 2-1, comprising a 20-metre by 50-metre plot with a nested 20-metre by 20-metre plot and five one by one metre litter sub-plots. The minimum number of plots required per vegetation zone under the BAM is outlined in Table 2-3.

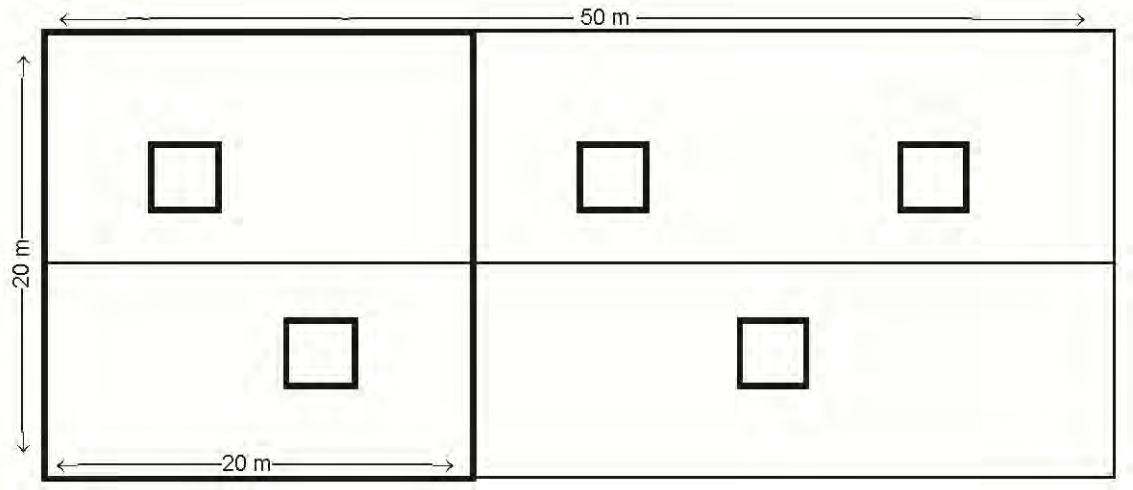

Figure 2-1: Sample BAM plot

Table 2-3: Minimum number of plots required per vegetation zone

Vegetation zone area (ha)	Minimum number of plots
<2	1 plot
>2-5	2 plots
>5-20	3 plots
>20-50	4 plots
> 50–100	5 plots
> 100–250	6 plots
> 250–1000	7 plots; more plots may be needed if the condition of the vegetation is variable across the zone.
> 1000	8 plots; more plots may be needed if the condition of the vegetation is variable across the zone.

More plots were completed for this project than required under the BAM, in some vegetation zones significantly so. Plot-based vegetation survey effort was intensified for two reasons. First, in a site such as the study area, with grassland/pasture vegetation communities, native and exotic vegetation communities can appear similar, and in borderline cases, can be distinguished only by quantitatively determining the species composition of an area and the relative proportion of native and exotic species coverage. For this reason, it was considered important to sample vegetation across the study area, with a minimum coverage of one plot per major paddock, to delineate native and exotic vegetation communities accurately. Second, in some paddocks in the southern portion of the property that have been improved but where native grasses have partially re-established, conditions within a single paddock could be highly variable, with areas of native and exotic dominance side by side within

the paddock. It was considered important to sample these paddocks intensively to accurately delineate patches within the paddock.

Minimum number of plots required under the BAM and the number completed per vegetation zone are presented in Table 2-4. Plots are not required for vegetation zones dominated by exotic vegetation; however, for the reasons given above, exotic-dominated vegetation zones were sampled to meet or exceed requirements for native vegetation zones equivalent in size.

Table 2-4: Minimum number of plots required and completed per vegetation zone

Veg zone	PCT	Condition	Area (ha)	No. plots required	No. plots completed (plot IDs)
Zone 1	3414	High	13.29	3	4
Zone 2	3414	Moderate	34.59	4	5
Zone 3	3414	Low	11.96	3	3
Zone 4	3414	Ridgeline/rocky habitat	44.52	n/a (exotic dominated)	4
Zone 5	3414	Lovegrass	52.08	n/a (exotic dominated)	5
Zone 6	3414	Exotic pasture	134.10	n/a (exotic dominated)	8

The locations of BAM plots are illustrated in Figure 2-2.

2.3.2.2 Rapid assessment points

In addition to plot-based vegetation surveys, 11 rapid assessment vegetation surveys were carried at points along potential access roads for the Project, five along Rose Valley Road and six along Numeralla Road, for the purpose of determining whether full native vegetation surveys would be required. These rapid assessment points consisted of an enumeration of species within approximately 10 metres of a fixed point, and where native species were detected, an estimate of the coverage of native species.

The locations of the rapid assessment points are illustrated in Figure 2-2.

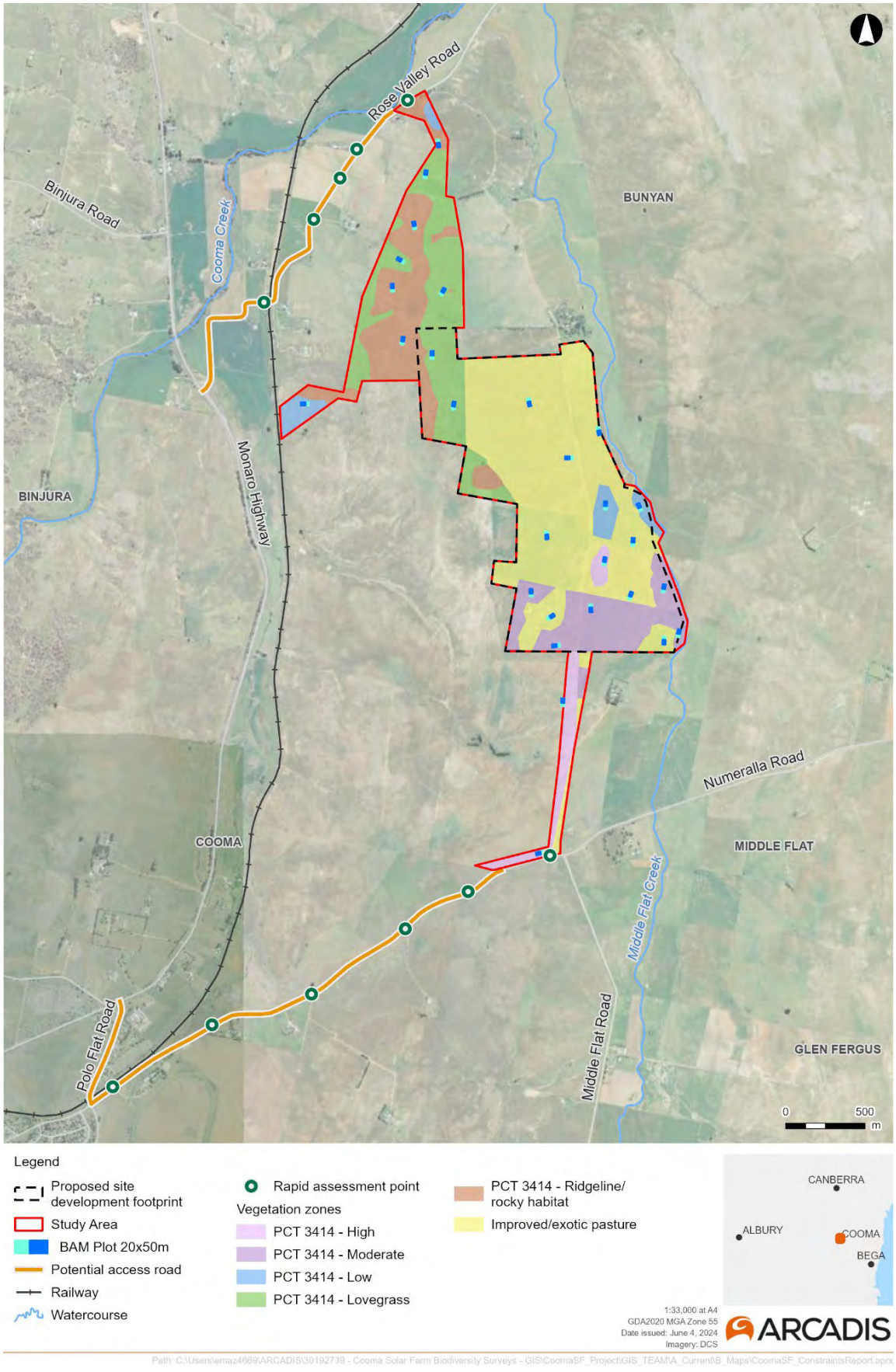

Figure 2-2: Location of BAM plots

2.4 Threatened species surveys

At the inception of the project, information from the NSW State Vegetation Type Map (SVTM) regarding the native vegetation community mapped within the study area was entered into the BAM credit calculator (BAM-C) to determine the candidate threatened species that will require further consideration and targeted surveys under the BAM. Only one community was mapped within the study area: PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland.

Because survey methods and required effort vary significantly between flora and fauna species, and types of flora and fauna species, these methods and the survey effort to date have been summarised in the overall discussion of threatened species in Section 5 below.

3 Desktop research results

3.1 Landscape features

Databases and landscape descriptions were consulted to understand landscape features and classifications within the study area and a surrounding 1,500 m assessment circle that may be relevant to the project. A summary of landscape features in and surrounding the subject land is provided in Table 3-1 and illustrated in Figure 3-1.

Table 3-1: Landscape features of the study area

Landscape feature	Subject land
IBRA bioregions and subregions	The study area lies within the South Eastern Highlands IBRA bioregion and the Monaro IBRA subregion.
NSW landscape regions (Mitchell landscapes)	The study area lies within Upper Murrumbidgee Valley Mitchell Landscape and the Monaro Plains Basalts and Sands Mitchell Landscape. The Upper Murrumbidgee Valley Mitchell Landscape is described as a narrow valley and channels system of the Murrumbidgee above Cooma in montane and subalpine communities (DECC, 2002). The Monaro Plains Basalts and Sands Mitchell Landscape is described as extensive tablelands and rolling hills on Tertiary (Eocene) basalts with associated sub-basaltic sands and gravel of the pre-eruption land surface (DECC, 2002).
Rivers and streams	Several unnamed first and second-order streams are mapped as crossing the study area, and the Middle Flat Creek runs along the eastern boundary of the study area. However, none of the unnamed first or second-order streams mapped by NSW Hydrography (DFSI 2016) were apparent even following rainfall, except for a second-order stream above the southern entrance. Middle Flat Creek was flowing throughout the period of survey.
Wetlands	There are no natural wetlands in the study area. There are several small farm dams; however, these generally lack fringing aquatic native vegetation.
Connectivity features	The study area adjoins and is surrounded by large areas of native vegetation mapped on the SVTM as PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland.
Areas of Geological Significance and Soil Hazard Features	The study area does not contain any karst, caves, crevices or cliffs. There are extensive areas of basaltic outcrops on the ridgeline in the northern portion of the property and along the flanks of that ridgeline. The Bredbo, Middle Flat and Murrumbidgee variant b soil landscapes lie within the study area. The Bredbo landscape consists of undulating low hills on volcanics and sediments. The Middle Flat landscape is a gently undulating plain on Quaternary and tertiary (Lake Bunyan) sediments. The Murrumbidgee variant be landscape consists of floodplains, recent alluvials and terraces of the Murrumbidgee and Numeralla Rivers, and includes high terraces.

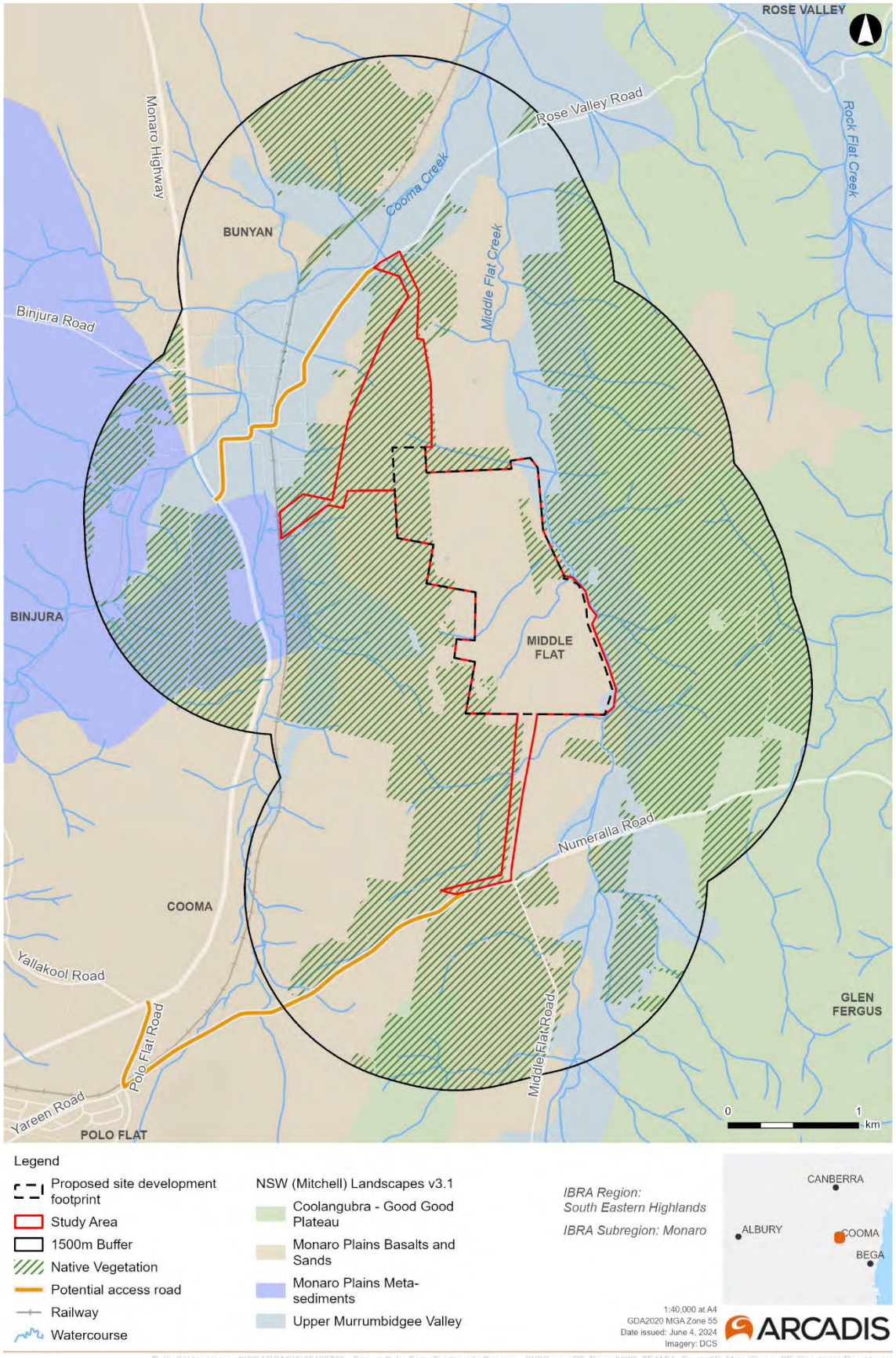

Figure 3-1: Location map

3.2 Native vegetation coverage

The State Vegetation Type Map (SVTM) (DPE 2022) was used to map native vegetation within the 1,500 metre buffer area (Figure 3-2). The area of native vegetation cover within the study area plus 1,500 metre buffer area is calculated below in **Table 3-2**.

Table 3-2: Native vegetation within the study area plus 1,500 metre buffer area

Location	Extent (ha)	Native vegetation extent (ha)	Per cent native vegetation cover
Study area plus 1,500 metre buffer area	2,998.30	1,612.65	53.80

3.3 State Vegetation Type mapping

The NSW State Vegetation Type Map (DPE 2022) identifies a single Plant Community Type (PCT) within the subject land and study area: PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland. This PCT is associated with the following threatened ecological community (TEC) within the NSW BioNet Vegetation Classification:

- EPBC Act: Natural Temperate Grassland of the South Eastern Highlands Critically Endangered Ecological Community (CEEC).

Mapping of the study area and immediately surrounding area is shown in Figure 3-2.

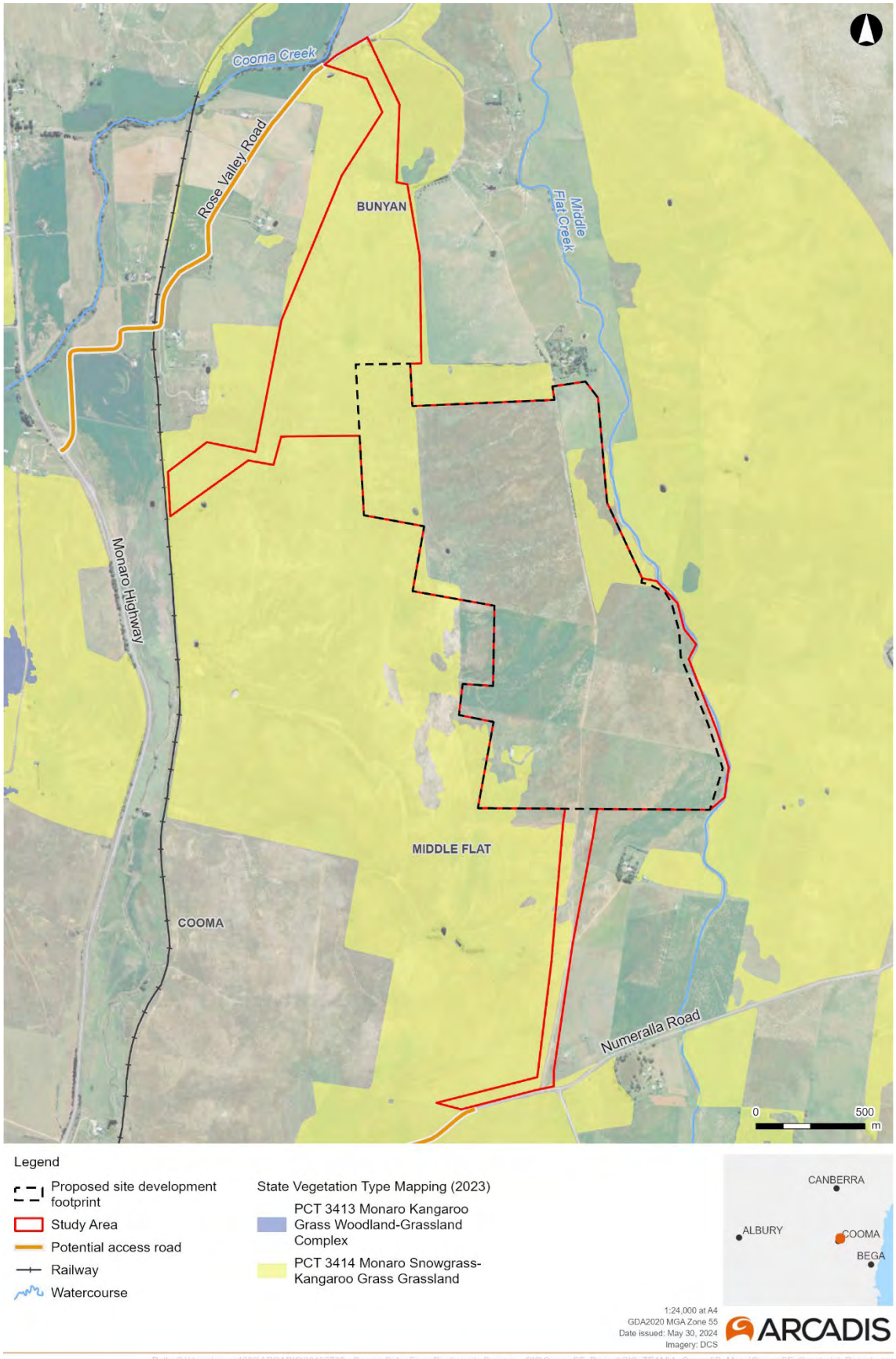

Figure 3-2: State Vegetation Type Mapping

4 Native vegetation

Vegetation was classified and mapped during surveys with reference to regional vegetation mapping of the area (DPE 2022).

During this assessment, the vegetation was initially stratified based on the composition of the canopy and vegetation structure (key elements in PCT assignment). It was then compared to recognised and accepted PCTs, as described in the BioNet Vegetation Information System (VIS) Classification database (NSW DCCEEW 2024b). The identification of PCTs and vegetation types was predominantly based on:

- Structure and species composition consistent with descriptions in the VIS Classification database and other published references
- Characteristic species present
- Previous regional mapping as an equivalent vegetation type
- Landscape position.

4.1 Ground-truthed vegetation mapping

Following the vegetation surveys, a single native vegetation community, PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland, was identified within the study area. This vegetation community is consistent with the SVTM in type, although the extent and delineation of the ground-truthed vegetation community within the study area differs from that of the SVTM. Three condition classes have been identified for PCT 3414: High, Moderate and Low.

In addition to native vegetation, three vegetation communities dominated by non-native species have been identified. Although two of these vegetation communities have been labelled as PCT 3414 due to the persistence of some native species characteristic of that community in low numbers, they are sufficiently dominated by exotic species that impacts to these communities will not incur offset liability.

All vegetation communities, native and non-native are shown in Figure 4-1 and their extent within the study area is listed in Table 4-1. Descriptions of the vegetation communities are within Sections 4.3 and 4.4 below.

Table 4-1 Vegetation communities within the study area from ground-truthed vegetation mapping

PCT No.	PCT Name	Condition class	Area within study area (ha)
3414	Monaro Snowgrass-Kangaroo Grass Grassland	High	13.29
		Moderate	34.59
		Low	11.96
		Rocky-ridgeline (exotic-dominated)	44.52
		Lovegrass (exotic-dominated)	52.08
n/a	Improved/exotic pasture		134.10
		Total	290.54

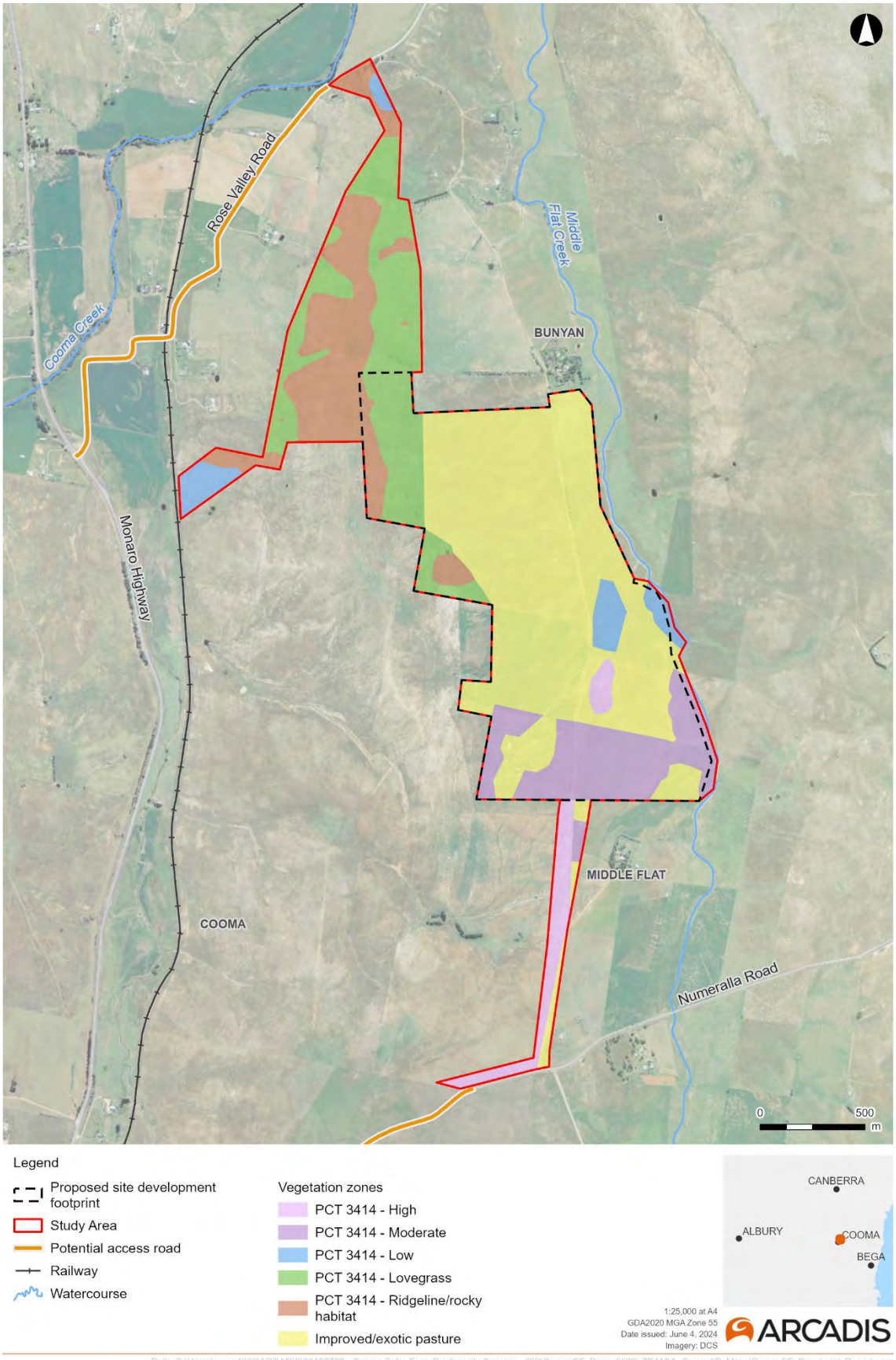

Figure 4-1: Ground-truthed vegetation

4.2 Rapid assessment surveys

Results from the rapid assessment surveys varied between Rose Valley Road, which would potentially provide access to the project from the north, and Numeralla Road, which would provide access from the south.

Along Rose Valley Road, vegetation is almost entirely exotic, consisting of such common roadside weeds as *Phalaris aquatica* (Phalaris), *Cirsium vulgare* (Spear Thistle), *Foeniculum vulgare* (Fennel), *Avena* spp. (Oats) and *Echium vulgare* (Viper's Bugloss). No native species were recorded comprising coverage equal to or even approaching 10%. In addition, roadside verges were assessed while driving slowly along the road, and no native vegetation was identified.

Along Numeralla Road results were mixed. Although vegetation at all rapid assessment points was dominated by exotic species similar to those along Rose Valley Road, native species were also present, especially *Bothriochloa macra* (Red Grass) and *Themeda triandra* (Kangaroo Grass). At some points native species appeared to approach or exceed 15% coverage in small patches. In addition, native species could also be identified while driving along the road, although driving assessments were limited by heavier traffic along Numeralla Road. It is considered possible that some small patches of native grasslands would be mapped along Numeralla Road if more detailed survey were carried out. If works along this road are required for the Project, it is recommended that a walking survey be conducted along all parts of the road where improvements may be made.

4.3 Monaro Snowgrass-Kangaroo Grass Grassland (PCT 3414)

A summary of the description of a high condition occurrence of PCT 3414 (Monaro Snowgrass-Kangaroo Grass Grassland) provided in the NSW BioNet Vegetation Classification is in Table 4-2 below. Following that description of an 'ideal' type, brief descriptions are provided of the vegetation community and its condition classes as found in the study area.

4.3.1 BioNet profile for PCT 3414

Table 4-2: Attribute information for PCT 3414 in the study area

PCT attributes	Monaro Snowgrass-Kangaroo Grass Grassland
PCT number	3414
Vegetation formation	KF_CH4 Grasslands
Vegetation class	Temperate Montane Grasslands
Associated TECs	EPBC Act: Natural Temperate Grassland of the South Eastern Highlands CEEC
Estimate of per cent cleared	77.58%
Vegetation description (DPE 2023c)	A tall to very tall grassland on undulating terrain on the Monaro Tableland in south-east New South Wales. The dense ground cover is typically comprised of grasses, forbs and some twiners. *Poa sieberiana* is almost always present, ***Chrysocephalum apiculatum***, ***Austrostipa scabra*** and ***Acaena ovina*** are very frequent and *Elymus scaber*, ***Themeda triandra***, ***Enneapogon nigricans***, ***Bothriochloa macra***, ***Brachyscome dentata***, ***Scleranthus diander***, ***Vittadinia muelleri***, ***Convolvulus angustissimus*** and ***Asperula conferta*** are all commonly occurring. This PCT is sometimes very weedy and has a low species richness,

PCT attributes	Monaro Snowgrass-Kangaroo Grass Grassland
	possibly as a result of a long history of grazing and the cold, harsh environment in which it occurs. It occurs on heavy clay soils, usually derived from basalt, alluvium or granitoids primarily in the eastern Monaro around the Cooma, Nimmitabel and Bombala area, with smaller occurrences around Adaminaby and south of Jindabyne. The environment of this region is cold and dry with a mean annual rainfall typically below 690 mm. Climatic extremes are also a feature of this environment, ranging from warm summer days to an average of 50 frost days per annum in the colder months. It is related floristically to PCT 3415 which is a grassland occurring in a somewhat milder environment in the Canberra region in which *Poa sieberiana* is rare. * Species occurring within this PCT in the study area are in **bold.**
Species identified during field survey relied upon for PCT identification	Upper stratum (grasses)*: Austrostipa scabra* (Speargrass), *Bothriochloa macra* (Red Grass), *Austrostipa bigeniculata* Middle stratum (erect forbs)*: Chrysocephalum apiculatum* (Common Everlasting), *Vittadinia muelleri*, *Brachyscome dentata* Ground stratum (prostrate forbs): *Acaena ovina, Asperula conferta* (Common Woodruff)

4.3.2 PCT 3414 in the study area

PCT 3414 is found in three condition classes in the study area: High, Moderate and Low. Occurrences of PCT 3414 have been classified in these classes by reference to the scores for BAM plots taken within relatively uniform patches of vegetation. Patches with plots have been classified as shown in Table 4-3.

Table 4-3: Condition classes according to VI score

VI score	Condition class
70 or higher	High
40 or higher to less than 70	Moderate
20 or higher to less than 40	Low

Qualitatively, most occurrences of PCT 3414 (with minor exceptions) can be considered to fall into two categories: fully structured, High condition grassland in comparatively undisturbed condition in the long access corridor at the southern end of the study area and outside the development footprint, and re-established grasses in a variety of condition classes within improved paddocks within the development footprint.

The majority of PCT 3414 – High falls within the patch of fully structured grassland at the southern access handle. Grasses are dominated by *Austrostipa scabra* (Speargrass), *Austrostipa bigeniculata* and *Bothriochloa macra* (Red Grass), although there are scattered patches of *Eragrostis curvula* (African Lovegrass) invasion (Figure 4-2). Forbs are diverse and common, although their total percentage of coverage is low. *Chrysocephalum apiculatum* (Common Everlasting), *Vittadinia muelleri* and *Brachyscome dentata* are the most common and conspicuous of forbs, with others present more sporadically (Figure 4-3). There is one patch of PCT 3414 – High in the area of land that is periodically improved within the development footprint. This patch of grass does not qualitatively resemble the more natural community within the access corridor, but native grass cover and forb diversity are sufficiently high that its vegetation integrity score places the patch in the High condition class.

The patches of PCT 3414 – Moderate and PCT 3414 – Low generally fall within areas within the development footprint that have been periodically improved but where native grasses have re-established when the land is fallow. Typical tall native grasses of PCT 3414 such as *Austrostipa* spp. and *Bothriochloa macra* do not occur or are scattered within these patches (Figure 4-4). Instead, lower growing native grasses such as *Chloris truncata* (Windmill Grass) and *Cynodon dactylon* (Couch), which are quick to colonise disturbed ground, tend to be the dominant species (Figure 4-5). Exotic, weedy species such as *Eragrostis curvula* (African Lovegrass), *Cirsium vulgare* (Spear Thistle) and *Centaurea solstitialis* (St. Barnaby's Thistle) occur in these areas as well.

Figure 4-2: PCT 3414 - High dominated by Bothriochloa macra (Red Grass) and Austrostipa spp.

Figure 4-3: Chrysocephalum apiculatum (Common Everlasting), Brachyscome dentata and Wahlenbergia communis (Tufted Bluebell) in PCT 3414 – High

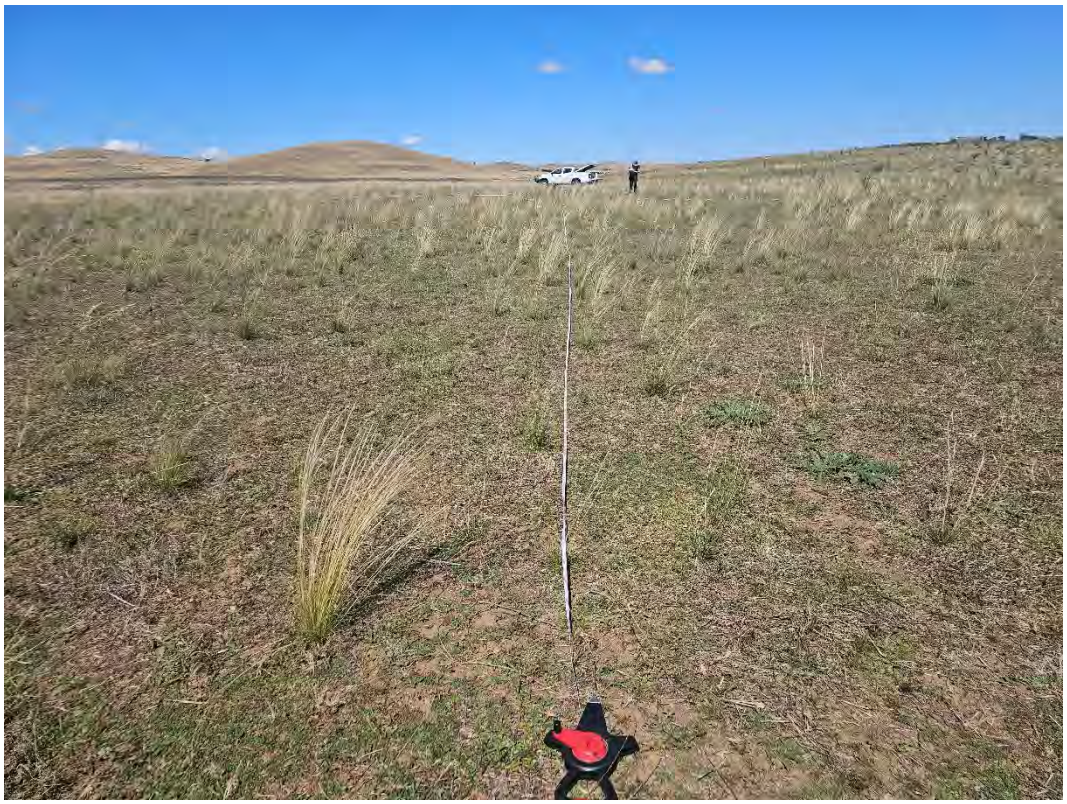

Figure 4-4: Scattered Austrostipa (Speargrass) with a moderate cover of Cynodon dactylon (Couch)

Figure 4-5: Thick cover of Chloris truncata (Windmill Grass)

4.4 Non-native vegetation communities

Three vegetation communities dominated by non-native species occur within the study area. Collectively they account for 230.70 ha of the 290.54 of the study area (79%). These three areas are:

- Improved/exotic pasture
- PCT 3414 – Lovegrass
- PCT 3414 – Rocky-ridgeline.

Improved/exotic pasture is the largest single vegetation community within the study area, and it dominates the development footprint. The vegetation community is found in low-lying paddocks that have, in most cases, been improved in the past, sometimes very recently. The species present are highly variable, depending in great part on the management of individual paddocks, but commonly include *Cirsium vulgare* (Spear Thistle), *Centaurea sostitialis* (St. Barnaby's Thistle), *Brassica* spp. and *Eragrostis curvula* (African Lovegrass) (Figure 4-6).

PCT 3414 – Lovegrass is, as the name suggests, strongly dominated by African Lovegrass, which exceeds 90% coverage in many places (Figure 4-7). This condition class occurs mostly on the flanks of the ridge in the northern half of the study area where there are few or no rocky outcrops. Although it is dominated by the exotic Lovegrass, it differs from Improved/exotic pasture in that (1) it has never been improved, and thus species composition is due to exotic invasion rather than mechanical (non-grazing) disturbance, and (2) a good variety of native forbs, albeit in very low coverages, can be found in the few spaces between Lovegrass tussocks. These native forbs are general among the most common species in higher quality PCT 3414, such as *Chrysocephalum apiculatum* (Common Everlasting), *Vittadinia muelleri* and *Brachyscome dentata.*

PCT 3414 – Rocky-ridgeline is also dominated by Lovegrass, but the frequent occurrence of rocky outcrops and patches of bare or heavily grazed ground provide sufficient space for native forbs to

occur more frequently in the spaces between tussocks (Figure 4-8). Notably, this vegetation community is where the vast majority of records of the BC Act-listed *Swainsona sericea* occur. PCT Rocky-ridgeline occurs along the ridgeline of the northern half of the study area and on the flanks of the ridge, especially the western flank, with extensive rocky outcrops. Species composition is similar to PCT 3414 – Lovegrass, but with slightly greater grass and forb diversity and the widespread presence of *S. sericea*.

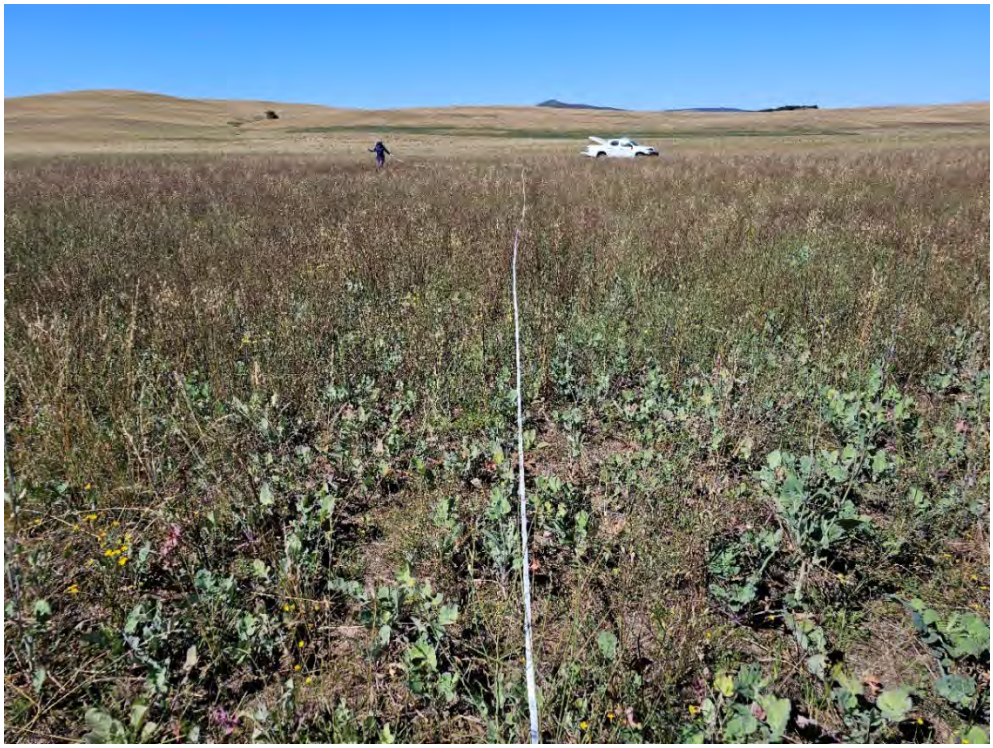

Figure 4-6: Improved/exotic pasture with extensive Brassica spp.

Figure 4-7: PCT 3414 - Lovegrass

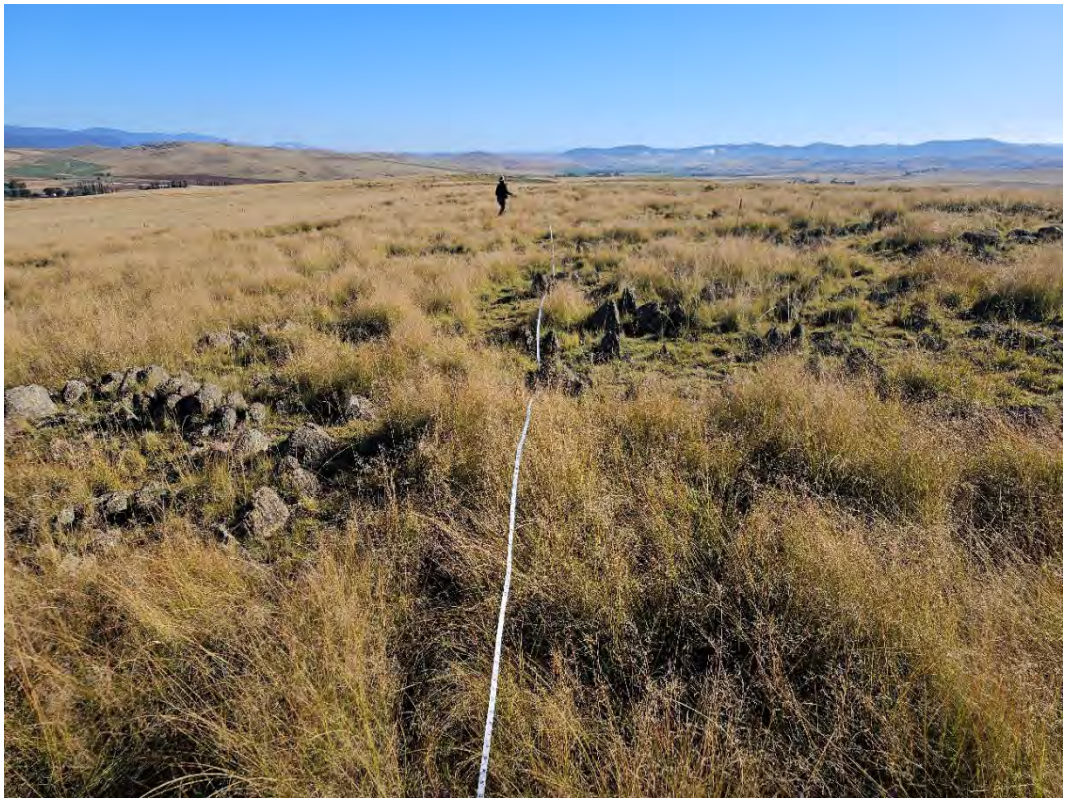

Figure 4-8: PCT 3414 – Rocky-ridgeline

4.5 Threatened ecological communities

PCT 3414 is not associated with a TEC listed under the BC Act. PCT 3414 is associated with the Natural Temperate Grassland of the South Eastern Highlands CEEC listed under the EPBC Act. In order to qualify as the TEC under the EPBC Act, a patch must meet the following diagnostic criteria and condition thresholds as defined in the Commonwealth listing advice for the community (TSSC, 2011). Although data from the vegetation integrity plots completed within the study area has not been fully analysed, preliminary assessment suggests that the areas of PCT 3414 within the study area in the High and Moderate condition classes are of sufficient quality to qualify for inclusion. These areas are shown in Figure 4-9.

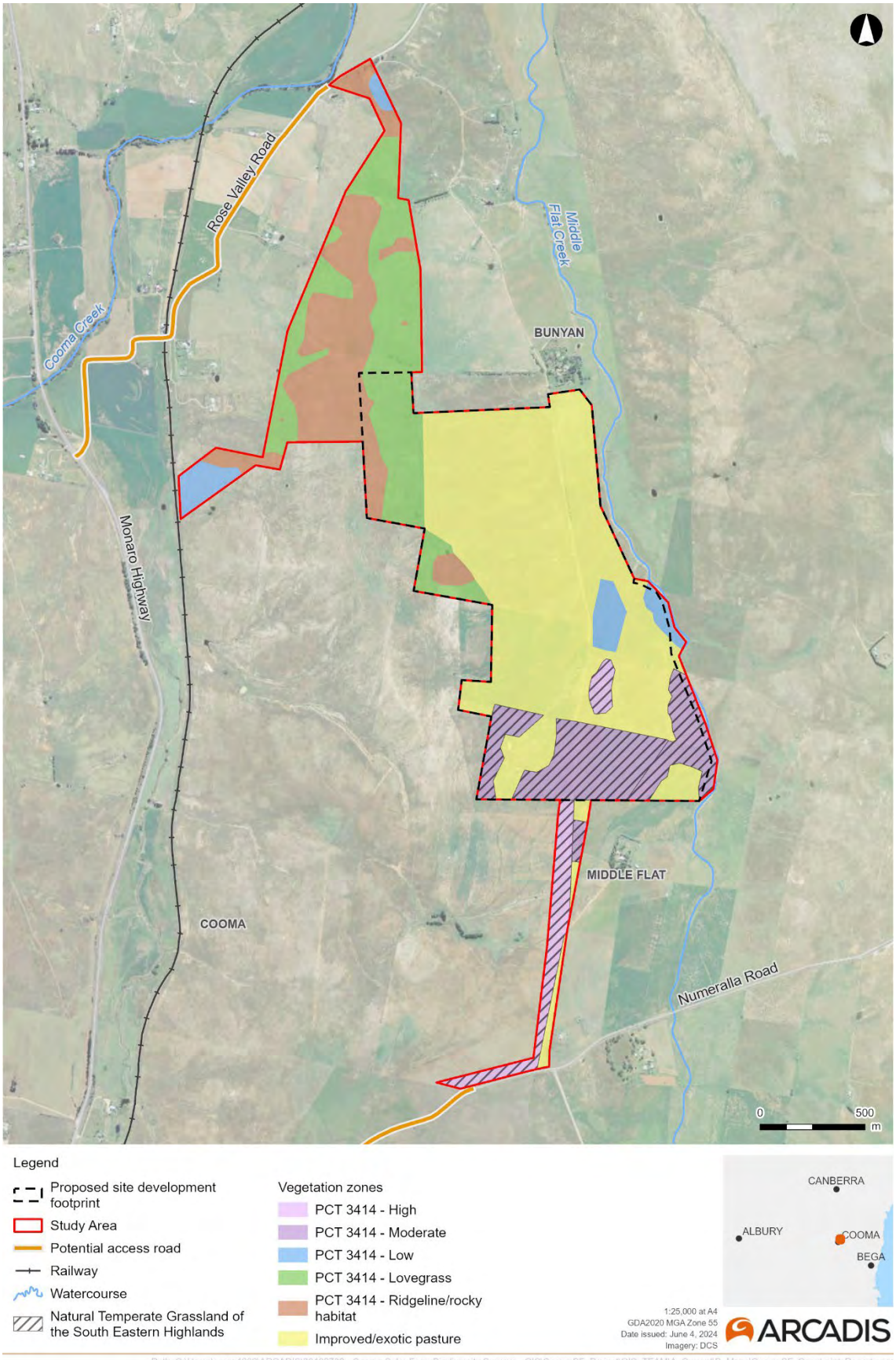

Figure 4-9: Threatened ecological communities

5 Threatened species

As mentioned, at the inception of the project, information from the NSW State Vegetation Type Map (SVTM) regarding the native vegetation community mapped within the study area was entered into the BAM credit calculator (BAM Calculator) to determine the candidate threatened species credit species that could require further targeted surveys under the BAM. Following formal survey, data from vegetation integrity plots was entered into the BAM Calculator to confirm the species list.

Initially, the BAM Calculator returned a list of 27 species credit species, 16 flora species and 11 fauna species. A candidate species returned by the BAM calculator can be removed from the candidate list and excluded from survey where habitat is substantially degraded such that the species is unlikely to use the area or a species' habitat requirements are not present within the study area, but the reasons for excluding a predicted species credit species must be documented. After consideration of habitat requirements for the species and the habitat features present within the study area, six flora species and five fauna species were excluded from targeted survey. In addition, *Myotis macropus* (Southern Myotis) was added to the list for survey because of the presence of habitat in the form of Middle Flat Creek.

The list of species considered for survey and reasons for excluding 11 species from survey are outlined in Table 5-1. Survey methods and effort for flora and fauna species, and results, are provided in the following sections.

Table 5-1: Species credit species predicted to occur within the study area

Species		Maintained or excluded from survey
Scientific name	**Common name**	
Flora species		
Calotis glandulosa	Mauve Burr-daisy	**Excluded from survey.** *Calotis glandulosa* does not persist in heavily grazed pastures of the Monaro. The entire study area is heavily grazed.
Commersonia prostrata	Dwarf Kerrawang	**Maintained for survey.**
Dillwynia glaucula	Michelago Parrot-pea	**Maintained for survey.**
Discaria nitida	Leafy Anchor Plant	**Maintained for survey.**
Dodonaea procumbens	Creeping Hop-bush	**Excluded from survey.** *Dodonaea procumbens* does not persist in heavily grazed pastures of the Monaro. The entire study area is heavily grazed.
Eucalyptus aggregata	Black Gum	**Maintained for survey.**
Eucalyptus parvula	Small-leaved Gum	**Maintained for survey.**
Eucalyptus pulverulenta	Silver-leafed Gum	**Maintained for survey.**
Leucochrysum albicans subsp. tricolor	Hoary Sunray	**Maintained for survey.**
Pelargonium sp. Striatellum	Omeo Storksbill	**Maintained for survey.**
Prasophyllum petilum	Tarengo Leek Orchid	**Excluded from survey.** *Prasophyllum petilum* is apparently highly susceptible to grazing, being retained only at little-grazed stock reserves and in cemeteries. The entire study area is heavily grazed.

Species		Maintained or excluded from survey
Prasophyllum sandrae	Majors Creek Leek Orchid	**Excluded from survey.** *Prasophyllum petilum* is apparently highly susceptible to grazing, being retained only at a historically ungrazed site. The entire study area is heavily grazed.
Rutidosis leiolepis	*Monaro Golden Daisy*	**Excluded from survey.** *Rutidosis leiolepis* is apparently highly susceptible to grazing, being retained in only a small number of populations on roadsides, un-grazed reserves and very lightly grazed pastures on private lands. The entire study area is heavily grazed.
Rutidosis leptorrhynchoides	Button Wrinklewort	**Excluded from survey.** *Rutidosis leptorrhynchoides* is apparently highly susceptible to grazing, being retained in only a small number of populations on roadsides, rail reserves and other un-grazed and very lightly grazed reserves. The entire study area is heavily grazed.
Swainsona sericea	Silky Swainson-pea	**Maintained for survey.**
Thesium australe	Austral Toadflax	**Maintained for survey.**
Fauna species		
Aprasia parapulchella	Pink-tailed Legless Lizard	**Maintained for survey.**
Callocephalon fimbriatum	Gang-gang Cockatoo (Breeding)	**Excluded from survey.** Gang-gang Cockatoos require hollow-bearing trees to breed. There are no hollow-bearing trees within the study area.
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo (Breeding)	**Excluded from survey.** South-eastern Glossy Black-Cockatoos require hollow-bearing trees to breed. There are no hollow-bearing trees within the study area.
Delma impar	Striped Legless Lizard	**Maintained for survey.**
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	**Excluded from survey.** White-bellied Sea-Eagles require nest trees to breed. There are no nest trees within the study area.
Hieraaetus morphnoides	Little Eagle (Breeding)	**Excluded from survey.** Little Eagles require nest trees to breed. There are no nest trees within the study area.
Keyacris scurra	Key's Matchstick Grasshopper	**Maintained.**
Litoria aurea	Green and Golden Bell Frog	**Maintained.**
Litoria raniformis	Southern Bell Frog	**Maintained.**
Lophoictinia isura	Square-tailed Kite (Breeding)	**Excluded from survey.** Square-tailed Kites require nest trees to breed. There are no nest trees within the study area.
Tympanocryptis osbornei	Monaro Grassland Earless Dragon	**Maintained.**

5.1 Threatened flora surveys

Threatened flora surveys were carried out in the following time periods:

- 16-18 October 2023
- 9-10 November 2023
- 20-24 November 2023
- 22-26 January 2024
- 19-23 February 2024.

In addition, threatened flora were incidentally surveyed for and recorded during an initial reconnaissance on 28-31 August 2023, during installation of reptile tiles 25-27 September 2023 and during completion of BAM plots 18-22 March 2024 and 8-12 April 2024.

Initially, the two-phase grid-based systematic approach was planned to be applied, which is a practical method for surveying large (>50 ha) areas through sampling, with more intensive survey effort applied if a target species is recorded. However, after the identification of the vulnerable *Swainsona sericea* over large portions of the study area, a transect-based approach was employed to delineate areas suitable for *Swainsona sericea* from areas unsuitable for the species.

Transects at approximately 10 m intervals were walked over the entirety of the study area outside the development footprint, i.e. that portion of the study area that has not been disturbed by sowing. In addition, portions of the development footprint where there was rocky habitat or it was apparent without doing plots that native species were present were also surveyed.

Transects are shown in Figure 5-1. The total length of transects as measured by ArcGIS Pro is 210 km. Species targeted and months of survey are shown in Table 5-2.

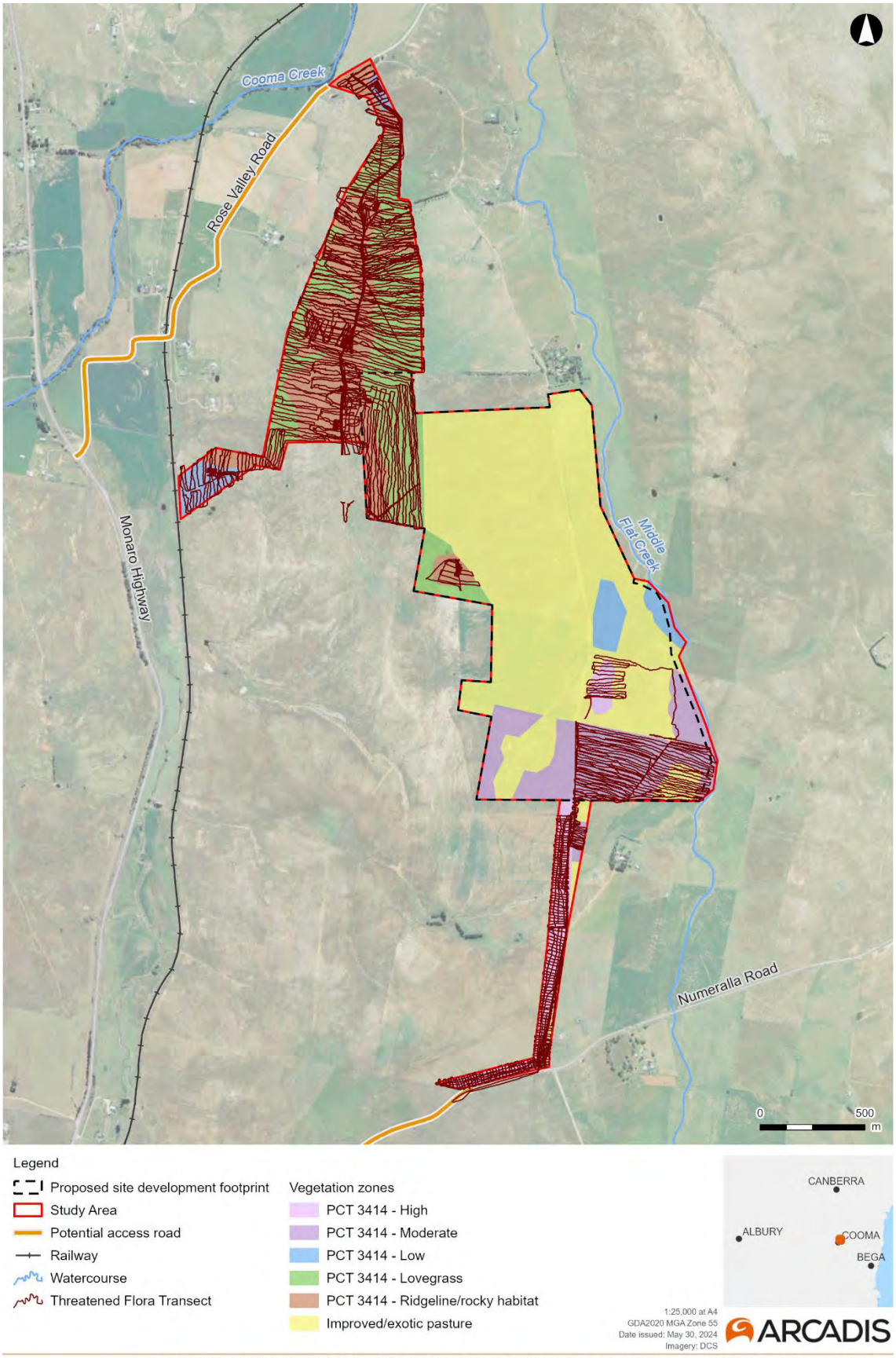

Figure 5-1: Threatened flora transects

Table 5-2: Threatened flora survey windows (light orange) and survey timing (hatching)

Species		Winter	Spring			Summer		
Scientific name	**Common names**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**
Commersonia prostrata	Dwarf Kerrawang							
Dillwynia glaucula	Michelago Parrot-pea							
Discaria nitida	Leafy Anchor Plant							
Eucalyptus aggregata	Black Gum							
Eucalyptus parvula	Small-leaved Gum							
Eucalyptus pulverulenta	Silver-leafed Gum							
Leucochrysum albicans subsp. tricolor	Hoary Sunray							
Pelargonium sp. Striatellum	Omeo Storksbill							
Swainsona sericea	Silky Swainson-pea							
Thesium australe	Austral Toadflax							

Several small patches of land within the improved pasture within the development footprint were not covered during the applicable survey window, because those lands were previously considered Category 1 land, prior to the completion of the BAM plots. The need for additional threatened species surveys in these areas are currently under consideration.

5.2 Threatened fauna surveys

Threatened fauna surveys were carried out during a variety of time periods and using methods appropriate to the species. All surveys were carried out within the survey windows recommended within the BAM Calculator. Survey methods and summaries of timing are outlined in Table 5-3. Fauna survey locations as defined by sites for artificial cover, bat detection devices and rock-flipping efforts, are shown in Figure 5-2.

Table 5-3: Threatened fauna survey windows (light orange) and survey timing (hatching)

Species	Method	Spring			Summer			Autumn	
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Southern Myotis	Deployment of passive anabat detector at a location along Middle Flat Creek for 16 nights. Analysis of microbat calls recorded on the detectors following collection from the field (Figure 5-2).								
Green and Golden Bell Frog	Nocturnal aural-visual surveys including active searches and call playback within areas of suitable breeding habitat. A 2 km stretch of Middle Flat Creek was surveyed on four separate nights by two ecologists.								
Southern Bell Frog									
Pink-tailed Legless Lizard	Two ecologists traversed areas of suitable habitat flipping rocks to detect the species. Areas of suitable habitat were surveyed four times over two weeks (Figure 5-2).								
Striped Legless Lizard	A total 500 roofing tiles were laid by ecologists in 10 grids of 50 tiles across areas of suitable habitat in mid-September 2023. Tiles were inspected at least once per week by two ecologists for 10 weeks from October to December (Figure 5-2). This method was consistent with advice provided by the South East Branch of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (see correspondence at Appendix A).								
Monaro Grassland Earless Dragon	A total of 200 arthropod tubes were placed at 10 metre intervals along four 500 metre transects (Figure 5-2). Arthropod tubes were inspected by two ecologists using a torch at least every 3 days, over 4 non-consecutive weeks.								
Keys Matchstick Dragon	Suitable habitat was surveyed by walking transects and sweeping grass tussocks with a butterfly net.								

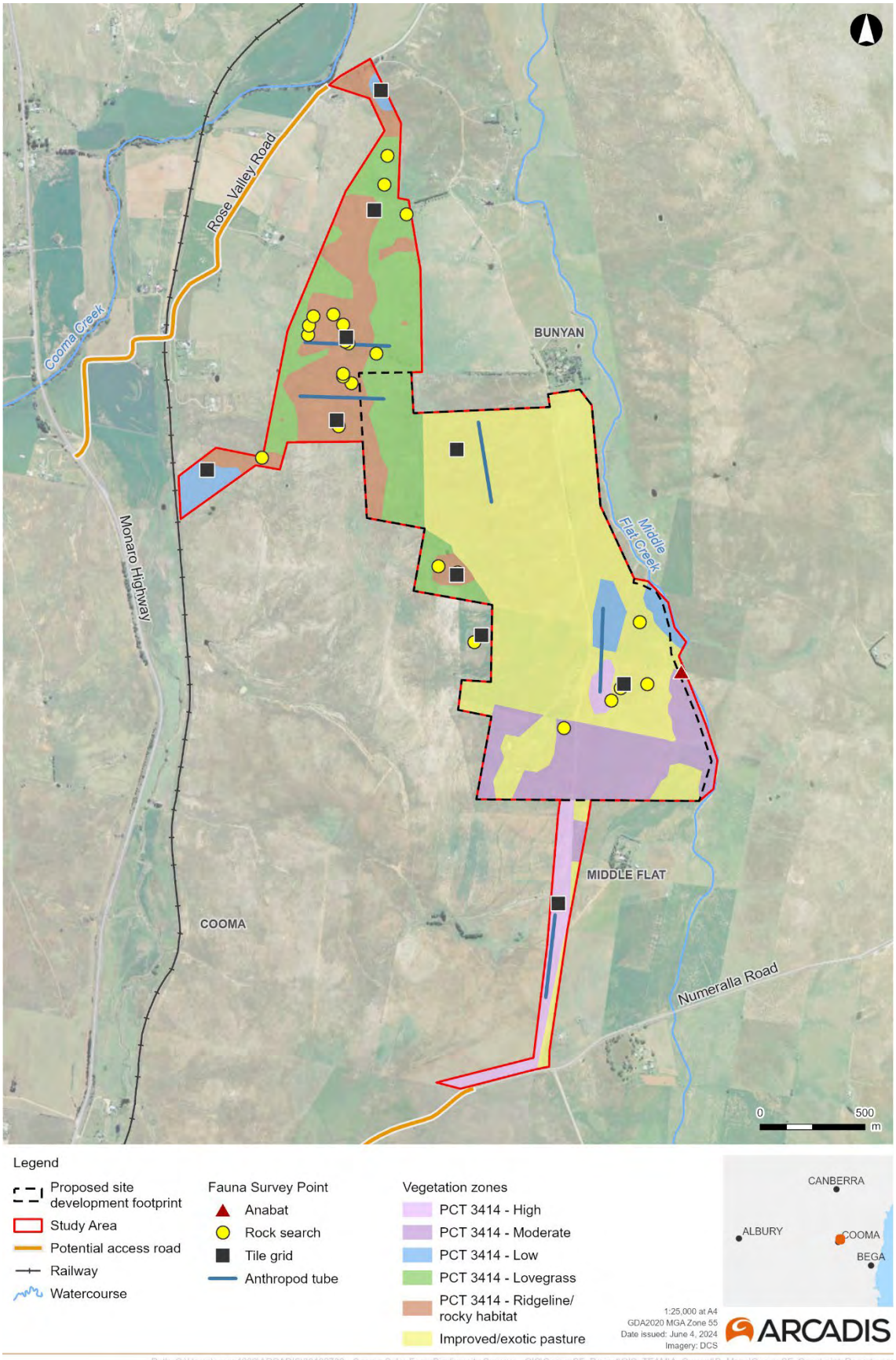

Figure 5-2: Threatened fauna surveys

5.3 Results

5.3.1 Threatened flora results

One threatened flora species was recorded within the study area during targeted surveys: *Swainsona sericea* (Silky Swainson-pea), listed as vulnerable under the BC Act.

Swainsona sericea was recorded at numerous sites along the ridgeline and within rocky outcrops on the flanks of the ridgeline in the northern portion of the property, and at one point within the southern area of the property within PCT 3414 – High in an area of scattered grass and small rocks. A photograph of the species is at Figure 5-3. Points recorded, some of which represent multiple or even scores of individuals, are depicted in Figure 5-4. Total numbers of individuals would be in the thousands.

Swainsona sericea, at least within the study area, appears to favour areas where there are rocky outcrops, heavy grazing or sparse native vegetation with patches of bare, unimproved ground that the species can colonise. It does not occur, or occurs very rarely, (and was not recorded) in areas where Lovegrass infestations are so severe that there are no bare patches between tussocks. It also does not occur, or was not recorded, in areas of well-structured native grassland, where there are no or few bare batches between tussocks of tall native species such as *Austrostipa* spp. or *Bothriochloa macra*. The greatest concentration of individuals occurred in the most heavily grazed areas of the study area, the ridgeline where sheep gather to take advantage of cooling winds (and graze the vegetation to a stubble). Areas where *Swainsona sericea* occurs, or might be reasonably expected to occur, have been delineated within ground-truthed vegetation mapping as PCT 3414 – Rocky-ridgeline. Aside from *Swainsona sericea,* no other threatened flora species were recorded.

Figure 5-3: Swainsona sericea

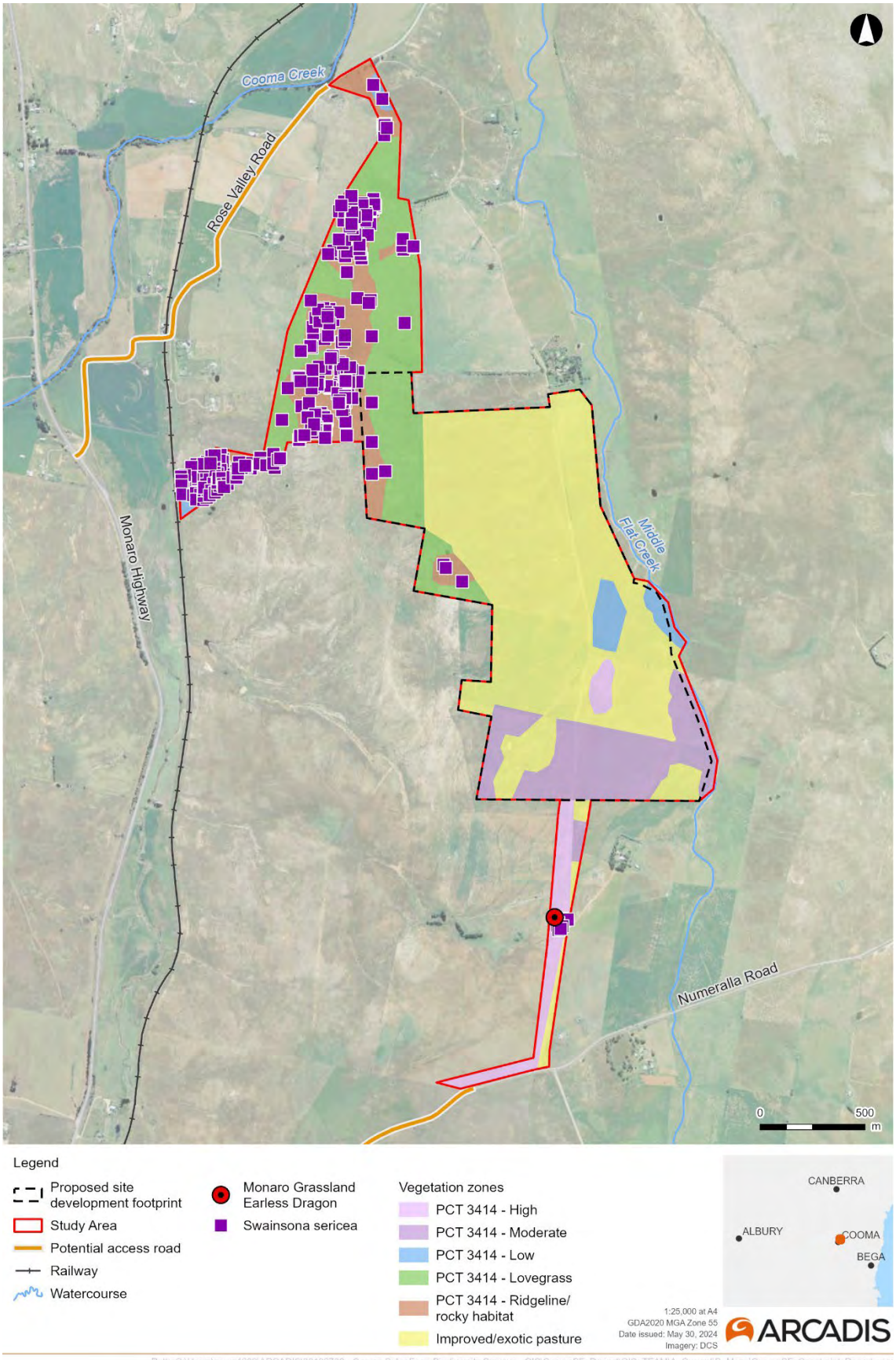

Figure 5-4: Threatened flora and fauna records for species credit species

5.3.2 Threatened fauna results

Five threatened fauna species were recorded during targeted surveys or incidentally:

- *Miniopterus australis* (Little Bent-winged Bat), listed as Vulnerable under the BC Act
- *Miniopterus orianae oceanensis* (Large Bent-winged Bat), listed as Vulnerable under the BC Act
- *Petroica phoenicea* (Flame Robin), listed as Vulnerable under the BC Act
- *Suta flagellum* (Little Whip Snake), listed as Vulnerable under the BC Act
- *Tympanocryptis osbornei* (Monaro Grassland Earless Dragon, listed as Endangered under the BC Act and the EPBC Act.

Two of these species, the Flame Robin and the Little Whip Snake, are ecosystem species. This means that impacts to these species are assessed in conjunction with impacts to native vegetation communities, and additional credit liability for impacts (over and above that assessed for native vegetation impacts) will not be incurred.

Two of the species, Little Bent-winged Bat and Large Bent-winged Bat, are dual credit species. For foraging habitat, they are ecosystem species, and impacts are assessed in conjunction with native vegetation impacts. For breeding habitat, they are species credit species, and additional credit liability for impacts to their breeding habitat (over and above that assessed for native vegetation impacts) can be incurred. These two microbat species were identified as 'possible' records from the bat detection recorders, which means that the calls analysed were possibly from those species but not definitively so. These possible calls would be for foraging bats. The only possible breeding habitat for these species within the study area would be the human-made structures (farm sheds). These sheds were examined for the presence of bats or signs of bat occupation, and none were identified. As a result, breeding habitat for these species is considered not to be present within the study area, and impacts to their breeding habitat do not require assessment.

The final species, the Monaro Grassland Earless Dragon, is a species credit species, meaning that potential impacts to this species are assessed separately from impacts to native vegetation. There was a single record of Monaro Grassland Earless Dragon, in a High condition area of PCT 3414 with scattered tussocks of native grasses interspersed with small rocks, in probably the highest condition habitat for the species within the study area (Figure 5-5). The individual was recorded sheltering within one of the arthropod tubes targeting the species. The location of the record is shown in Figure 5-4. Photographs of the Monaro Grassland Earless Dragon are at Figure 5-5. Potential impacts to the Monaro Grassland Earless Dragon's habitat will be required to be assessed within the BDAR.

No other threatened fauna species were recorded within the study area.

Figure 5-5: Monaro Grassland Earless Dragon

6 Conclusion and recommendations

Native vegetation surveys and targeted surveys for threatened flora and fauna were undertaken within the study area for the Cooma Solar and BESS Project in accordance with the requirements of the BAM over the months of October, November and December 2023 and January, February, March and April 2024.

One native vegetation community was identified within the study area: PCT 3414 Monaro Snowgrass-Kangaroo Grass Grassland. This vegetation community was stratified into three condition classes: High, Moderate and Low. In addition, three vegetation communities dominated by non-native vegetation were identified. The extent of vegetation communities within the study area is summarised in Table 6-1 below.

Table 6-1: Vegetation communities and condition classes

PCT No.	PCT Name	Condition class	Area within study area (ha)
3414	Monaro Snowgrass-Kangaroo Grass Grassland	High	13.29
		Moderate	34.59
		Low	11.96
		Rocky-ridgeline (exotic-dominated)	44.52
		Lovegrass (exotic-dominated)	52.08
n/a	Improved/exotic pasture		134.10
		Total	290.54

PCT 3414 corresponds to the Natural Temperate Grassland of the South Eastern Highlands Critically Endangered Ecological Community (CEEC) listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* where the condition of the vegetation meets specified thresholds. Within the study area, it is likely that vegetation in the High and Moderate condition classes meets the thresholds.

Two species credit threatened species were recorded during targeted surveys, one flora species and one fauna species:

- *Swainsona sericea* (Silky Swainson-pea), listed as vulnerable under the BC Act
- *Tympanocryptis osbornei* (Monaro Grassland Earless Dragon, listed as Endangered under the BC Act and the EPBC Act.

Impacts to the biodiversity values recorded in the study area will be assessed in a BDAR for the Project. Key areas for further assessment will include:

- Measures to avoid, minimise and mitigate impacts from the Project to biodiversity values
- Impacts to PCT 3414
- Impacts to the threatened Swainsona sericea and Monaro Grassland Earless Dragon
- Impacts to the EPBC-listed Natural Temperate Grassland of the South Eastern Highlands CEEC

- Prescribed biodiversity impacts
- Impacts to Matters of National Environmental Significance
- Calculation of credits for residual impacts that cannot be avoided.

Due to the identification of an EPBC-listed endangered fauna species (Monaro Grassland Earless Dragon) and an EPBC-listed TEC (Natural Temperate Grassland of the South Eastern Highlands CEEC), it is recommended that a significant impact criteria assessment be completed and the project potentially be referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water for impacts to these Matters of National Environmental Significance.

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APPENDIX A: CORRESPONDENCE WITH DCCEEW (STRIPED LEGLESS LIZARD SURVEYS)

FW: Striped Legless Lizard surveys

Nat O'Rourke <Nat.ORourke@environment.nsw.gov.au>
Mon 8/21/2023 4:19 PM

To:Cooper, Ed <Ed.Cooper@arcadis.com>
Cc:Calvin Houlison <Calvin.Houlison@environment.nsw.gov.au>;ROG South East Region Mailbox <rog.southeast@environment.nsw.gov.au>

1 attachments (4 MB)
Madani and Beranek 2023. Where are my dragons. Replicating refugia to enhance the detection probability of an endangered cryptic reptile.PDF;

You don't often get email from nat.orourke@environment.nsw.gov.au. Learn why this is important

Hi Ed,

Thanks for calling me back this afternoon.

As mentioned, happy with what you're proposing in terms of *Delma impar* tile searches and starting surveys two/three weeks after setting tiles, and then a 10 week checking program Sept - Dec, consistent with the advice you've got from Rob Speirs.

Good to hear you are also undertaking dragon surveys. We have recently provided advice on preferred survey methods for Monaro grassland earless dragons – I'll see if I can dig it up and forward through, but its consistent with the attached paper.

Happy to discuss further.

Cheers
Nat

Nat O'Rourke
Senior Conservation Planning Officer, South East Branch
Ph: 02 6229 7132
I live and work on Ngunnawal country

From: Cooper, Ed <Ed.Cooper@arcadis.com>
Sent: Friday, 18 August 2023 12:07 PM
To: ROG South East Region Mailbox <rog.southeast@environment.nsw.gov.au>
Cc: Tilley, Heather <Heather.Tilley@arcadis.com>; Banks, Nathan <Nathan.Banks@arcadis.com>
Subject: FW: Striped Legless Lizard surveys

Hi Calvin,

I just received Allison's out of office. Would you mind taking a look at my enquiry below and perhaps giving me a call to discuss?

Regards,

Ed Cooper BSc(Hons)
Technical Director

NSW BAM Accredited Assessor (BAAS 18047)
Arcadis Australia Pacific
Level 16, 580 George Street, Sydney NSW | 2000
Australia
T: 0410 765 736

www.arcadis.com

From: Cooper, Ed
Sent: Friday, August 18, 2023 11:22 AM
To: allison.treweek@environment.nsw.gov.au
Cc: Tilley, Heather <Heather.Tilley@arcadis.com>; Banks, Nathan <Nathan.Banks@arcadis.com>
Subject: Striped Legless Lizard surveys

Hi Allison,

Hope you are well. Further to the voicemail I just left for you, I was hoping to get your guidance on applying the NSW threatened reptile guidelines for Striped Legless Lizard for an upcoming solar farm BDAR in Cooma. The Guidelines note that tile grids should be installed 3 months in advance of surveys and checked weekly for 8 weeks from September to December.

In discussions with Rob Speirs, he has suggested that laying the tiles this early is detrimental as the tiles bed in and need to be moved before the first check. He recommended installing the tiles 2 to 3 weeks prior to commencing surveys and checking over 10 weeks (rather than 8).

I believe the project will be an SSD in your region, so I just wanted to confirm that you were comfortable with the proposed deviation from the guidelines, being installation of the tile grids 2 to 3 weeks before surveys commence and completing 10 replicate surveys spaced a week apart between September and December?

Regards,

Ed Cooper BSc(Hons)
Technical Director
NSW BAM Accredited Assessor (BAAS 18047)
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Level 16, 580 George Street, Sydney NSW | 2000
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Appendix D:
Social Impact Assessment scoping worksheet

Social locality near the project

The project site is situated 7 km northeast of the township of Cooma. Cooma is a small urban town that spreads over an area of 17.9 km^2 (ABS GCP, 2021). It has a population of 6,447 persons (ABS 2021), with a median age of 43 years (NSW median age 39 years). Up to 90% of the population is of Australian or European descent (ABS 2021), with a small but growing number of people from other ancestries. Cooma's economy has traditionally been based on agriculture (sheep and cattle farming) as well as tourism, as the town provides access to the Snowy Mountains region and the national parks in the region. Top sectors of employment include retail trade, construction and healthcare and social assistance (ABS GCP, 2021). The Snowy Hydro Scheme 2.0 is another major employer in the region.[1]

The town is serviced by a hospital and other healthcare facilities. Cooma town is well connected via Monaro Highway, providing a direct route to Canberra and other towns in the region.

The SIA Scoping Worksheet developed by DPHI has been used to help assess the level of social impact assessment required for the EIS and is provided ahead.

[1] Data from Australian Bureau of Statistics 2021 Census All persons QuickStats and General Community Profile for Cooma Urban Centre and Locality (UCL), NSW.

Social Impact Assessment (SIA) Worksheet

Project name: Cooma Solar and BESS Project

Date:

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics					Level of assessment for each social impact
							extent i.e. number of people potentially affected?	**duration** of expected impacts? (i.e. construction vs operational phase)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity** or vulnerability of people potentially affected?	**level of concern/interest** of people potentially affected?	
way of life	Nearby sensitive receptors/landholders experiencing noise emissions during project construction, affecting their perceived and actual experience of peace and quiet	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
health and wellbeing	Nearby sensitive receptors/landholders affected from potentially higher dust levels during project construction, causing health and wellbeing concerns/issues	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
surroundings	Loss of visual amenity and scenic value of the existing landscape for sensitive receptors including local landholders, project neighbours and visitors may cause concern and discontent	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	Yes	Yes	No	Unknown	Detailed assessment of the impact
way of life	Potential road congestion and other traffic issues may disrupt daily routines and increase safety risks (perceived and actual) for local landholders and the broader community	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
way of life	Local landholders and the broader community may likely be concerned regarding possible temporary disruptions to daily routines due to congestion from construction-related traffic	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
way of life	Improved access for local road users, though there will be temporary (minor) disruption during the upgrades	Positive	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
community	Changes to community structure, identity and cohesion due to presence of non-local workers	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
access	Constraints on availability and capacity of local services	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	No	Yes	Unknown	Unknown	Detailed assessment of the impact
livelihoods	Potential hiring of employees from the nearby towns and within the LGA resulting in increased employment and income for local people	Positive	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	No	Yes	No	Unknown	Detailed assessment of the impact
livelihoods	Increased patronage of local businesses (e.g. quarries, suppliers, trades, logistics, food and retail outlets)	Positive	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	No	Yes	No	Unknown	Detailed assessment of the impact
livelihoods	Indirect and induced economic benefits from increased employment and spending under the project	Positive	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and	Yes	No	Yes	No	Yes	Detailed assessment of the impact
surroundings	Loss of agricultural land and reduced agricultural production	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact
culture	Concern by RAPs and other parties over potential disturbance of cultural heritage sites and values	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	Yes	Yes	Yes	Unknown	Detailed assessment of the impact
surroundings	Local people concerned over the potential loss of biodiversity and other environmental values	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact
way of life	Nearby sensitive receptors/landholders experiencing site-related noise emissions during project operations, affecting their experience of peace and quiet	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	Yes	No	No	Unknown	Detailed assessment of the impact
health and wellbeing	Local landholders experiencing or perceiving health and wellbeing issues from risk of fire and hazards	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	No	Not required	Yes	Yes	No	No	Unknown	Detailed assessment of the impact

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics					Level of assessment for each social impact
							extent i.e. number of people potentially affected?	**duration** of expected impacts? (i.e. construction vs operational phase)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity** or vulnerability of people potentially affected?	**level of concern/interest** of people potentially affected?	
way of life	Increased traffic volume along nominated haulage routes and local roads can increase commute times, causing disruptions to daily routines as well as increased noise from additional traffic	Negative	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	Yes	No	No	Unknown	Detailed assessment of the impact
livelihoods	Hiring full-time employees from local area and increased patronage of local businesses	Positive	Yes - other project	Construction projects in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and	Yes	Yes	No	No	Unknown	Detailed assessment of the impact
access	Contribution of project to State transition away from carbon-intensive energy generation	Positive	Yes - other project	Renewable energy project in general - mature field of impact assessment and management	Yes	All operational and proposed renewable energy system that are connected to the regional grid	Yes	Yes	Yes	No	Unknown	Detailed assessment of the impact
way of life	Reduction in land available in the project area for agricultural production	Negative	Yes - other project	Renewable energy project in general - mature field of impact assessment and management	Yes	Projects within a 60-minute travel radius of the Cooma SF include Snowy Hydro 2.0 segment factory (in Cooma), Billilingra SF, Monaro SF and Coonerang WF.	Yes	Yes	Yes	No	Unknown	Detailed assessment of the impact

Social Impact A 10/05/2024

CATEGORIES OF SOCIAL IMPACTS				PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What methods and data sources will be used to investigate this impact?			Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
	Secondary data	Primary Data - Consultation	Primary Data - Research		
way of life	Required	Broad consultation	Targeted research	Not yet	Standard mitigation measures to manage noise impacts during project construction for rural settings
health and wellbeing	Required	Broad consultation	Targeted research	Not yet	Standard mitigation measures to manage dust impacts during project construction for rural settings
surroundings	Required	Broad consultation	Targeted research	Not yet	Standard mitigation measures to reduce and manage impacts to visual amenity during project design and construction stages for rural settings
way of life	Required	Broad consultation	Targeted research	Not yet	Standard mitigation measures to manage traffic impacts during project construction for rural settings
way of life	Required	Broad consultation	Targeted research	Not yet	Standard traffic congestion mitigation measures during the construction of development projects in rural settings
way of life	Required	Broad consultation	Targeted research	Not yet	Standard mitigation measures to manage disruptions to access during road upgradation in rural settings
community	Required	Broad consultation	Targeted research	Not yet	Management measures, including culturally sensitise non-local project staff, hire locally to the extent possible, developing a project worker code of conduct
access	Required	Broad consultation	Targeted research	Not yet	Management measures, including hiring locally to the extent possible, developing a project code of conduct, emergency response training, onsite facilities
livelihoods	Required	Broad consultation	Targeted research	Not yet	Prioritise local hiring, where possible
livelihoods	Required	Broad consultation	Targeted research	Not yet	Prioritise local purchasing, where possible
livelihoods	Required	Broad consultation	Targeted research	Not yet	Measures to enhance employment and spending benefits locally and state-wide, including prioritising local/NSW/Aus-based procurement and employment, upskilling and training opportunities, coordination with local Council
surroundings	Required	Broad consultation	Targeted research	Not yet	Standard measures to manage project development footprint to reduce impact on existing land uses and consider AgriSolar (grazing during operations) as an option
culture	Required	Broad consultation	Targeted research	Not yet	Standard measures to reduce and mitigate any impacts on the cultural heritage sites and values during the project design and construction phases in rural settings
surroundings	Required	Broad consultation	Targeted research	Not yet	Standard measures to lessen impacts on biodiversity and other envionmental values during the construction of project
way of life	Required	Broad consultation	Targeted research	Not yet	Standard noise mitigation measures to minimise and mitigate noise impacts
health and wellbeing	Required	Broad consultation	Targeted research	Not yet	Standard hazard mitigation measures during operations of solar and BESS projects

CATEGORIES OF SOCIAL IMPACTS				PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What methods and data sources will be used to investigate this impact?			Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
	Secondary data	Primary Data - Consultation	Primary Data - Research		
way of life	Required	Broad consultation	Targeted research	Not yet	Standard mitigation measures to manage traffic impacts during project construction
livelihoods	Required	Broad consultation	Targeted research	Not yet	Prioritise local hiring and procurement, where possible
access	Required	Broad consultation	Targeted research	Not yet	None required
way of life	Required	Broad consultation	Targeted research	Not yet	Possible dual use of the site to include sheep grazing to be investigated