Wallaby Creek Wind Farm

Scoping Report

7 July 2023

Project No.: 0599824

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Signature Page

7 July 2023

Wallaby Creek Wind Farm

Scoping Report

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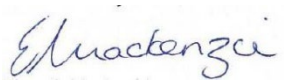

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1. INTRODUCTION

This section provides an overview of the Project and introduces the Applicant.

1.1. Introduction

Acciona Energy Australia Global Pty Ltd (Applicant) proposes to construct and operate the Wallaby Creek Wind Farm (Project), a renewable energy development located 10 kilometres (km) south of Narromine and 15 km north of Tomingley in the Orana region of New South Wales (NSW).

The Scoping Report Project includes the construction, operation, maintenance and decommissioning of a wind farm of up to 44 Wind Turbine Generators (WTGs), Battery Energy Storage System (BESS) and associated infrastructure. The Project description and Project Boundary will be refined during the preparation of the Environmental Impact Statement (EIS).

The Applicant seeks State Significant Development (SSD) consent under Part 4, Division 4.7 of the *Environmental Planning & Assessment Act 1979* (EP&A Act) for the Project. This Scoping Report supports an application to the Secretary of the NSW Department of Planning and Environment (DPE) for Secretary's Environmental Assessment Requirements (SEARs). The SEARs will guide the preparation of the EIS for the Project to support the Development Application (DA).

This Scoping Report also supports an application under Section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

1.2. Applicant

Acciona Energy Australia Global Pty Ltd (Acciona) is an Australian subsidiary of Acciona Energía, a global renewable energy company with 13GW of capacity, headquartered in Spain, and listed on the Madrid Stock Exchange with a market capitalisation of €10.7 billion as of 28 April 2023.

Acciona Energía is a key player in the renewable energy market and the organisation has been carbon neutral since 2016. Acciona Energía aims to lead the transition towards a low-carbon economy and contribute to achieving the 17 Sustainable Development Goals (SDGs) through business solutions. Acciona Energía has been named the "greenest" power generation company worldwide for the seventh consecutive year, according to the "Top 100 Green Utilities" ranking prepared annually by Energy Intelligence, an independent consulting firm specialising in energy markets.

Since becoming established in Australia in 2002, Acciona has invested more than AUD $1.5 billion in renewable energy projects in Australia and has constructed 5 wind farms with a total installed capacity of 600 Megawatts (MW). The company has recently commenced construction of Australia's largest wind farm – the 1GW MacIntyre Wind Energy Precinct, which will double Acciona's investment in renewables in Australia. The company has a significant pipeline of development projects, including over 2GW of wind, solar PV and BESS in NSW.

Acciona employs over 150 permanent staff in Australia, and has offices in Melbourne, Sydney, and Brisbane, Acciona's Australian Business Number (ABN) and address are listed below:

- **ABN:** 54 600 910 647; and
- **Address**: Level 38, Melbourne Central Tower, 360 Elizabeth Street, Melbourne, Victoria 3000.

1.3. Project Overview

The Project Boundary is situated 280 km west of Sydney, and 10 km south of Narromine and includes an area of approximately 9,646.9 hectares (ha).

The Project is located entirely within the Narromine Shire Local Government Area (LGA), west of the Newell Highway on land that is predominately used for pastoral and broadacre cereal cropping activities.

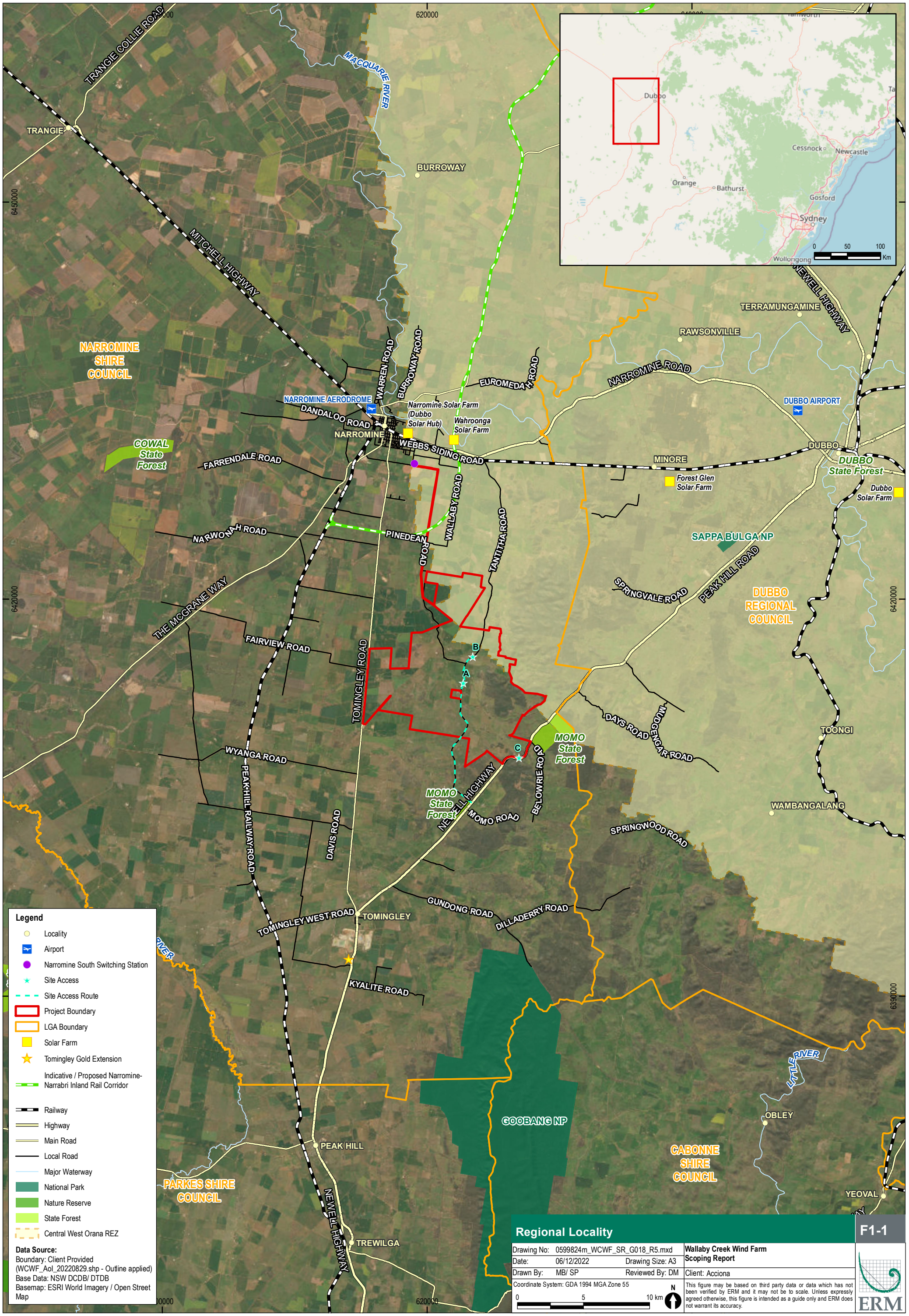
The Project includes the in-perpetuity approval for construction, operation, maintenance and decommissioning of an up to 250 MW wind farm, BESS, associated infrastructure, ancillary activities and site access. It includes (at least) the following elements:

- Wind farm: Up to 44 Wind Turbine Generators (WTG) with each having a hub height of up 180 m and tip height of up to 271.5 m;
- BESS: With an approximate 100 MW / 200 MWh to support stabilising the supply of electricity to the National Electricity Market (NEM) with dimensions of approximately 170 m^2 and ancillary infrastructure;
- Electrical reticulation network:
  - Substation: One on-site substation (with two potential locations being considered (shown as Option A and Option B on **Figure 3-1**) and associated transformers, switchroom, and reactive plant (i.e. SynCon, STATCOM, and filter bank);
  - Transmission line: 132kV overhead transmission line or 132kV underground cable, connecting the Project to the existing Essential Energy Narromine South Switching Station (NSSS);
  - Internal electrical reticulation: Internal underground and overhead electrical reticulation; and
  - Switchyard: New feeder at NSSS and other electricity equipment to connect to the existing 132 kV distribution network. Subject to agreement with Essential Energy, this is proposed to be to one of three empty bays. Alternatively, extension of the NSSS may be required;
- Other infrastructure: Internal access tracks and turning bays connecting Project infrastructure, hardstands, car parking, wind monitoring masts, concrete batching plants, crushing facilities, gravel/ borrow pits, construction laydown areas, construction and operational compounds (including site office and maintenance and storage facilities) and security fencing;
- Ancillary activities: Sourcing of materials for construction; sourcing of water for construction; subdivision and boundary adjustments relating to lease arrangements, visual screening and associated ancillary works; and
- Access road use and upgrades: Site access likely from the Newell Highway, and/or Benson / Tantitha Road accessed via the Newell Highway from the south and/or the Mitchell Highway from the north; wind farm components from either the Port of Newcastle or Port Kembla.

The preliminary Project layout is shown in **Figure 3-1**.

There are no “related developments” to the Project. This includes existing or approved development (including any existing use rights or continuing use rights) that require incorporation into the project; or development that is required for the Project but subject to a separate assessment.

The regional setting of the Project Boundary is shown in **Figure 1-1**.


620000
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TRANGIE COLLIE ROAD
MACQUARIE RIVER
TRANGIE
BURROWAY
MITCHELL HIGHWAY
NEWELL HIGHWAY
TERRAMUNGAMINE
RAWSONVILLE
NARROMINE SHIRE COUNCIL
WARREN ROAD
BURROWAY ROAD
EUROMEDA ROAD
NARROMINE ROAD
NARROMINE AERODROME
DANDALOO ROAD
NARROMINE
Narromine Solar Farm (Dubbo Solar Hub)
Wahroonga Solar Farm
DUBBO AIRPORT
DUBBO
WEBBS SIDING ROAD
COWAL State Forest
FARRENDALE ROAD
MINORE
Forest Glen Solar Farm
DUBBO State Forest
Dubbo Solar Farm
NARWONAH ROAD
PINEDEAN ROAD
WALLABY ROAD
TANTITHA ROAD
SAPPA BULGA NP
SPRINGVALE ROAD
PEAK HILL ROAD
DUBBO REGIONAL COUNCIL
THE MCGRANE WAY
FAIRVIEW ROAD
TOMINGLEY ROAD
B
A
C
DAYS ROAD
MUDGENGAR ROAD
TOONGI
MOMO State Forest
BELOWRIE ROAD
WYANGA ROAD
PEAK HILL RAILWAY ROAD
DAVIS ROAD
MOMO ROAD
WAMBANGALANG
SPRINGWOOD ROAD
TOMINGLEY WEST ROAD
TOMINGLEY
GUNDONG ROAD
DILLADERRY ROAD
KYALITE ROAD
LITTLE RIVER
OBLEY
GOOBANG NP
CABONNE SHIRE COUNCIL
PEAK HILL
PARKES SHIRE COUNCIL
YEOVAL
TREWILGA
Dubbo
Cessnock
Newcastle
Orange
Bathurst
Gosford
Sydney
Wollongong
0 50 100 Km
Legend
Locality
Airport
Narromine South Switching Station
Site Access
Site Access Route
Project Boundary
LGA Boundary
Solar Farm
Tomingley Gold Extension
Indicative / Proposed Narromine-Narrabri Inland Rail Corridor
Railway
Highway
Main Road
Local Road
Major Waterway
National Park
Nature Reserve
State Forest
Central West Orana REZ
Data Source:
Boundary: Client Provided (WCWF_AoI_20220829.shp - Outline applied)
Base Data: NSW DCDB/ DTDB
Basemap: ESRI World Imagery / Open Street Map
Regional Locality
F1-1
Drawing No: 0599824m_WCWF_SR_G018_R5.mxd
Date: 06/12/2022
Drawing Size: A3
Drawn By: MB/ SP
Reviewed By: DM
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Wallaby Creek Wind Farm
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Client: Acciona
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1.4. Objectives

The objectives of the Project are to:

- Provide a source of renewable energy to supplement NSW and National energy requirements and assist in reducing greenhouse gas (GHG) emissions;
- Contribute to the additional generating capacity required to meet the growing energy demand in NSW and the generation shortfalls predicted as coal fired power stations reach the end of operational lives;
- Assist in providing network stability through battery storage;
- Contribute to NSW and Commonwealth targets for renewable energy;
- Provide both direct and indirect employment opportunities during construction and operation;
- Provide additional income streams for associated landholders;
- Provide broader financial benefits to the community;
- Liaise and work with the community and all potentially affected stakeholders in the identification, mitigation and/or monitoring of any potential environmental effects;
- Ensure quality, safety and environmental standards are maintained;
- Recycle and reuse materials where practical and economically feasible; and
- Minimise all potential adverse environmental impacts.

1.5. Purpose

This Scoping Report supports an application for SEARs which will guide the development of the EIS to support a future SSD application under Part 4 of the EP&A Act. The Scoping Report has been prepared in accordance with the following guidelines:

- 'State Significant Development Guidelines – Preparing a Scoping Report: Appendix A to the State Significant Development Guidelines' (DPIE, 2021a) (Scoping Report Guideline);
- 'Social Impact Assessment Guideline for State Significant Projects' (DPIE, 2021b) (SIA Guideline);
- 'Cumulative Impact Assessment Guidelines for State Significant Projects' (DPIE, 2021c) (Cumulative Impact Guideline);
- 'Undertaking Engagement Guidelines for State Significant Projects' (DPIE, 2021d) (Engagement Guideline);
- 'Wind Energy Guideline for State Significant Wind Energy Development' (DPIE, 2016a) (Wind Energy Guideline);
- 'Wind Energy: Visual Assessment Bulletin for State Significant Wind Energy Development' (DPIE, 2016b) (Visual Bulletin); and
- 'Wind Energy: Noise Assessment Bulletin for State Significant Wind Energy Development' (DPIE, 2016c) (Noise Bulletin).

2. STRATEGIC CONTEXT

This section identifies the key strategic issues that are relevant to the assessment of the Project.

2.1. Site Setting and Features

2.1.1. Regional Context

The Project Boundary is located within the rural locality of Narromine, NSW, approximately 424 km north-west of Sydney (by road) and within the Orana region of NSW. It is to the west of the Newell Highway, and to the south of the Mitchell Highway.

The Newell Highway is National Highway stretching over 1,060 km from the Victorian border at Tocumwal to the Queensland border at Goondiwindi. The Mitchell Highway is a National Highway, and its primary route is via Bathurst, Orange, Dubbo, Nyngan and Bourke to South-Western Queensland.

The Project Boundary is situated within the Narromine LGA which covers a total area of 522,400 ha and has a population of 6,500 (Narromine Shire Council, 2020).

The key land uses and economic activities within the region are centred around agriculture, forestry and fishing. Other key industries within the region include health and social assistance sector, retail trade, education and training, and mining (Narromine Shire Council, 2020).

The Project Boundary is located within the Macquarie-Bogan Catchment of the Murray Darling Basin. At the closest points, the Project Boundary is located approximately 10 km south of the Macquarie River, and approximately 30 km east of the Bogan River. The Macquarie-Bogan Catchment covers an area of 74,800 km^2. The Macquarie-Bogan catchment is in the central-west of NSW and supports a range of water users including local councils, water utilities, dryland agriculture, livestock grazing and some irrigated agriculture, such as cotton.

The Momo State Forest is located approximately 1.5 km east of the Project Boundary and is aligned on the east of the Newell Highway, Tomingley and covers an area of about around 490 ha. The Sappa Bulga National Park is located 17 km north-east of the Project Boundary while Goobang National Park is located 14.5 km to the south-east of the Project Boundary.

Key features are shown on **Figure 1-1**.

Nearby Towns and Population Centres

The closest population centre is the town of Narromine, NSW, which is located approximately 12 km to the north of the closest proposed WTG (14). Narromine has a population of 4,776 (NSC, 2020). Other key towns in the region include:

- Tomingley – 15 km south of WTG 13 (population 393);
- Trangie – 45 km north-west of WTG 14 (population 1,275); and
- Dubbo – 30 km north-east WTG 43 (population 34,339).

There are 67 nearby residences located within 5.3 km of a WTG as shown on **Figure 2-1**.

Of these (as at the date of this report), 12 are associated dwellings; and 30 are non-associated dwellings within 3.6 km of a WTG and 25 are non-associated dwellings within 3.6 – 5.3 km of a WTG.

Central-West Orana Renewable Energy Zone

The Project Boundary is partially located within the boundaries of the proposed Central-West Orana Renewable Energy Zone (REZ) as shown on **Figure 2-1** which is approximately 20,000 km^2 centred by Dubbo and Dunedoo.

The Central-West Orana region benefits from lower transmission build costs due to its proximity to the existing high voltage network. The Central-West Orana REZ will deliver over $5 billion of new investment in the region and over 3,900 jobs during construction (Energy Corporation of NSW, 2022).

The Central-West Orana REZ was formally declared in November 2021.

Nearby Renewable Energy Projects

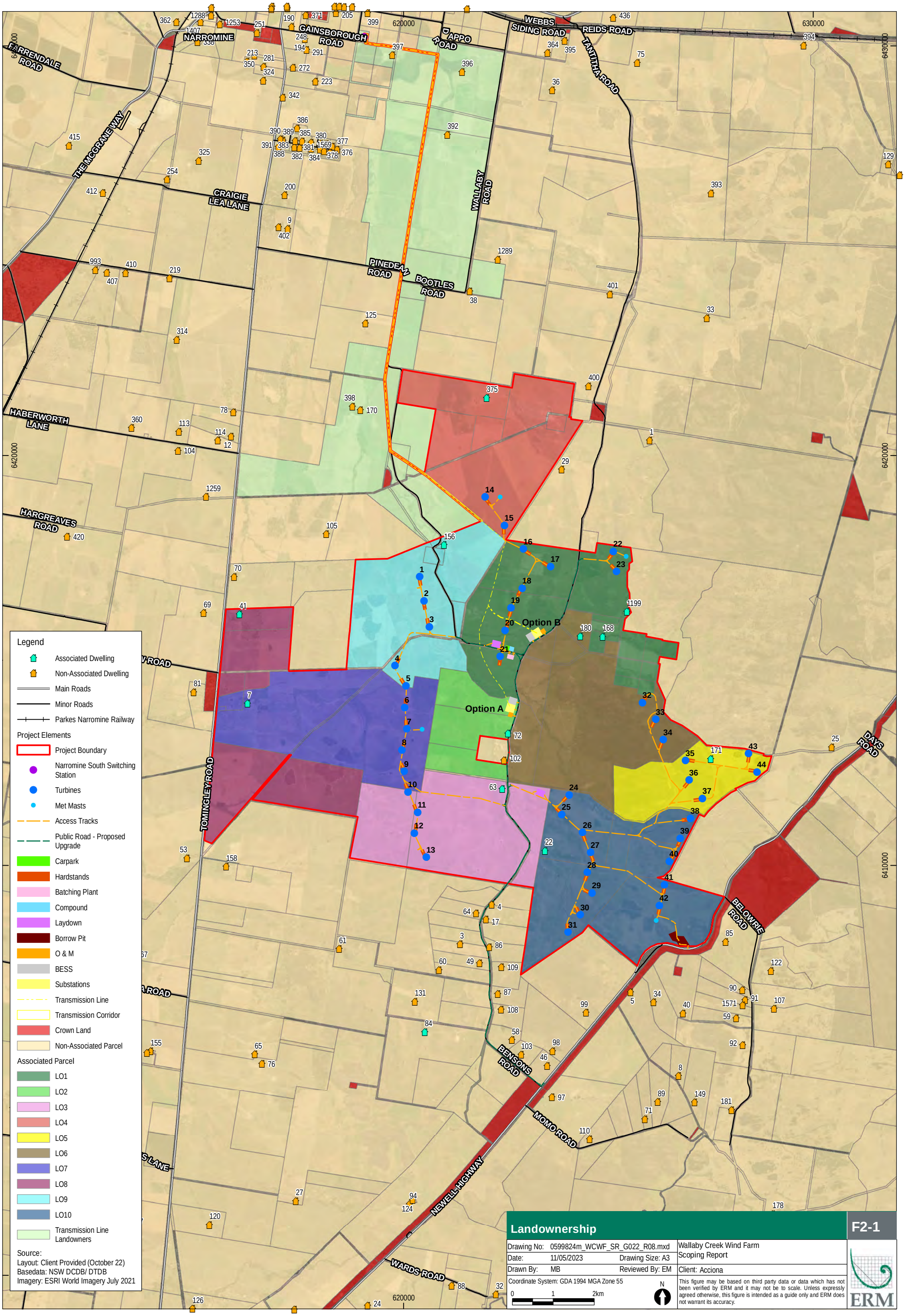
There are a number of proposed, approved or operational renewable energy projects located in proximity to the Project Boundary as listed in **Table 2-1**. These will be included in the cumulative assessment for the Project as further described in **Section 6.16**.

The high concentration of renewable energy projects within the region exists in relation to the proposed Central-West Orana REZ. The location of the Central-West Orana REZ and nearby renewable energy projects is displayed in **Figure 1-1**.

Table 2-1 Nearby Renewable Energy Projects

Project	Developer / Operator	Energy	Indicative Scale	Proximity to the Project*	Status
Narromine Solar Farm (Dubbo Solar Hub)	Neoen Australia Pty Ltd	Solar	28 MW	12.3 km	Operational since June 2018
South Keswick Solar Farm (Dubbo Solar Hub)	Neoen Australia Pty Ltd	Solar		30.1 km	
Wahroonga Solar Farm	IT Power (Australia) Pty Ltd	Solar	5 MW	10.8 km	Approved
Forest Glen Solar Farm	X-Elio	Solar	110 MW	18.1 km	Approved February 2023
Gilgandra Solar Farm	Neoen Australia Pty Ltd	Solar	40 MW	48 km	Approved
Suntop Solar Farm	Suntop Solar Farm Pty Ltd	Solar	170 MW	47.3 km	Approved
Suntop Solar Farm Mod 2 - Battery Storage System	Suntop Solar Farm Pty Ltd	BESS	200 MW / 800 MWh	44.3 km	In Planning (Prepare Mod Report)
Maryvale Solar Farm	Maryvale Solar Farm Pty Ltd	Solar	125 MW	35.1 km	Approved
Burroway Solar Farm	Edify Energy Pty Ltd	Solar	100MW	32 km	In Planning (Prepare EIS)
Narromine Battery Energy Storage System	Edify Energy Pty Ltd	BESS	125 MW / 250 MWh	11.5 km	In Planning (Prepare EIS)

** Estimated distance*


GAINSBOROUGH ROAD
NARROMINE
FARRENDALE ROAD
THE MCGRANE WAY
CRAIGIE LEA LANE
PINEDALE ROAD
BOOTLES ROAD
WALLABY ROAD
DAPPO ROAD
WEBBS SIDING ROAD
REIDS ROAD
TANTITHA ROAD
HABERWORTH LANE
HARGREAVES ROAD
TOMINGLEY ROAD
DAYS ROAD
BELOMRIE ROAD
BENSONS ROAD
MOMO ROAD
NEWELL HIGHWAY
WARDS ROAD
Option A
Option B
620000
630000
6420000
6430000
6410000
Legend
Associated Dwelling
Non-Associated Dwelling
Main Roads
Minor Roads
Parkes Narromine Railway
Project Elements
Project Boundary
Narromine South Switching Station
Turbines
Met Masts
Access Tracks
Public Road - Proposed Upgrade
Carpark
Hardstands
Batching Plant
Compound
Laydown
Borrow Pit
O & M
BESS
Substations
Transmission Line
Transmission Corridor
Crown Land
Non-Associated Parcel
Associated Parcel
LO1
LO2
LO3
LO4
LO5
LO6
LO7
LO8
LO9
LO10
Transmission Line Landowners
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB
Imagery: ESRI World Imagery July 2021
Landownership
F2-1
Drawing No: 0599824m_WCWF_SR_G022_R08.mxd
Date: 11/05/2023
Drawing Size: A3
Drawn By: MB
Reviewed By: EM
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2.1.2. The Site

The Project Boundary covers 57 land parcels across approximately 9,646.9 ha. Cadastre within and adjacent to the Project Boundary is detailed in **Figure 2-1**. **Table 2-2** details the cadastre of the Project Boundary and the transmission corridor.

There are 10 host landowner properties involved in the Project. All host landowners are aware of the progress of the Project and that a Scoping Report is being prepared for lodgement. The host landowners support the progression of the Project to the next stage of detailed assessment and design.

The Project Boundary is adjacent to the Newell Highway to the east and south, and rural properties from all directions. The Mitchell Highway is also located approximately 12 km north of the Project Boundary. The Project Boundary is currently used for grazing and cropping.

The Project Boundary has generally been utilised for small to mid-scale pastoral and cropping operations, with a predominant focus on sheep for merino wool and broad acre cereal cropping. As a result, densely vegetated areas are primarily located close to, or on the ridges and inclines in the Project Boundary. Large portions of land within the Project Boundary have been disturbed and are characterised by grazed native and modified grasslands resulting from vegetation clearing and livestock grazing.

The elevation across the Project Boundary is relatively consistent, rising from 260 m (north) to 480 m (south) above sea level (ASL).

Sunrise Energy Exploration Pty Ltd (Sunrise) holds Exploration Licence (EL) 9031 and EL 8961 which partially coincide with the Project Boundary. Engagement by the Applicant has commenced with Sunrise and will continue during the preparation of the EIS.

Table 2-2 Project Boundary and Transmission Corridor Lot and DP

Lot	DP
Project Boundary	
37	42130
141,142	228442
191, 192	620523
1	651322
12	657915
41, 42	726538
2, 3, 4, 5, 6, 8, 11, 13, 16, 17, 19, 20, 36	755115
7, 41	755119
2, 3, 4, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 27, 29, 30, 33, 34, 37, 38	755121
1	722763
1, 2	832143
1	1139441
1	1177976
1, 2, 3	1236713
4	1236714

Lot	DP
1,2,3	1238291
Transmission Corridor	
2	48723
4, 5	114145
1, 2, 3	132521
1	249347
27, 62, 65	755119
6, 7, 10, 28	755121
8, 156, 157, 167, 234, 235	755131
1921	777518
1	822490
541	1151292
1	1181773
Other	
Council or Department of Industry (Crown Lands) – various council or crown public and unformed roads located within between or adjacent to the above Parcels of Land	
Crown Water Course – Creeks or streams within between or adjacent to the above Parcels of Land	
Freehold – any unidentified historical title residences located within between or adjacent to the above Parcels of Land	
Council or TfNSW - Various sections of public roads external to and within to the Project Boundary where Project-related upgrades are required	

2.2. Strategic Framework

The Project will align with various strategies, policies, and plans across National, NSW, regional, and local contexts. The strategic framework for the Project is outlined in **Table 2-3**.

Table 2-3 Alignment with Strategic Framework

Strategy, Policy or Plan	Description	Project Alignment
National Context		
Large-scale Renewable Energy Target (LRET)	The LRET incentivises the development of renewable energy power stations in Australia, through a market involving the creation and sale of certificates known as Large-scale Generation Certificates (LGCs) (CER, 2018). Power stations accredited under the LRET can create LGCs for the electricity generated from renewable energy sources, which can then be sold to liable entities that must meet compliance obligations under the LRET. Amendments to the LRET scheme in 2015 set the 2020 target for energy from large-sale renewable projects at 33,000 Gigawatt hours (GWh) which was met on a rolling 12-month basis at the end of January 2021. The Australia Government's policy is to not increase the target beyond the 2020 requirement, and to not extend or replace the target after it expires in 2030 (Australian Energy Regulator, 2020). Investment in renewable energy systems remains strong and the 2020 target has not acted as a cap on new investment as the competitiveness of renewable energy no longer relies on the generation of LGCs (CER, 2020).	Once operational, the Project will contribute significantly in meeting the LRET target for 33,000 GWh of additional renewable energy to be generated annually, through the production of up to 250 MW of clean, wind energy. This will contribute to the ongoing decarbonisation of the electricity sector in Australia.
United Nations Framework Convention on Climate Change Conference of Parties (COP26) – Glasgow 2021	COP26 was the 26th climate change COP held in Glasgow in late 2021. A key outcome of COP26 was agreement to '*revisit and strengthen …2030 targets (Paris Agreement targets) in nationally determined contributions…by the end of 2022*' (UNFCCC, 2021). The Federal Government committed to achieving net zero GHG emissions by 2050 ahead of the G20 Summit in Rome and the Glasgow United Nations climate discussions (COP26).	The Project will contribute to meeting Australia's commitments through the generation of renewable wind energy and resultant annual reduction in GHG emissions.
United Nations Framework Convention on Climate Change Conference of Parties (COP21) – The Paris Agreement	The United Nations Paris Agreement on climate change (Paris Agreement) outlines a framework for all countries to take climate action from 2020 and builds upon the existing international efforts in the period up to 2020. The aim of the Paris Agreement is to limit emissions globally to net-zero in the second half of this century. Australia is one of 193 countries that signed the Paris Agreement. On 16 June 2022 the Australian Government lodged an updated Nationally Determined Contribution (NDC) committing to a GHG emissions reduction of 43% below 2005 levels by 2030, which is a 15- percentage point increase on Australia's previous 2030 target (Australian Government, 2022).	The Project will contribute to meeting Australia's commitments under the Paris Agreement through the generation of renewable wind energy and resultant annual reduction in GHG by approximately 673,000 tonnes per annum.

Strategy, Policy or Plan	Description	Project Alignment
Integrated System Plan 2022	The Integrated System Plan (ISP) provides an integrated roadmap for the development of the NEM over the next 20 years, and the most recent ISP 2022 was released in June (AEMO, 2022). The key objectives of the ISP are to design low cost and reliable energy systems through both new and existing technologies, and to identify ISP projects to achieve power needs. The ISP also serves the broader purpose of informing policymakers, investors, and consumers. It draws on stakeholder engagement and industry expertise in order to maximise the value and benefits to electricity consumers. The ISP 2022 identifies the locations of REZs in Australia that can connect to existing transmission networks. The ISP 2022 has attributed the optimal development pathway for the NEM as a nine-fold increase in utility-scale variable renewable energy (VRE). ISP 2022 continues that much of this resource will be built in REZs, which have 'the potential to foster a more holistic approach to regional employment, economic opportunity and community participation' (AEMO, 2022).	The Project is partially located within the Central-West Orana REZ. The Project will help to meet increasing demand for energy in the NEM as forecast by AEMO and will help to offset the planned retirement of fossil fuel generation plant over the next two decades. The Project will further add investment to the Central-West Orana REZ.
NSW Context		
Net Zero Plan Stage 1: 2020:2030	The Net Zero Plan Stage 1: 2020–2030 (DPIE, 2020a) sets the foundation for NSW's action on climate change and how the NSW Government will deliver on its objective to achieve net zero emissions by 2050. The Plan is the NSW Government's overarching strategy to reduce emissions and mitigate the impacts of climate change. In September 2021, the NSW Government announced ambitious new emission reductions, with an updated objective to reduce emissions by 50% below 2005 levels by 2030 under the Net Zero Plan Stage 1: 2020 – 2030 Implementation Update (September 2021).	This Project will contribute in addressing the Net Zero Plan, including the NSW Government's updated 2030 50% target. This will be achieved through a reduction in GHG by proximately 673,000 tonnes per annum.
NSW Electricity Strategy	The NSW Electricity Strategy is the NSW Government's plan to provide more reliable, affordable, and sustainable electricity across in NSW (DPIE, 2019). The Strategy encourages approximately $8 billion of new private investment in NSW's electricity system over the next decade, including $5.6 billion in regional NSW. It aligns closely with the NSW Government's Net Zero Plan Stage 1: 2020–2030, and supports a new affordable and reliable energy system by: Delivering the coordinated REZ in the Central-West Orana region; Saving energy via the Energy Security Safeguard; Supporting the development of new electricity generators; Setting a target to increase the state's energy resilience; and Making it easier to do energy business in NSW.	The Project is consistent with the Strategy as it provides renewable energy generation and storage capacity that, together with other renewable generation projects, is expected to result in lower cost of power in comparison to wholesale prices. The Project will also contribute to greater energy resilience through the use of BESS stabilisation technology and the future supply of electricity to the NEM with the impending closure of coal fired power stations over the next 20 years.

Strategy, Policy or Plan	Description	Project Alignment
NSW Transmission Infrastructure Strategy	The NSW Transmission Infrastructure Strategy is the NSW Government's plan to unlock private sector investment in priority energy infrastructure projects, which can deliver least-cost energy to customers to 2040 and beyond (DPE, 2018). The Strategy forms part of the government's broader plan to make energy more affordable, secure investment in new power stations and network infrastructure and ensure new technologies deliver benefits for consumers. The aims of the Strategy include increasing NSW's connections with Victoria, South Australia and Queensland, and increasing NSW's energy capacity through the prioritisation of Energy Zones in the Central-West, South-West and New England regions of NSW.	The Project will contribute to the development of the Central-West Orana REZ, which will result in an overall increase to NSW's energy capacity and will add to the regional growth and investment in regional NSW.
NSW Electricity Infrastructure Roadmap	The NSW Electricity Infrastructure Roadmap (the Roadmap), released in November 2020, is the NSW Government's plan to transform the NSW electricity sector to be cleaner, cheaper and more reliable (DPIE, 2020b). The Roadmap builds on the NSW Electricity Strategy (2018) and the NSW Transmission Infrastructure Strategy (2019), and emphasises the need for NSW to transition to renewable energy. It aims to replace NSW's ageing coal-fired power stations with a coordinated portfolio of energy generation, storage and network investment. As part of this Roadmap, the NSW Government commits to REZ, which will expand transmission and generation capabilities in strategic areas across NSW, including the South-West region of NSW. The Roadmap reinforces the key role of these REZs in delivering renewable energy, transitioning from coal fired power generation, and providing regional growth and investment in regional NSW.	The Project will assist in meeting the NSW Government's emissions reduction targets, NSW's energy generation and storage requirements, and NSW's transition from coal fired power generation to renewable energy.
Wind Energy Framework	The NSW Government's Wind Energy Framework aims to provide clarity, consistency and transparency for both industry and the community in relation to the assessment and decision-making on wind energy projects. The Wind Energy Framework includes the documents as listed in **Section 1.5**.	This Scoping Report and the EIS for the Project are / will be prepared in accordance with the relevant guidelines and documents under the Wind Energy Framework. In addition, the Landscape and Visual Impact Assessment (LVIA) and Noise Assessments that will be undertaken for the Project will be prepared by following relevant guidelines including the Visual and Noise bulletins under the Wind Energy Framework.

Strategy, Policy or Plan	Description	Project Alignment
Regional Context		
Central West and Orana Regional Plan 2036	The regional directions and policies contained in the *Central West and Orana Regional Plan 2036* (CWORP) (DPE, 2017) align with and advance the achievement of the state's interest in relation to: ■ supporting the Hunter region as the leading regional economy in Australia; ■ diversifying and growing the energy sector; and ■ enable opportunities for renewable energy industries. As described throughout the CWORP, the Central West and Orana region is distinguished as a leader in renewable energy development, with many landmarks solar, wind and bioenergy projects approved and operational throughout the region.	Development for the purposes of renewable energy generation align with the objectives and actions outlined in the CWORP. Specifically, Direction 9 - Increase Renewable Energy Generation and Action 9.2: *Facilitate small-scale renewable energy projects using bioenergy, solar, wind, small-scale hydro, geothermal or other innovative storage technologies through local environment plans.* The development of a wind farm is considered to align with the objectives of the CWORP.
Local Context		
Narromine Shire Local Strategic Planning Statement 2020	The 'Narromine Shire Local Strategic Planning Statement' (NSPS) (NSC, 2020) sets the framework for Narromine Shire's economic, social and environmental land use needs over the next 20 years. The NSPS was adopted by the Narromine Shire Council in June 2020 and aims to guide planning decisions on future land uses.	The Project is consistent with '*Planning Priority 11 – Values the efficient use of utilities, natural resources and energy*' of the NSPS, which states that Council will '*increase renewable energy generation*' in order to achieve this priority. The NSPS also ensures to '*facilitate small-scale renewable energy projects using bioenergy, solar, wind, small-scale hydro, geothermal or other innovative storage technologies through LEPs*'.

2.3. Project Justification

2.3.1. Wind Farm Benefits

Australia and the world are in the process of transitioning from traditional fossil fuel generation. Wind energy is a clean and inexhaustible resource that generates zero pollution or carbon emissions during operation (U.S. Energy Information Administration, 2021). Wind energy is now cheaper than new generation from coal and natural gas, and together with solar and other renewable energy projects, wind energy is helping to drive down the cost of wholesale electricity (CSIRO, 2021).

Compared to traditional energy sources such as coal and gas, wind farms:

- Require no invasive mining, extraction or burning of fossil fuels;
- Emit no greenhouse gas during operations;
- Emit no fine particle pollution, sulphur dioxide, or oxides of nitrogen;
- Require no water during operation; and
- Have limited environmental impacts from construction.

Through the generation of renewable energy, wind farms provide significant contribution to Australia's transition to greener energy. The Australian Wind Alliance (AWA) prepared the report, *Building Stronger Communities: Wind's growing role in regional Australia* (November 2019) (AWA, 2019), which outlines ways in which wind farms deliver significant financial and social benefits to their host communities. The report also investigates how income and investment from wind farms flow to local communities in the windiest parts of Australia, from payments to landowners and community sponsorships through to community co-ownership and co-investment.

Some key notes from the AWA report have been summarised below:

- The construction of existing wind farms has delivered an economic boost of $5.1 billion to regional Australia, and the construction of new wind farms is expected to provide a further economic boost of $4.8 billion;
- Up to $18.3 billion could be delivered to host communities across the 25-year life span of wind farm projects, including currently operational wind farms and those currently under construction;
- Regional communities benefit each year from wind farm projects through $24.9 million in payments to associated landowners and $29.4 million through wind farm Community Enhancement Funds (CEFs); and
- From 2021 onwards, CEFs will fund up to $5 million annually for community projects.

Besides direct payments to associated landowners, the report also notes that wind farms deliver significant local investment and financial contributions to local Councils, which directly support local community projects and services.

2.3.2. Contribution to the National Electricity Market

The Australian Energy Market Operator's (AEMO) 2021 Electricity Statement of Opportunities provides updated forecasts for demand and supply of electicity (AEMO, 2021). The 2021 report noted:

- Electricity consumption is forecast to decline in the next five years, as distributed solar uptake continues;
- Later in the decade, growth in electricity demand is forecast to return, driven by the commercial sector and an acceleration in the rate of electrification, particularly electric vehicles (EVs);
- In the longer term, the potential for accelerated deployment of Distributed Energy Resources (DER), hydrogen, and electrification (high scenarios), combined with industrial load closures and sluggish economic growth drive lower electricity demand scenarios;
- Maximum electricity demand continues to soften over the next five years, then increases from 2025-26 through growth in residential and commercial sector demand; and
- With the sustained uptake of distributed solar, minimum demand forecasts also show a rapid decline.

The Project will help to meet the forecast increasing demand for energy in the NEM as forecast demand increased from 2025-2026 onwards through production of renewable energy.

The energy sector in Australia is undergoing a necessary and inevitable transition from a centralised system of large fossil fuel generation towards a decentralised system of widely dispersed, renewable energy (mainly wind and solar) (Australian Energy Regulator, 2020). The Australia Energy Regulator (2020) identifies key drivers for the transition as:

- Increasing community concern on the impact of fossil fuel generation of carbon emissions. There has been no energy business investing in new coal fired generation in Australia since 2012, whilst investment in wind, solar and batteries continues to grow;
- Technological advancements and cost reductions in grid scale wind and solar generation facilitating lower cost options for new build generation, including advancements in turbine technology; and
- Deteriorating economics of fossil fuel generation associated with aging of the coal fired generation fleet and increase fuel costs.

Traditionally, coal-fired generation and some gas peaking power plants have met NSW's electricity needs. In 2020, coal-fired generation supplied 74% of the total electricity generated in Australia, with renewables supplying 24% of generation (Department of Industry, Science, Energy and Resources, 2021). However, it is expected that over 16 GW of thermal generation (61% of the current coal fleet in the NEM) is expected to retire in the next two decades and between 26 GW to 50 GW of new large-scale wind and solar capacity is forecast to come online (Australian Energy Regulator, 2021).

This Project represents an investment in new, large-scale renewable energy, providing approximately 250 MW of electricity generating capacity and approximately 100 MW / 200 MWh of BESS capacity, thereby providing an essential input into the additional renewable energy sources needed in the transition from coal fired generation to renewable generation.

2.3.3. Site Suitability

The Project Boundary is considered suitable for a wind farm development as:

- It is located partially within the boundaries of the proposed Central-West Orana REZ, and the Project will contribute to the future development of the REZ;
- The wind resource at the site is estimated to be sufficient to support the operation of a wind farm;
- There are a number of other existing and proposed renewable energy projects located within the region and in close proximity to the Project Boundary;
- Is easily accessible via the public road network which includes Newell Highway, Tomingley Road, Mitchell Highway and Benson / Tantitha Road;
- Is consistent with the RU1 zoning and will meet the objective of the RU1 zone by allowing for the development of a complementary non-agricultural land use that is compatible with the character of the zone (refer **Section 4.2**);
- Is compatible with the existing land uses of the Site and its surrounding areas, as wind farms have a relatively small footprint, which would allow for existing grazing activities to continue; and
- Associated host landowners have expressed strong interest in being involved in a renewable energy project.

2.3.4. Alternatives Considered

Alternatives to the Project have been explored, including alternative sourcing of energy, alternate site location, alternate site layouts, the 'do nothing' approach, and the Preferred Project option for the Project. Each is discussed below.

2.3.4.1 Alternative Sourcing of Energy

The alternative to using wind energy is the continued use of fossil fuels, including coal and natural gas. The reliance on these energy sources results in the release of Green House Gas (GHG) emissions such as CO^2 and contributes to the harmful effects of climate change.

The LRET discussed in **Section 2.2** outline the commitment by Australia and NSW in reducing GHG emissions and have set targets for increasing the generation of renewable energy.

Other forms of large-scale renewable energy accounted for in the LRET include hydro, biomass, solar and tidal energy. With the exception of solar energy, these alternative sources are not feasible for the proposed site. Additionally, they are in the early stages of development and are generally neither 'market ready' nor as viable as wind energy in Australia.

Due the wind resource and sparsely populated locality, it is considered that large-scale wind technology is the optimum form of energy generation.

The NSW Government has also proposed that the area between Dubbo and Dunedoo is a REZ – the "Central-West Orana Renewable Energy Zone". The Project is partially located in the area that was formally declared in 2021 (refer **Section 2.1**).

Considering the Project location and the benefits of the NSW REZs alternative forms of energy generation would not be aligned with stated rationale behind REZ policy, conversely the proposed Project is.

The Project is at scale potentially adding significant amounts of renewable energy supply over a 30-year period. Large-scale wind technology is now one of the cheapest forms of new energy generation, reducing cost pressures on consumers and is completely renewable, reducing emissions.

The Applicant is a long-term owner and operator of renewable assets globally and very rarely sells these assets. This long-term approach means that community partnership is vital in Acciona's approach to the development, construction and operation of its assets.

2.3.4.2 Alternative Site Location

A project of this magnitude requires significant land area, proximity to existing or proposed transmission or distribution networks and available network capacity. Many alternative sites may be limited in providing these critical elements.

During the site selection process for the Project, the Applicant investigated five Areas of Investigation (AOIs) in the Central-West region. These AOIs were ranked according to wind resource, proximity to grid, grid capacity, available land, landowner sentiment, topography and constructability. The Project location was ultimately selected as the preferred option, as it ranked highest in each of these criteria.

2.3.4.3 Larger Site Layout

During the site selection process, a Project of up to 600 MW, consisting of 105 WTGs was considered at this site.

As a result of, visual, noise and ecological impacts that were identified during the initial assessment process, the Project capacity was reduced to the current Project layout of 44 WTGs, with a generating capacity of up to 250 MW. The current Project layout was designed in consideration of the principles of Ecologically Sustainable Development (ESD). See further discussion at **Section 3.2.9**.

2.3.4.4 Do Nothing

The Project Boundary is currently used for seasonal farming and grazing. Although the 'do nothing' scenario would allow for continued use of the Project Boundary for agricultural production, it will also lead to a missed opportunity to generate additional renewable energy and to reduce Australia's dependency on fossil fuels for energy generations and the consequential emissions of GHGs.

The Project is expected to result in annual savings of approximately 673,000 tonnes of GHG, and the electricity generated could supply up to 150,000 NSW households with energy.

In addition, the local area and wider region would not realise the benefits of the Project including:

- The economic benefits to the local and regional community provided directly and indirectly by the employment associated with the Project;
- A capital investment of approximately up to $400 million creating direct and indirect employment during construction and operations; and
- Contributions to local community facilities and infrastructure through the Community Benefit Program.

3. THE PROJECT

This section provides a description of the Project and its preliminary design, layout and features. The Project Boundary and surrounding area are also described, expanding on information from ***Section 2.1****.*

3.1. Overview

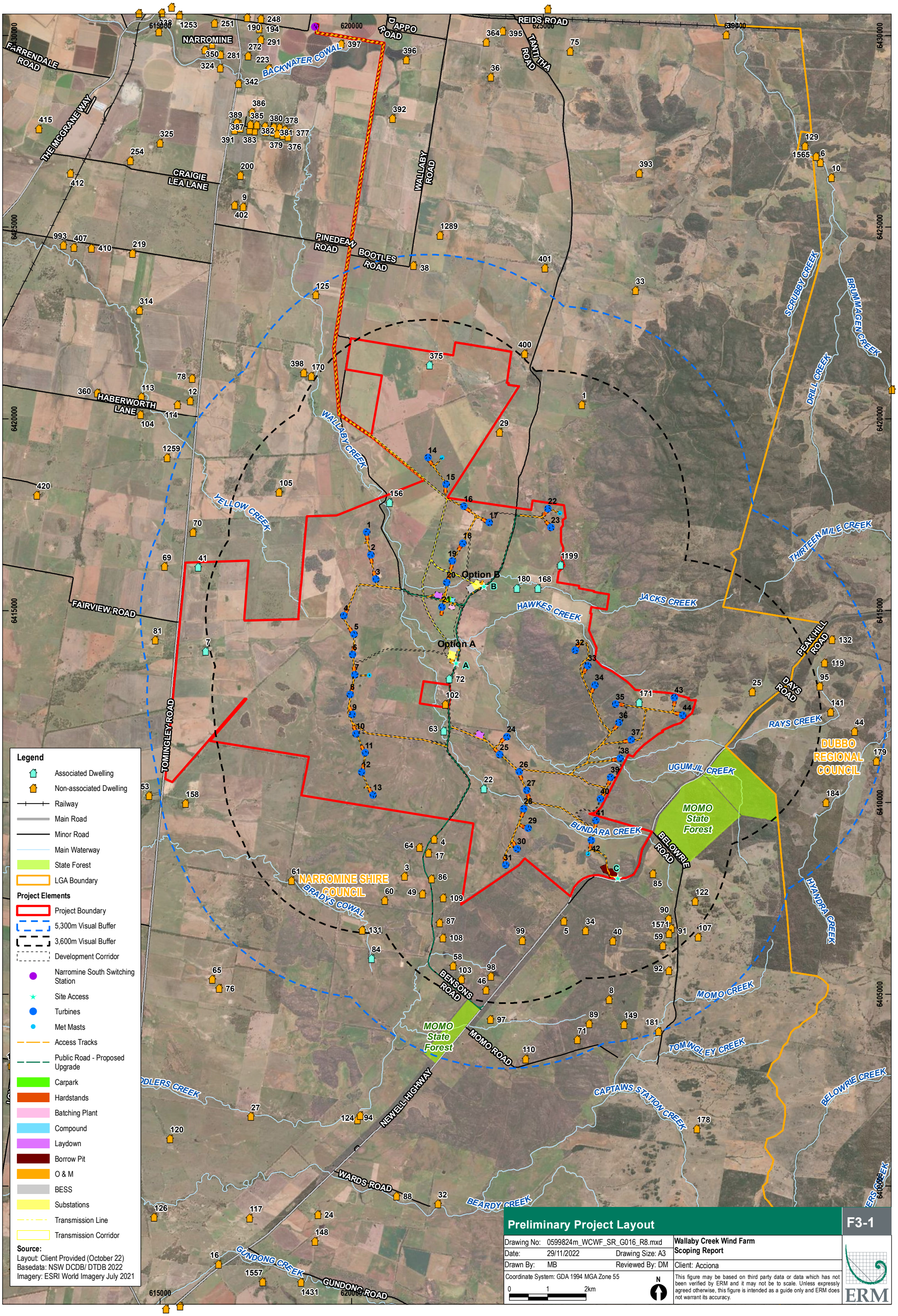
The Project includes the in-perpetuity approval for construction, operation, maintenance and decommissioning of an up to 250 MW wind farm, BESS, associated infrastructure, ancillary activities and site access. It includes (at least) the following elements:

- Wind farm: Up to 44 WTGs with each having a hub height of up to 180 m and tip height of up to 271.5 m;
- BESS: With an approximate 100 MW / 200 MWh capacity to support stabilising the supply of electricity to the NEM with dimensions of approximately 170 m^2 and associated ancillary infrastructure;
- Electrical reticulation network:
  - Substation: One on-site substation (with two potential location options being considered (shown as Option A and Option B on **Figure 3-1**) and associated transformers, switchroom, and reactive plant (i.e. SynCon, STATCOM, and filter bank);
  - Transmission line: 132kV overhead transmission line or 132kV underground cable, connecting the Project to the existing NSSS;
  - Internal electrical reticulation: Internal underground and overhead electrical reticulation;
  - Switchyard: New feeder at NSSS and other electricity equipment to connect to the existing 132 kV distribution network. Subject to agreement with Essential Energy, this is proposed to be to one of three empty bays. Alternatively, extension of the NSSS may be required;
- Other infrastructure: Internal access tracks and turning bays connecting Project infrastructure, hardstands, car parking, wind monitoring masts, concrete batching plants, crushing facilities, gravel/borrow pits, construction laydown areas, construction and operational compounds (including site office and maintenance and storage facilities) and security fencing;
- Ancillary activities: Sourcing of materials for construction; sourcing of water for construction; subdivision and boundary adjustments relating to lease arrangements, visual screening and associated ancillary works; and
- Access road use and upgrades: Site access likely from the Newell Highway, and/or Benson / Tantitha Road accessed via the Newell Highway from the south and/or the Mitchell Highway from the north; wind farm components from either the Port of Newcastle or Port Kembla.

The preliminary Project layout is shown in **Figure 3-1**. Aspects not shown in **Figure 3-1** but which are described below will be located within the Disturbance Footprint to be determined for inclusion in the EIS.

The final design and location of Project components (including infrastructure) will be subject to further detailed design and assessment, including consideration of the outcomes of technical and environmental assessments as part of the EIS. Disturbance areas for ‘cut and fill’ batters as well as Asset Protection Zones will also be defined during this process.

Each Project element is discussed further below.



Legend

- Associated Dwelling
- Non-associated Dwelling
- Railway
- Main Road
- Minor Road
- Main Waterway
- State Forest
- LGA Boundary

Project Elements

- Project Boundary
- 5,300m Visual Buffer
- 3,600m Visual Buffer
- Development Corridor
- Narromine South Switching Station
- Site Access
- Turbines
- Met Masts
- Access Tracks
- Public Road - Proposed Upgrade
- Carpark
- Hardstands
- Batching Plant
- Compound
- Laydown
- Borrow Pit
- O & M
- BESS
- Substations
- Transmission Line
- Transmission Corridor

Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021

Preliminary Project Layout

F3-1

Drawing No:	0599824m_WCWF_SR_G016_R8.mxd		
Date:	29/11/2022	Drawing Size: A3	
Drawn By:	MB	Reviewed By: DM	

Coordinate System: GDA 1994 MGA Zone 55

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Wallaby Creek Wind Farm
Scoping Report

Client: Acciona

ERM

3.2. Description

3.2.1. Design Components and Specification

The preliminary Project design components and specifications are summarised in **Table 3-1**.

Table 3-1 Preliminary Project Design Summary

Component	Feature	Specification
Energy generation	Wind turbine generators	■ ⩽44 WTGs (refer **Table 3-2**)
Energy Storage System	BESS	■ 100 MW / 200 MWh capacity (approximate size)
Electrical Reticulation Network	On-site substation	■ One on-site substation ■ At least two 132/33kV 165MVA transformers, one switchroom and reactive plant (SynCon, STATCOM, and filter bank)
	Internal electrical reticulation network	■ Up to 69 km of internal underground or overhead reticulation
	External transmission lines	■ Approximately 22 km of 132kV overhead transmission line or 132kV underground cable connecting the Project to the existing NSSS
	Switchyard	■ A new feeder at NSSS (assumed connection to one of three empty bays on the north side of the facility, or extension of facility to east) ■ Other electrical equipment providing connection to the existing 132 kV distribution network
Other Infrastructure	O&M facility, construction and operational site infrastructure	■ Construction and operational compound, permanent Operation and Maintenance (O&M) facility (including site office and maintenance and storage facilities), car parking and security fencing) ■ Internal access tracks and turning bays connecting Project infrastructure ■ Temporary and permanent wind monitoring masts ■ Crane pads ■ Concrete batching plants ■ Crushing facilities ■ Gravel/borrow pits ■ Construction laydown areas
Ancillary Activities	Temporary and Permanent Ancillary Activities	■ Sourcing of materials for construction ■ Sourcing of water for construction ■ Subdivision and boundary adjustments relating to lease arrangements ■ Visual screening ■ Associated ancillary works
Site Access	To site, WTGs and transmission lines	■ Access to site likely from the Newell Highway, and/or Benson / Tantitha Road accessed via the Newell Highway from the south and/or the Mitchell Highway from the north.
	To site from Port	■ Project-related materials will be transported via one of five potential transport routes from either the Port of Newcastle or Port Kembla, subject to detailed assessment of these route options (which may include public road upgrades, temporary and permanent roads).

3.2.2. Wind Turbine Generators

The Project will consist of up to 44 WTGs with the indicative specifications provided in **Table 3-2**.

The WTGs will be fixed to a concrete footing (WTG foundations and crane pad) and mounted on tubular steel towers, with adjacent hardstand areas for installation and maintenance.

Each WTG has a design life of approximately 30 years.

For the purpose of the assessment, Nordex WTGs have been assumed (either N163-5.X or N163-6.X MW model) with the following indicative specifications.

Table 3-2 Indicative WTG Specification

Feature	Specification
Make / Model / Power	Nordex / N163-5.X / 6.X MW
Blade Length (incl. nacelle)	Up to 91.5 m
Hub height	Up to 180 m
Tip height	Up to 271.5 m
Rotor Swept Area	Up to 26,302 m^2
Minimum clearance (space between ground and lowest point of blade)	56.5 m
Cut-In Wind Speed	3 metres per second (m/s)
Cut-Out Wind Speed	26 m/s
Potential Maximum Sound Power Level	109.2 dBA
Potential Maximum Sound Power Level (with Serrated Trailing Edge)	107.2 dBA

3.2.3. Battery Energy Storage System

Large-scale battery storage is also proposed to support stabilising the supply of electricity to the National Electricity Market (NEM).

The Project will involve the construction of a BESS which may be located adjacent to the on-site substation.

The BESS facility will have a capacity of approximately 100 MW / 200 MWh and would likely utilise lithium-ion technology.

3.2.4. Substations, Switching Station, Electrical Reticulation and Grid Connection

Electrical infrastructure includes a substation (inclusive of associated transformers), reactive plant (i.e. SynCon, STATCOM, and filter bank), switchgear, protection, communications equipment and a control room. A network of underground and overhead electrical reticulation will connect the WTGs to the substation, situated adjacent to the BESS facility.

There will be one on-site substation with two potential location options under consideration.

The Project also includes one new feeder at Essential Energy's Narromine South Switching Station (located to the north of the Project Boundary). Approximately 22 km of transmission line or underground cable will connect the Project to the existing distribution network.

Location and specifications of the transmission route and new feeder are subject to final agreement with Essential Energy and landowners, and as such are shown as a “corridor” for the purposes of this Scoping Report. It has been assessed in this Scoping Report and will continue to be assessed for relevant impact assessments in the EIS. The final alignment will be confirmed in the EIS.

3.2.5. Other Infrastructure and Associated Works

The Project will also include various supporting infrastructure and associated works. These include internal access tracks connecting the various Project elements and facilitating construction and operational activities, crane pads, car parking, temporary and permanent wind monitoring masts, one concrete batching plant, crushing facilities, borrow pits (and associated access track), gravel pits, construction laydown areas, construction and operational compounds including site office and maintenance and storage facilities and security fencing.

3.2.6. Site Access

Primary access to the Project during construction and operations will be via the existing public road network. Primary access to the Project Boundary will be via the Benson / Tantitha Road (to either Option A or B sites) which runs through the centre of the site, and/or Newell Highway to the borrow pit and associated activities, which borders the eastern boundary as generally shown on **Figure 1-1**. Tantitha Road will be accessed from either the Newell Highway from the south and/or the Mitchell Highway from the north.

Temporary access to the public road network will also be required during construction and / or maintenance for: Benson / Tantitha Road intersection with access tracks to: WTG 10, WTG 24, Option A substation / BESS, Option B substation / BESS / O&M, and WTG 21 and WTG 3.

Upgrades to sections of these roads will likely be required, the extent of which will be determined in the EIS. Although Tomingley Road also borders the western boundary of the site, access from this road is not anticipated at this stage.

3.2.7. Port to Site Transport Route

The transport route of WTG components and other Project related materials are subject to a Port and Transport Route Assessment, which will be prepared as part of the EIS, the outcomes of which will be incorporated into the Traffic and Transport Impact Assessment. This will identify a proposed transport route from the port to the Project Boundary, as well as any required road upgrades.

Whilst the large component transport route has not yet been determined, five potential transport routes will be subject to further consideration in the EIS. These include:

- From Port Kembla via Princess Motorway / M1 and Picton Road, followed by:
  - Hume Motorway / M31, Westlink M7, Western Motorway M4, Great Western Highway, Banjo Paterson Way, Obley Road, Gundong Road, to Newell Highway and Tantitha Road;
  - Picton Road, Hume Motorway / M31, Lachlan Valley Way, Casuarina Drive, The Escort Way, Parkes Eugowra Road, Clarinda Street, to Newell Highway and Tantitha Road.
- From Port of Newcastle via Newcastle Link Road, Hunter Expressway / M15 and New England Highway, followed by:
  - Golden Highway, Mitchell Highway, and Benson / Tantitha Road;
  - Through New England Highway until Kamilaroi Highway, then Coonabarabran Road, Purlewaugh Road, Black Stump Way, Castlereagh Highway, Golden Highway, Mitchell Highway, and Benson / Tantitha Road;
  - Similar to previous route, through New England Highway, Kamilaroi Highway until Newell Highway, then Eumungerie Road, Mitchell Highway, and Benson / Tantitha Road.

3.2.8. Ancillary Activities

The Project may also include (but not be limited to) the following ancillary activities:

- Sourcing of gravel, rock and other materials for construction (this may include cut and fill activities and gravel pits within the Project Boundary);
- Sourcing of water for construction (this may include offsite or on-site water sourcing, including the construction or bores and / or turkey's nest dams on-site);
- Subdivision and boundary adjustments relating to lease arrangements, where required;
- Visual screening; and
- Associated ancillary works.

3.2.9. Amendments for Environmental Constraints

The current preliminary layout has been developed following early constraints assessments completed in 2021 and 2022. Following the reduction of the layout from 600 MW to 250 MW, a further period of refinement was undertaken. Approximately 1,600 ha was removed from direct potential impact with the relocation of 6 WTGs in the south and 6 WTGs in the east, which also consequentially reduced the size of the Project Boundary. This included the avoidance of direct disturbance of two key areas of native vegetation, the majority of which was identified as PCT 186 and PCT 267 (refer **Section 6.4**). A benefit of reduced noise and visual impacts to non-associated dwellings in the south of the Project Boundary was also achieved.

The preliminary layout presented in this Scoping Report includes consideration of the outcomes of the early constraints assessment and incorporates a minimum buffer of 1.8 km between a WTG and a non-associated dwelling.

The EIS and associated technical assessments will further assess identified constraints to facilitate further layout design changes and refinements in response to identified values and constraints, as well as strategies to minimise and mitigate impacts.

3.2.10. Disturbance Footprint

Due to the early stage of design development, the Disturbance Footprint is not able to be accurately defined and is subject to ongoing design and refinement during the preparation of the EIS.

For the purposes of the Scoping Report and associated technical assessments, a preliminary Disturbance Footprint of 441 ha has been assumed.

The Permanent Disturbance Footprint is the area of land that will be subject to permanent alteration as a result of construction and operation of Project infrastructure until decommissioning and will comprise (but not be limited to):

- WTG foundations;
- Crane pads;
- Permanent access roads;
- Transmission line poles/towers and transmission line access roads;
- Electrical reticulation overhead cabling;
- Met masts;
- Substation, switching station, O&M and other facilities; and
- Public road upgrades required for the transport haul route.

The Temporary Disturbance Footprint is the area of land that will be temporarily disturbed during construction of the Project and rehabilitated and will comprise (but not be limited to):

- Access road construction batters;
- Underground electrical cable footprint;
- Concrete batching plants;
- Construction office compound;
- Some general laydown areas;
- Transmission line temporary access roads; and
- Laydown and assembly areas adjacent to the crane hardstand and wind turbine foundation.

The impact assessment to be included in the EIS will consider both the Temporary Disturbance Footprint and the Permanent Disturbance Footprint, noting the temporary impacted areas will be rehabilitated at completion of construction.

3.2.11. Staging

The anticipated development staging of the Project is summarised in **Table 3-3**. Forward stages are discussed below.

Table 3-3 Indicative Project Staging

Stage of Project	Estimated Date of Completion
Site Selection	2020
Project Feasibility	2021 – 2022
Planning and Approvals Process	-
Construction	Construction Years 1 – 2
Commissioning and Operations	Operational Years 1 – 30
Decommissioning, Rehabilitation or Repowering	~ Year 30

3.2.12. Construction

Construction of the Project will commence with design and procurement activities leading into groundworks commencing in Construction Year 1. All on-site construction activities and erection of wind turbines is estimated to take up to 2 years to complete which includes commissioning of the Project. During the construction phase of the Project, a peak workforce of up to 150 Full Time Equivalent (FTE) employees will be required.

3.2.13. Operations

WTGs will operate for a period of approximately 30 years. The operational workforce will consist of up to six permanent staff.

Wind farms are designed to generally operate without intervention, with each wind turbine capable of operating independently of all other WTGs. The majority of all maintenance undertaken will be preventative maintenance through a schedule which will cycle through all the WTGs to ensure service intervals are met.

Implementing this preventative maintenance schedule will occupy the majority of time the staff are employed on the Project. In addition, some repair work will be required should breakdowns occur. In these cases, priority works would be undertaken as soon as possible to ensure all WTGs are generating electricity.

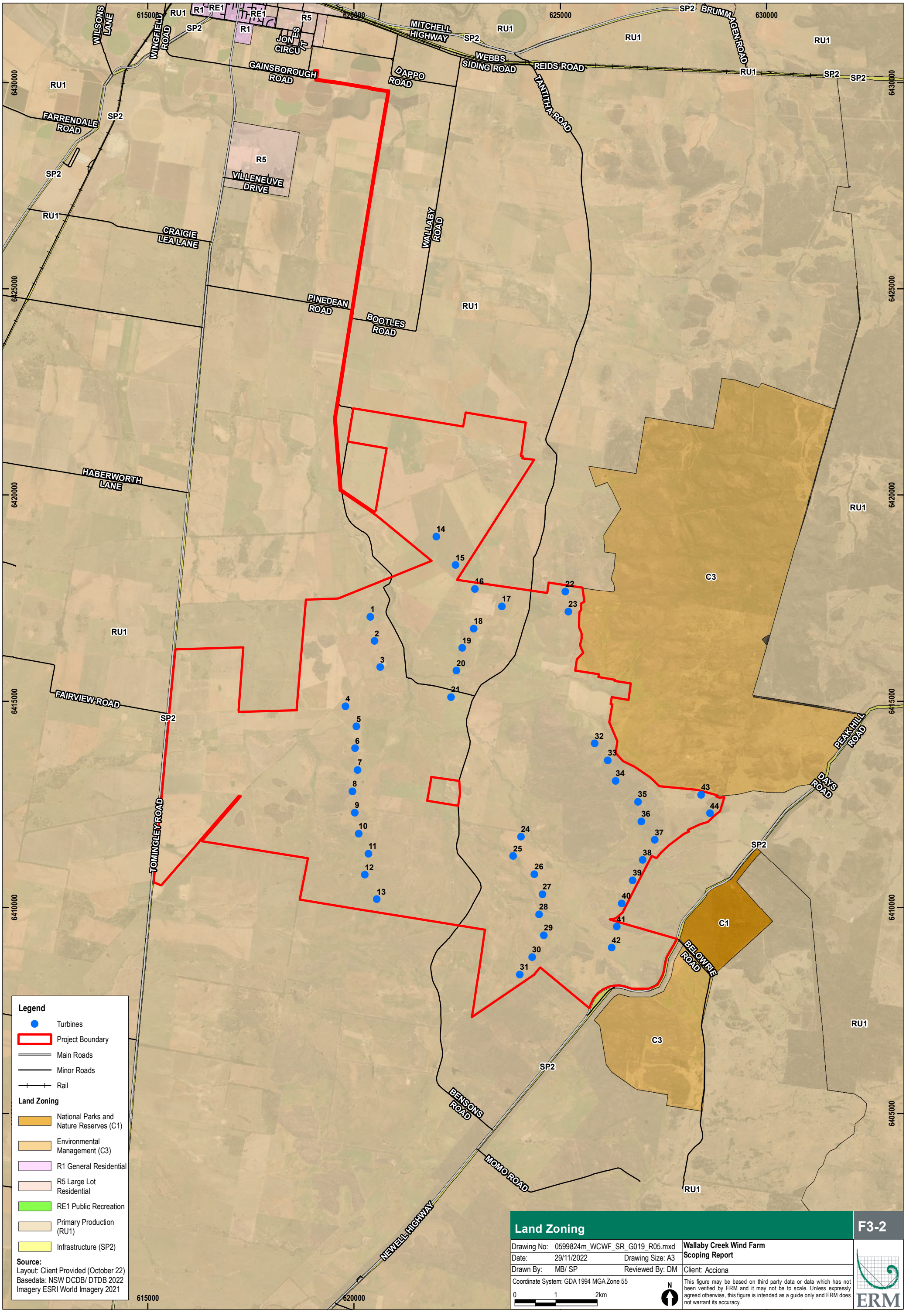
3.2.14. Decommissioning, Rehabilitation or Repowering

The EIS prepared for the Project will discuss the options associated with the decommissioning of the Project upon completion of operations.

WTGs will be maintained, replaced or re-powered within the description and impacts described within the EIS.

After the operational life of the Project, a decision will be made whether the site could be formally decommissioned, the existing WTGs removed, and site rehabilitated.

This process of decommissioning will be undertaken in accordance with relevant legal requirements, regulations and conditions of Development Consent. The Project will remove above-ground infrastructure specified in the Development Consent; however, some infrastructure may be retained subject to landowner agreement.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WINGFIELD ROAD
JONES CIRCUIT
MITCHELL HIGHWAY
WEBBS SIDING ROAD
REIDS ROAD
BRUMMAGEN ROAD
GAINSBOROUGH ROAD
DAPPO ROAD
TANTITHA ROAD
FARRENDALE ROAD
VILLENEUVE DRIVE
CRAIGIE LEA LANE
WALLABY ROAD
PINEDEAN ROAD
BOOTLES ROAD
HABERWORTH LANE
FAIRVIEW ROAD
TOMINGLEY ROAD
PEAK HILL ROAD
DAYS ROAD
BELOWRIE ROAD
BENSONS ROAD
MOMO ROAD
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Legend
Turbines
Project Boundary
Main Roads
Minor Roads
Rail
Land Zoning
National Parks and Nature Reserves (C1)
Environmental Management (C3)
R1 General Residential
R5 Large Lot Residential
RE1 Public Recreation
Primary Production (RU1)
Infrastructure (SP2)
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery ESRI World Imagery 2021
Land Zoning
F3-2
Drawing No: 0599824m_WCWF_SR_G019_R05.mxd
Date: 29/11/2022
Drawing Size: A3
Drawn By: MB/ SP
Reviewed By: DM
Coordinate System: GDA 1994 MGA Zone 55
0 1 2km
N
Wallaby Creek Wind Farm
Scoping Report
Client: Acciona
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

4. STATUTORY CONTEXT

This section outlines the key statutory requirements for the Project under relevant NSW and Commonwealth legislation.

4.1. Power to Grant Consent

Approval for the Project will be sought under Part 4, Division 4.7 of the EP&A Act, which outlines the approval pathway for development deemed to be SSD. Section 4.36(2) of the EP&A Act states:

> "(2) A State environmental planning policy may declare any development, or any class or description of development, to be State significant development."

Relevant SEPPs include *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP) and *State Environmental Planning Policy (Transport and Infrastructure) 2007 (*Transport and Infrastructure SEPP).

Under the provisions of Clause 2.6(1) of the Planning Systems SEPP, a development is classified as SSD if:

> "(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and
>
> (b) the development is specified in Schedule 1 or 2."

Schedule 1, Clause 20 of the Planning Systems SEPP determines "electricity generating works" to be SSD if it meets the following criteria:

> "Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:
>
> (a) has a capital investment value of more than $30 million"

Section 3 demonstrates that the Project meets the definition of electricity generating works, which are defined in Clause 2.35 of the Transport and Infrastructure SEPP:

> "electricity generating works means a building or place used for the purpose of—
>
> (a) making or generating electricity, or
>
> (b) electricity storage."

The Project involves development for the purpose of electricity generating works using wind power which will have a capital investment value of more than $30 million.

Therefore, the Project is classified as SSD under Part 4 of the EP&A Act.

4.2. Permissibility

Transport and Infrastructure SEPP

The permissibility of wind farm developments in NSW is determined by Transport and Infrastructure SEPP.

Clause 2.36 (1) of the Transport and Infrastructure SEPP states that electricity generating works may be carried out with development consent on land within a prescribed rural, industrial or special use zone.

The Project Boundary is zoned in its entirety as RU1 – Primary Production under the Narromine LEP 2011. As RU1 is a prescribed rural zone, the Project is permissible with consent under the provisions of Clause 2.36 (1) of the Transport and Infrastructure SEPP.

Electricity Infrastructure Investment Act (2020)

Clause 23 of the *Electricity Infrastructure Investment Act (2020)* identifies REZs in NSW. The Project Boundary is partially located within the Central-West Orana REZ as illustrated in **Figure 2-1** and as such the Project will result in an overall increase to NSW's energy capacity and will add to the regional growth and investment in regional NSW.

4.3. Other Approvals

Other required approvals required under relevant NSW and Commonwealth legislation are detailed in **Table 4-1**. Further detail will be provided in the EIS.

Table 4-1 Other Required Approvals

Approval Category	Legislation	Requirement
Consistent Approvals Section 4.42 of the EP&A Act outlines that these approvals cannot be refused if necessary for carrying out an approved SSD and are to be consistent with the terms of the SSD approval.	*Roads Act 1993*	The Project will require consent from the appropriate roads' authority under Section 138 of the Roads Act for any works undertaken on or under public roads.
	Protection of the Environment Operations Act 1997 (POEO Act)	Under the provisions of Schedule 1, Clause 17 of the POEO Act, activities requiring an environment protection licence (EPL) include "electricity works (wind farms)". Accordingly, an EPL will be required for the Project.
Native Title (Cwlth)	*Native Title Act 1993*	Under Section 13 of the NT Act, an individual can apply to the Federal Court for a determination of native title. Preliminary crown land is shown on **Figure 2-1**. A review of the potential for native title will be undertaken for the Project, however the Native Title Vision (NTV) online mapping tool (NNTT, 2022) currently indicates there are no Native Title claims over the Project Boundary.
EPBC Act Approval (Cwlth)	*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)	Approval from the Minister for the Commonwealth DCCEEW is required for any action that will or is likely to have a significant impact on one or more Matters of National Environmental Significance (MNES). The findings of the Preliminary Biodiversity Assessment (**Appendix C)** confirmed the presence of threatened species listed under the EPBC Act within the Project Boundary. As such, a Referral under the EPBC Act will be made.
Other Approvals	*Water Management Act 2000*	The Project may require water access licences under the *Water Management Act 2000*. The EIS will assess and identify any requirement for water access licences for the Project.
	Conveyancing Act 1919	The Project will require a lease from the owners of the affected land. Lease of a wind farm site is treated as a lease of premises regardless of whether the lease will be for more or less than 25 years.

Approval Category	Legislation	Requirement
		Subdivision consent is not required under Section 23G of the *Conveyancing Act 1919*. However, Section 23G of the Conveyancing Act 1919 may apply if subdivision for the purpose of construction, operation and maintenance of a substation is required. The EIS will consider this requirement.
	Biodiversity Conservation Act 2016 (BC Act)	The Biodiversity Assessment which will be prepared to accompany the EIS will provide a discussion of the management and protection of listed threatened species of native flora and fauna and threatened ecological communities (TECs) and assess biodiversity offsets consistent with the Biodiversity Offset Scheme. Given the Project is SSD, entry into the Biodiversity Offset Scheme is automatically triggered.
Approvals not required under SSD Section 4.41 of the EP&A Act states the following approvals, permits etc are not required for an approved SSD.	*Fisheries Management Act 1994*	The Project will not require a dredging or reclamation work permit under Section 201, a marine vegetation regulation of harm permit under Section 205, or a passage of fish not to be blocked permit under Section 219.
	Heritage Act 1977	The Project will not require a Part 4 approval to carry out an act, matter or thing referred to in Section 57(1), or an excavation permit under Section 139.
	National Parks and Wildlife Act 1974	The Project will not require an Aboriginal heritage impact permit under Section 90.
	Rural Fires Act 1997	The Project will not require a bush fire safety authority under Section 100B, as the development does not involve subdivision for residential or rural residential development.
	Water Management Act 2000	The Project will not require a water use approval under Section 89, a water management work approval under Section 90, or an activity approval (other than an aquifer interference approval) under Section 91.

4.4. Mandatory Matters for Consideration

The consent authority is required to consider a range of matters when deciding whether to grant consent for the Project. These are referred to as mandatory considerations, which are detailed in **Table 4-2**.

Table 4-2 Mandatory Considerations

Statutory Reference	Mandatory Consideration
Considerations under the EP&A Act and Regulation	
Section 1.3 - Objects of the Act	Pursuant to Section 1.3 of the EP&A Act, the Objects of the Act are: *(a) to 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,* *(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,* *(c) to promote the orderly and economic use and development of land,* *(d) to promote the delivery and maintenance of affordable housing,* *(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,* *(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),* *(g) to promote good design and amenity of the built environment,* *(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,* *(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, to provide increased opportunity for community participation in environmental planning and assessment.* The EIS will consider and confirm the project's concurrence with the Objects of the Act.
Section 4.15 - Evaluation	Pursuant to Section 4.15 of the EP&A Act, the consent authority is required to take the following matters into consideration in determining a DA: ■ Relevant environmental planning instruments including: – State Environmental Planning Policy (Resilience and Hazards) 2021; – State Environmental Planning Policy (Transport and Infrastructure) 2021; and – Narromine Local Environmental Plan (Narromine LEP) 2011; ■ Relevant development control plans (DCPs) including: – Narromine Development Control Plan 2011; ■ The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality; ■ The suitability of the site for the development; ■ Any submissions made in accordance with this Act or the regulations; and ■ The public interest. The EIS will consider and confirm the project's concurrence with these considerations.

Statutory Reference	Mandatory Consideration
Considerations under other legislation	
BC Act – Section 7.14	The BC Act establishes a new regulatory framework for assessing and offsetting biodiversity impacts on proposed developments. Where development consent is granted, the authority may impose as a condition of consent an obligation to retire a number and type of biodiversity credits determined under the Biodiversity Assessment Method (BAM). A review of the Biodiversity Offsets Scheme Entry Threshold (BOSET) was undertaken on 20 December 2021 and determined that areas within the Project Boundary are mapped as Areas of Biodiversity Values. As this is a SSD development and there are recorded biodiversity values within the Project Boundary, application of the BAM and the preparation of a Biodiversity Development Assessment Report (BDAR) will be required. The Minister for Planning is required to take into account the impact of the development on biodiversity values as assessed in the BDAR. The Minister may (but is not required to) further consider under the Act the likely impact of the proposed development on biodiversity values.
Considerations under relevant EPIs	
State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)	Resilience and Hazards SEPP assesses the potential hazards associated with the proposed development by providing definitions and guidelines for hazardous industry, offensive industry, hazardous storage establishments, and offensive storage establishments. In accordance with Clause 3.7 of the Resilience and Hazards SEPP, consideration will be given to current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, including: ■ Hazardous Industry Advisory Paper No 4 – 'Risk Criteria for Land Use Safety Planning' (DoP, 2011); and ■ Hazardous Industry Planning Advisory Paper No 6 - 'Hazard Analysis' and 'Multi-level Risk Assessment' (DoP, 2011). In addition, a preliminary risk screening assessment will be undertaken for the Project at the EIS phase in accordance with the Resilience and Hazards SEPP. Under Section 4.6 of the Resilience and Hazards SEPP, a consent authority is required to consider whether a proposed development site is affected by soil or other contaminants before granting consent. An assessment will be prepared as part of the EIS to determine the potential contamination risk associated with the Project. Noting the agricultural land use across the Project Boundary, the assessment will take into consideration historical land use that may have resulted in contamination within and surrounding the Project Boundary.
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)	Transport and Infrastructure SEPP provides greater consistency and flexibility in the development of key transport and infrastructure works. Relevantly, Section 2.36 provides that the development of electricity generating works may be carried out with consent in a prescribed rural zone, which includes the *RU1 – Primary Production* Zone.
Narromine Local Environmental Plan 2011	The EIS will address relevant components of the LEP, including: ■ Section 1.2 – Aims of Plan; and ■ Land Use Table - Objectives and permissible uses of the *RU1 – Primary Production* zone with consideration of overriding permissible uses identified in the Transport and Infrastructure SEPP.

Statutory Reference	Mandatory Consideration
Considerations under Development Control Plans	
Narromine Development Control Plan 2011	The Narromine Development Control Plan 2011 (Narromine DCP) is the relevant DCP that supports the controls contained within the Narromine LEP under the provisions of Division 3.6 of the EP&A Act. Under Section 2.10 of the Planning Systems SEPP, DCPs do not apply to SSD projects: "11 Exclusion of application of development control plans Development control plans (whether made before or after the commencement of this Policy) do not apply to— (a) State significant development, or (b) development for which a relevant council is the consent authority under section 4.37 of the Act." The Project will be classified as SSD. As such, the Narromine DCP does not apply and is not a mandatory consideration for the Project.

5. STAKEHOLDER ENGAGEMENT

This section describes the stakeholder engagement undertaken to date with local community, landowners, other stakeholders, and Government agencies. The consultation planned during the preparation of the EIS is also outlined.

5.1. Overview

Engagement undertaken for the Project has been carried out through a variety of means, including face to face events, phone calls, letters, and online platforms. Engagement with community commenced in early 2022 and with regulatory agencies in mid-2022. The engagement described in the sections below will assist in identifying the environmental, social and economic issues of interest to the surrounding community and relevant statutory agencies to be addressed in the Scoping Report.

An internal Community Engagement Plan is in place aligned with the following guidelines:

- 'Undertaking Engagement Guidelines for State Significant Projects' (DPIE, 2021d);
- 'Best Practice Community Engagement in Wind Development' (Lane, 2014);
- 'Best Practice Community Engagement in Wind Development' (Lane, 2014);
- SIA Guideline (DPIE, 2021e);
- Technical Supplement: Social Impact Assessment Guideline for State Significant Projects (Technical Supplement);
- 'Community Engagement Guidelines for the Australian Wind Industry' (CEC, 2018); and
- 'Community Engagement Guidelines for Building Powerlines for Renewable Developments' (CEC, 2018).

The objectives of the community engagement strategy for the Project are to:

- Identify and engage with the local community and key stakeholders;
- Build a foundation of strong relationships and community support;
- Ensure stakeholders are informed, consulted and involved;
- Wherever possible, activities will continue to be conducted with emphasis on stakeholder collaboration and empowerment;
- Uphold the four Clean Energy Council's principles (accepted rules of conduct) of community engagement which include: openness, inclusiveness, responsiveness and accountability;
- Adopt the phases of stakeholder and community consultation outlined in the SIA process; and
- Provide an accessible complaints management process as a mechanism for feedback to Acciona.

5.2. Scoping Phase Engagement

The strategy adopted for the community engagement has been designed to enable community members to be part of the Project planning and development process and to provide them with the opportunity to engage in a meaningful way.

Stakeholder identification was undertaken as part of the scoping phase for the Project. **Table 5-1** displays the list of key stakeholders:

Table 5-1 Project Key Stakeholders

ID	Stakeholder
1	Associated Landowners
2	Non-associated Landowners
3	Landowners within 5 km of Project
4	Nearby towns
5	Local businesses
6	Project partners
7	Emergency services
8	Community / sporting groups
9	Local schools
10	Chamber of Commerce / Key Industry Groups
11	Local Media
12	Environmental Bodies / Interest Groups
13	Local Indigenous groups
14	Advocacy Groups
15	Local Councils
16	Members of Parliament
17	State Government Agencies and Departments
18	Federal Government Departments
19	Electricity / Utility Network Service Providers
20	Job Network and Training Providers
21	Education and Training Providers
22	Other Infrastructure Developers

A variety of methods have been or will be implemented to facilitate community and stakeholder engagement, and to ensure that the unique requirements of each stakeholder group is being met.

Consultation methods will continue to be updated throughout each phase of the Project, as new stakeholders are identified, or as key contacts for stakeholder groups change.

Key consultation methods include:

- Community information sessions;
- Community events;
- Letters and newsletters;
- Feedback surveys;
- Face to face meetings;
- Presentations to stakeholder groups;
- Website: https://www.acciona.com.au/wallaby-creek;
- On-line community hub: Wallaby Creek Wind Farm | Community Hub (acciona.com.au);
- Emails and phone calls;
- Community information phone line; 1800 283 550

- Project briefings;
- Newspaper advertising to promote Information Session; and
- Invitations and Flyers to promote Information Session.

5.2.1. Regulatory Agency and Key Stakeholders

Details of the engagement undertaken by Acciona with government agencies to date is outlined in **Table 5-2**.

Table 5-2 Summary of Engagement – Regulatory

Stakeholder	Date and Type	Engagement Activity and Key Outcomes
Narromine Shire Council (NSC)	12/112021 and 10/03/2022 Presentation	Presentation to Council to introduce the Project and the Project Team. Key matters discussed were: ■ Noise ■ Visual ■ End of life / recycling ■ Amount of concrete used ■ Bird collisions ■ Number of jobs ■ Cultural heritage. Further updates to be provided as the Project progresses.
NSC	15/3/2022 Email	Provided further information on wind farms.
NSC	27/4/2022 Email	Sent Flyer to promote the Community Information Session.
DPE	26/05/2022 Meetings	Scoping Phase introductory meeting to discuss: ■ Compliance with submission document requirements ■ Cumulative impacts associated with the Orana Central-West REZ ■ Engagement with and impacts to non-associated landowners ■ Transmission line routing ■ Road upgrade planning.
NSC	09/08/2022	Update provided to advise of upcoming submission of Scoping Report, including detailed maps of proposed turbine locations, site entry locations and proposed transmission line route.
DPE	08/08/2022 to 24/08/2022	Pre-lodgement discussions
DCCEEW	09/11/2022	Pre-lodgement introductory meeting. Key topics covered: ■ Project overview ■ Related protected matters – flora and fauna ■ Survey effort to date ■ Mitigation and management ■ Assessment process and timing.
DPE	09/11/2022 to 01/05/2023 Email and phone calls	Pre-lodgement discussions
Narromine Shire Council Mayor	18/04/2023 Meeting	Pre-lodgement update meeting

A summary of the key issues identified by regulatory agencies during engagement is summarised in **Table 5-3.**

Table 5-3 Regulatory Key Issues Summary and Where Addressed

Topic	Feedback Received	Where Addressed
Wind Farm Lifecycle	Interested to learn more about wind farm construction, operations and end of life.	An education program on renewable energy will form part of our engagement strategy.
Biodiversity	Prevention of severe and irreversible impacts to threatened flora and fauna, including bird strike.	Seasonal surveys targeting threatened species – including Bird Utilisation Surveys will be conducted during preparation of the EIS. The outcomes of these surveys as well as engagement with relevant statutory authorities will inform project design. Impacts to threatened flora and fauna will be minimised or mitigated where practicable.
Workforce Accommodation	How will the Project workforce will be accommodated during the construction phase Council noted the possibility of a temporary accommodation camp being developed in the area	An Accommodation Survey will be included in the SIA, Council will be engaged to agree a strategy.
Transport Route	Council is interested to understand the transport route from port to Project during the construction phase	A detailed Transport Route Assessment will be completed during preparation of the EIS. This will involve consultation with the relevant affected Councils. NSC and the local community will be consulted regarding proposed upgrades or impacts within the Council area.
Community Benefits	Community benefits and support	A Community Benefit Program will be designed and implemented based on engagement with the local Council and community.
Economic Benefits	There was interest in the economic benefits the Project will generate for the region	The creation of jobs and supply opportunities are seen as positive benefits of the project. There will be opportunities for local suppliers to attend information sessions and express their interest in being involved in the project.
Visual and Lighting	Change to the current views of neighbours.	A detailed landscape and visual impact assessment will be completed during development of the EIS. Non-associated landowners within proximity to the wind farm will be involved in this process, to understand potential impacts and mitigation opportunities.

5.2.2. Community Engagement

Details of engagement undertaken with the community by Acciona to date is summarised below, further outlined in **Table 5-4**, and **Table 5-5** illustrates where each issue is addressed**.**

In summary the Applicant:

- Held 42 associated landholder meetings;
- Attended 22 meetings with landholders within 5 km of the Project;
- Distributed 100 fact sheets to community members;
- Launched Community Engagement Page for the Project;
- Distributed a Preliminary Landscape Values Impact Assessment (PLVIA) Survey to approximately 87 community members with 10 responses;
- Distributed 110 introductory letters to neighbours; and
- Held a community information session at the United Services Memorial Club in Narromine on 3 May 2022, attended by 20 individuals. The broader community, including residents within 8 km of the Project, had the opportunity to engage with the Project at this session. This session and the Project generally were advertised in the local newspaper and on local radio, as well as by flyers distributed via post.

- Held a group meeting for near neighbours of the Project in Tomingley on 17 April 2023, attended by 30 individuals. The majority of attendees were residents within 5 km of the Project Boundary with properties along Tantitha Road. This meeting provided an overview of the Project, indicative timelines, an overview of the planning and development process, and an opportunity to provide feedback and ask questions to members of the Project team. This session was advertised via a mailout to neighbours within 5 km of the Project Boundary, and through direct engagement with near neighbours.

Table 5-4 Summary of Engagement – Community

Stakeholder	Date and Type	Summary
Associated landowners	2021 – ongoing Meetings	Provided Project update and planning and development schedules. Regular contact regarding onsite surveys.
Non-Associated landowners within 5 km of Project	March 2022 – July 2022 Emails, Survey, Factsheet and Meetings	Provided an overview of the Project and sent a Project Factsheet and Preliminary Landscape Values Survey.
Neighbour	8/3/2022 Phone Call	Neighbour express concern about future property value should Project proceed.
Alkane Resources	9/3/2022 Meeting	Provided an overview of the Project and sent a Project Factsheet and Preliminary Landscape Values Survey.
Community member	10/3/2022 Phone Call and Email	Provided an overview of the Project and sent a Project Factsheet.
Neighbour	9/3/2022 Email	Provided an overview of the Project and sent a Project Factsheet.
All landowners along Tantitha Road	9/3/2022 Letterbox drop	Letter to introduce the Applicant, Project and invitation to meet in person; and Project Factsheet and Survey dropped in roadside letterboxes.
Wiradjuri Traditional Owner	March and April 2022 Emails, Phone Calls and Meeting	Provided an overview of the Project and sent a Project Factsheet and Preliminary Landscape Values Survey. Interest was expressed in being involved in cultural heritage management.
Narromine Council	10/03/2022 Meeting	Provided an update on the Project.
Re-Alliance	10/3/2022 Meeting	Provided an overview of the Project.
Neighbour	11/3/2022 Email	Provided an overview of the Project.
Associated landowners	31/03/2022 Email	Provided an update on the community engagement activities being undertaken with neighbours and the community.
Wiradjuri Traditional Owner	14/4/2022 Email and Phone Call	Sent Flyer to invite to the Community Information Session.
Non-associated landowners Within 5 km	19/4/2022 Post	Flyers to invite to the Community Information Session.
United Services Memorial Club	22/4/2022 Email	Flyer to invite to the Community Information Session.
Narromine Star	22/4/2022 Advertisement	Ad to promote Community Information Session.

Stakeholder	Date and Type	Summary
Narromine Gliding Club	27/4/2022 Phone Call and Email	Provided an overview of the Project, extended invitation for a meeting, and sent a Project Factsheet.
Sunrise Energy Metals	28/4/2022 Email	Project Factsheet and map sent Invitation for a meeting to discuss Project.
Community Member	28/4/2022 Email	Flyer to invite to the Community Information Session.
Narromine Star	29/4/2022 Media Article	Article on Community Information Session.
Community	3/5/2022 Information Session	Information Session held at United Services Memorial Club in Narromine to meet with community members to share information about the Project and hear concerns and questions. Approximately 20 people attended.
Sunrise Energy Metals	4/5/2022 Meeting	Meeting held to provide an overview of the Project and discuss potential exploration sites.
Neighbours	11/5/2022 Phone Calls	Follow-up with further information following Community Information Session.
Dubbo Field and Game	16/5/2022 Phone Call and Email	Follow-up on information sent about Project, offer for a meeting.
Neighbour	16/5/2022 Phone Call and Email	Follow-up from Community Information Session, further information supplied about Project.
Narromine Local Aboriginal Land Council (LALC)	14/4/2022 and 18/5/2022 Email	Invitation for a meeting to introduce and discuss the Project.
Neighbour	20/5/2022 Phone Call	Discussed involvement in Project.
Narromine LALC	20/5/2022 Email and Phone Call	Arranged meeting to discuss Project.
Neighbour	23/5/2022 Meeting	Discussed the Project.
Narromine LALC	24/5/2022 Meeting	Meeting with Narromine LALC CEO to provide an overview of the Project and discuss future cultural heritage management.
Inland Rail	25/5/2022 Email and Phone Call 2/8/2022 Meeting	Discussed estimated Project timeline, potential cumulative impacts, and accommodation requirements for construction phase.
Re-Alliance Central West Orana REZ Roundtable	31/5/2022 Meeting	Met with other applicants, distributors and state government regarding the Central West Orana REZ.
Business Owner	6/6/2022 Phone Call	Provided an overview of the Project.
Non-associated landowner	6/6/2022 Phone Call	Provided an overview of the Project and obtained contact details to keep updated.
Non-associated landowner	6/6/2022 Phone Call	Provided an overview of the Project and obtained contact details to keep updated.
Non-associated landowner	7/6/2022 Phone Call	Provided an overview of the Project and obtained contact details to keep updated.
Peak Hill LALC	7/6/2022 Phone Call and Email	Provided an overview of the Project, requested a meeting to discuss with the Council.

Stakeholder	Date and Type	Summary
Associated landowners	14/6/22 to 15/6/22 Meetings	Discussed proposed transmission line easement route (2 meetings total).
Non-associated landowner	20/6/2022 Phone Call	Provided an overview of the Project and obtained contact details to keep updated.
Non-associated landowner	20/6/2022 Phone Call	Provided an overview of the Project and obtained contact details to keep updated.
Non-associated landowners within 5 km	11/7/2022 Letterbox drop	Letters to all neighbours (60 letters total) to invite them to contact us to provide contact details so that we can keep them informed and involved.
Non-associated landowners	3/8/2022 to 5/8/2022 Meetings	Met with neighbours to provide an update of the Project (6 meetings total). Interest was expressed in opportunities to be involved with the Project; potential visual and noise impacts, and Project timeline.
Associated landowners	2/8/2022 to 4/8/2022 Meetings	Discussed Project timelines and legal agreements (6 meeting total).
Neighbour	1/9/2022 Letterbox drop	Letter to neighbour inviting them to meet and discuss the Project.
Associated landowners	31/1/2022 Emails and Phone Calls	Provided Project update.
Narromine Gliding Club	7/2/2023 Email and webform	Advised Gliding Club of installation of wind monitoring mast and invited further consultation regarding the current status and proposed timelines for the Project.
Neighbour	28/2/23 Letter	Letter received from neighbour raising concerns regarding noise, amenity, property value and fire risk. Proponent responded to arrange meeting.
Neighbour	7/3/2023 Meeting	Discussed Project timelines, approvals process, indicative layout, opportunities to be involved in assessments, concerns regarding bushfire, construction impacts, noise and visual amenity.
Neighbour	7/3/2023 Meeting	Discussed Project timelines, proposed infrastructure layout and community benefits.
Associated landowners	6/3/2023 to 8/3/2023 Meetings	Discussed Project timelines, Scoping Report, and indicative layout (3 meetings total).
Associated landowners	7/3/2023 to 8/3/2023 Meetings	Discussed proposed transmission line easement route (3 meetings total).
Neighbour	13/3/2023 Email	Letter received from neighbour raising queries regarding proposed infrastructure, telecommunications, bushfire risk and traffic, to which Acciona responded.
Neighbour	20/3/2023 Phone Call	Phone call from neighbour requesting further information about Project, queries regarding bushfire management, community benefits and opportunities for community input.
Neighbour	17/4/2023 Meeting	Discussed Project timelines, approvals process, indicative layout, and opportunities to be involved in assessments.
Non-associated landowners within 5 km	17/4/2023 Group Meeting	Provided Project overview, indicative timelines, overview of the planning and development process, and an opportunity to provide feedback and ask questions to members of the Project team. Key issues raised included: – Property values – Noise amenity – Landscape and Visual Impact

Stakeholder	Date and Type	Summary
		– Emergency/bushfire management – Community Benefits – Decommissioning plan – Road upgrades and construction impacts Approximately 30 people attended.
Associated landowners	18/4/2023 Group Meeting	Group meeting to discuss Project timelines, legal agreements and Scoping Report.
Associated landowners	18/4/2023 Meetings	Discussed proposed transmission line easement route (2 meetings total).
Narromine Star	21/04/2023 Media Request/Article	Provided Narromine Star with a Project update.
Neighbour	19/6/2023 Meeting	Discussed Project timelines, approvals process, indicative layout, preliminary survey outcomes, and opportunities to be involved in assessments. Concerns raised regarding bushfire.
Non-associated landowner within 5 km	19/6/2023 Meeting	Discussed Project timelines, approvals process, indicative layout, and opportunities to be involved in assessments. Concerns raised regarding visual impact, dust, noise, environmental impacts, and property devaluation.
Non-associated landowner within 5 km	19/6/2023 Meeting	Discussed Project timelines, approvals process, indicative layout, and opportunities to be involved in assessments. Queries regarding decommissioning, bushfire and emergency management, property values.
Non-associated landowner within 5 km	19/6/2023 Phone Call	Provided an overview of the Project and offered meeting to discuss in person
Associated landowner	20/06/2023 Meeting	Meeting to discuss potential easement routing
Non-associated landowners within 5 km	20/6/2023 Letterbox drop	Dropped letter into mailboxes of landowners within black line who had not yet had one-on-one conversations, providing further information about the Applicant, Project and a further invitation to meet in person

A social risk analysis was undertaken as part of the engagement strategy, which identified key community issues, concerns and opportunities relating to the Project. A Social Impact Assessment will be undertaken during the EIS phase to fully understand social issues and opportunities.

A summary of the key issues identified by the community, details of feedback received and where each is addressed is summarised in **Table 5-5.**

Table 5-5 Community Key Issues Summary and Where Addressed

Topic	Feedback Received	Where Addressed
Workforce Accommodation	Questions regarding the Project workforce accommodation needs during the construction phase.	An Accommodation Study will be conducted as part of the Social Impact Assessment (SIA) to understand the accommodation availability and the needs of the construction workforce.
Jobs	Number of jobs to be created and how the local community can be involved.	The community are positive towards the creation of jobs.

Topic	Feedback Received	Where Addressed
Local Supply Opportunities and Procurement	Interest in opportunities for local businesses to be involved in the Project.	Information Sessions for local businesses will be conducted prior to the construction phase of the project to inform of opportunities to be involved in the project and to register interest.
Fire Management	Bushfire Risk Assessment.	A Bushfire Risk Assessment will be developed prior to the construction of the project.
Community Benefits	Several community representatives were interested in support for local events and projects.	A Community Benefit Program will be implemented following engagement with the local Council and community.
Economic Benefits	Most local residents, neighbours and stakeholders were positive towards the economic benefits the Project will generate for their towns.	Jobs, supply and procurement opportunities and economic benefits from a construction workforce will create an economic boost to the local area.
Clean Energy	Most local residents and neighbours were enthusiastic that their region will be hosting a clean energy facility and contributing to a greener environment.	A wind farm will be an opportunity to showcase a renewable energy project for the area.
Visual Amenity	Some neighbours concerned about a change to their current views.	A LVIA will be undertaken to understand potential impacts and mitigation opportunities. Photomontages will be created and shared with the community to provide a visual representation.
Noise	Some residents asked about the anticipated noise from the turbines.	A detailed noise study and modelling will be undertaken during the EIS phase. An education program regarding the noise levels from turbines will be implemented during engagement activities.
Construction impacts	Residents are concerned about noise, dust generation and vehicle movement impacts during construction	A detailed noise study and modelling will be undertaken during the EIS phase. The detailed noise study will include mitigation and management measures to reduce noise impact to residents during construction as best as practical.
Road and transport route impacts	Residents raised questions about proposed road upgrades and proposed transport routes of components from port to site.	A detailed traffic and transport impact assessment (including transport route assessment) will be prepared during the EIS phase. It will consider potential transportation routes for construction traffic and potential impacts of the size, loads, and volumes of vehicles on the road network.
Property Values	Residents have raised concerns that the Project will devalue neighbouring properties	The second phase SIA will be prepared in accordance with the requirements of the 'Social Impact Assessment Guideline and Technical Supplement' (DPIE 2021a, 2021b) and will consider impact to property values. It should be noted that an objective of the Project (refer Section 1.4) is to provide broader financial benefits to the community.

Topic	Feedback Received	Where Addressed
Decommissioning plan	Residents raised questions about what happens to the turbines at end of the Project's life	The EIS will include a description of the decommissioning of the Project. A decommissioning and rehabilitation plan will be prepared for the Project prior to decommissioning and in accordance with any project approval requirements.

5.3. Proposed Engagement

Table 5-6 outlines the details of stakeholder engagement that will be undertaken during the preparation of the EIS in accordance with the Community Engagement Plan for the Project.

Table 5-6 Proposed EIS Engagement

Stakeholder Group	Engagement Activities
Associated Landowners	Face-to-face meetings Email / letter / phone calls / factsheet / newsletter updates / website / 1800 number Community Information Sessions
Neighbours – Non-associated Landowners within 8 km	Door knocking Face-to-face meetings Email / letter / phone calls / factsheet / 1800 numbers / website / newsletter updates Community Information Sessions Seek compensatory Neighbour Agreement(s), where appropriate
Nearby towns	Information sessions / website / 1800 number / fact sheet/ newsletters Advertising in local newspapers Information hub (during construction)
Other Non-associated Landowners	Meetings / briefings / emails / phone / website / 1800 number / newsletters Community Information Sessions Advertising in local newspapers Information hub (during construction)
Local businesses	Meetings / briefings / emails / phone / website / 1800 number / newsletters Community Information Sessions Advertising in local newspapers Information hub (during construction)
Project partners	Information Session Advertising in local newspapers Information hub (during construction)
Emergency Services	Meetings / briefings / emails / phone calls / factsheet / website / 1800 number / newsletters Community Information Sessions
Community / sporting groups	Community Information Sessions Meetings / briefings / emails /phone calls / factsheet / website / 1800 number / newsletters Advertising in local newspapers Information hub (during construction)
Chambers of Commerce / Key Industry Groups	Presentations Meetings Emails / phone calls / factsheet / website / 1800 number / newsletters

Stakeholder Group	Engagement Activities
Local Media	Meetings Community Information Sessions Emails / phone calls / factsheet / website / 1800 number / newsletters
Local Aboriginal groups	Emails / phone calls / factsheet / website / 1800 number / newsletters Information Sessions Engagement regarding cultural heritage management
Advocacy Groups	Emails / phone calls / factsheet / website / 1800 number Meetings Newsletters Website
Local Council	Meetings Newsletters Emails / phone calls / factsheet / website / 1800 number Site Tours Open Days
State Government Agencies and Departments	Meetings / Presentations
Federal Government Departments	Meetings / Presentations
Electricity / Utility Network Service Providers	Meetings / Presentations
Job Network and Training Providers	Meetings Information Session
Education and Training Providers	Meetings Information Session
Other Infrastructure Developers	Meetings

6. ASSESSMENT OF IMPACTS

This section outlines matters requiring further assessment in the EIS and the level of assessment that will be undertaken for each matter.

6.1. Categorisation of Assessment Matters

A preliminary environmental assessment was undertaken to identify the potential matters associated with the Project. The following areas were considered in the identification of matters requiring further assessment:

- The scale and nature of the likely impacts 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 (refer **Table 2-1**);
- The ability to avoid, minimise and/or offset the impacts of the Project, to the extent known at the scoping stage; and
- The complexity of the technical assessment of the Project.

Each matter and its proposed level of assessment is identified in **Table 6-1**. Each is discussed further below. Detailed assessments will include environmental aspects that present a potential high constraint to the development, and other aspects which require detailed assessment, but do not pose a high-risk constraint.

The EIS will be prepared in accordance with the SEARs and in consideration of engagement with stakeholders, industry best practice guidelines, and the experiences from other wind farm projects.

A scoping summary table is presented in **Appendix A**.

Table 6-1 Proposed EIS Assessment

Level of Assessment	Aspect
Detailed (potential high-risk constraint)	Amenity – Visual and Lighting Amenity – Noise and Vibration Biodiversity Heritage – Aboriginal Cultural
Detailed	Traffic and Transportation Aviation Telecommunications
Standard	Heritage – Historic Water Resources Land Resources Social and Economic Hazards – Preliminary Hazard Analysis Hazards – Bushfire Hazards – Blade Throw Hazards– Electromagnetic Field Air Quality and Greenhouse Gas Waste Management Cumulative Impacts

6.2. Amenity – Visual and Lighting

6.2.1. Background

A PLVIA has been prepared by Moir Landscape Architecture (MLA) and is included as **Appendix B**.

The PLVIA was prepared in accordance with the current NSW Guidelines for Stage 1: Scoping Paper for Wind Farms, the Visual Bulletin (DPIE, 2016b), and it:

- Outlined the community consultation activities undertaken by Acciona and identified the key landscape features and characteristics that were found within and surrounding the Project Boundary;
- Noted the landscape features and locations of concern to the community and will further consider these within the EIS assessment; and
- Applied the preliminary assessment tools (magnitude and multiple wind turbine) to the preliminary wind turbine layout.

The Study Area, as referred to in the PLVIA and within this section, is generally defined as the Project Boundary and surrounding land requiring assessment in the PLVIA. The Study Area is generally defined as the land up to 8,000 m from the nearest turbine.

The following was undertaken in the preparation of the PLVIA:

- **Desktop Assessment:** Application of Preliminary Assessment Tools to determine receptors with potential sensitivity; preparation of a preliminary Zone of Visual Influence (ZVI) to establish a theoretical zone of visibility of the Project; and identification of key viewpoints and landscape features using available mapping and background documents.
- **Site Inspection:** Photographic survey work for the assessment was undertaken in November 2021 to carry out a preliminary assessment of the existing landscape character from publicly accessible land within the Study Area. The findings of the site inspection are included in the PLVIA and will form the basis for discussion with the community in the EIS Phase of the Project.
- **Community Engagement:** Community engagement has been undertaken through the scoping phase of the Project via community survey. Results of the community consultation have also been utilised to gain perspective on the landscape values held by the community to inform the PLVIA.

6.2.2. Preliminary Assessment

6.2.2.1 Potential Visual Impacts

The potential visual impacts of the Project have been assessed within the PLVIA in accordance with the Visual Bulletin. Preliminary Assessment Tools were used and applied to both dwellings and key public viewpoints within the Study Area. The tools provide an early indication of where placement of turbines will require further assessment and justification, and where consultation with potentially affected landowners needs to be focused – including discussions for landholder agreements.

Dwellings identified through the application of the Preliminary Assessment tools have been assessed in detail in Appendix A of the PLVIA (**Appendix B**).

Application of the Preliminary Assessment Tools to the Project identified dwellings which require further assessment in accordance with the Visual Bulletin.

6.2.2.2 Visual Magnitude

The Visual Magnitude Threshold is based on the height of the proposed wind turbines to the tip of the blade and distance from dwellings or key public viewpoints. The proposed wind turbines are based on a worst case scenario with a tip height of 271.5 m. The ‘black line’ intersects at a distance of 3,600 m and the ‘blue line’ intersects at 5,300 m.

Non-associated dwellings identified within 3,600 m (black line of visual magnitude) and between 3,600- 5,300 m (blue line of visual magnitude) of the nearest proposed turbine are shown on Figure 11 of **Appendix B**. In summary:

- 30 non-associated dwellings have been identified within 3,600 m of a WTG (within the black line of visual magnitude);
- 25 non-associated dwellings are located within 3,600 – 5,300 m of a WTG (within the blue line of visual magnitude); and
- 26 non-associated dwellings have been identified between the blue line and 8 km of the Project Boundary.

Preliminary assessments of 27 representative non-associated dwelling receptors have been included in Appendix A of the PLVIA (**Appendix B**). These assessments illustrate existing intervening vegetation typical of the Study Area is likely to reduce views to turbines from a large number of dwellings. Further detailed assessment and site inspections of sensitive receptors to ground truth this analysis will be undertaken during the EIS phase.

6.2.2.3 Multiple Wind Turbine Tool

The Multiple Wind Turbine Tool provides a preliminary indication of potential cumulative impacts arising from the Project. To establish whether the degree to which dwellings or key public viewpoints may be impacted by multiple wind turbines, the applicant must map into six sectors of 60° any proposed turbines, and any existing or approved turbines within eight kilometres of each dwelling or key public viewpoint.

When applied to the Project, the 2D Multiple Wind Turbine Tool identified eight (8) non-associated dwellings with more than two (2) sectors of turbines. There were no significant public viewpoints identified within 8,000 m of the nearest turbine. Of the eight (8) non-associated dwellings identified:

- One (1) non-associated dwellings have turbines in up to six (6) 60º sectors (up to 360º);
- Seven (7) non-associated dwellings have turbines in up to three (3) 60º sectors (up to 180º).

6.2.2.4 Zone of Visual Influence

The ZVI (also known as a Zone of Theoretical Influence Model) represents the area over which a development can theoretically be seen and is based on a Digital Terrain Model (DTM). The ZVI usually presents a bare ground scenario – i.e. a landscape without screening, structures or vegetation, and is usually presented on a base map.

The ZVI has been determined through the use of digital topographic information and 3D modelling software WindPro. The ZVI has been assessed to approximately 10 km from the Project Boundary. Although it is possible for the development to be visible from further than 10 km away, it is generally accepted that beyond 10 km visibility is diminished.

Figure 14 of **Appendix B** depicts the areas of land from which the proposed development may be visible and provides an indicative number of wind turbines based on the blade tip height of 271.5 m. Based solely on topographic information, it is possible that most turbines may be visible from the north and west, and immediately south of the Project Boundary, which should be acknowledged as representing the worst case scenario. Hills to the south and east of the Project Boundary provide screening which will likely reduce the number of visible turbines.

6.2.3. EIS Assessment Approach

The PVLIA provides a preliminary assessment of Project-impacts only and enables the Applicant and its visual experts to identify dwellings and other higher priority view-points which require further detailed assessment in the EIS.

The EIS LVIA will focus on the dwellings identified in the PLVIA where higher preliminary impacts have been identified in **Section 6.2.2**. Assessment will focus on all dwellings identified within the blue and black lines and in particular, the one non-associated dwelling with up to six 60° sector views. It will confirm impacts and identify relevant and required mitigation.

Management and mitigation techniques will include (but not be limited to): comprehensive engagement (currently ongoing), detailed assessments to determine sensitive areas, seek a compensatory Neighbour Agreement, seek mitigation measures (landscaping, glazing) and/or project redesign. Any project required redesign can only be considered cumulatively with other confirmed Project-impacts which will occur during the preparation of the EIS.

Further assessment and justification for placement of turbines in multiple sectors will be detailed in the EIS, along with a description of the mitigation and management measures being employed to reduce impacts. Further assessment may identify that factor such as topography, relative distance and existing vegetation may minimise the impacts of the Project on nearby associated and non-associated residences. The Project layout may be further refined during the EIS phase to reduce visual impacts to sensitive non-associated dwellings, where required.

The scope of the LVIA will also include:

- Detailed dwelling assessment at sensitive non-associated dwellings to assess 'sensitive receptors', accounting for screening factors such as topography, vegetation; and determine mitigation measures to reduce visual impacts;
- Visual Baseline Study to further identify and assess landscape features and viewpoints;
- Viewpoint assessment and rating of key viewpoints within the visual catchment; and
- Graphical representations of the Project via wireframes and photomontages.

6.3. Amenity – Noise and Vibration

A preliminary Noise Impact Assessment (NIA) has been conducted by ERM in accordance with DPE's 'Wind Energy: Noise Assessment Bulletin – for State Significant Wind Energy Development' (DPIE, 2016c) (Noise Bulletin).

6.3.1. Background

6.3.1.1 Existing Environment

The existing noise environment is determined likely to be that of a typical rural area, dominated by natural noise sources such as foliage noise and birdsong based on a review of available online aerial imagery. Residential receptors are identified to be scattered in the area with low human activity. Receptors are also identified in the vicinity of the Newell Highway and are likely to experience higher ambient noise levels, due to road traffic noise. Background noise monitoring will be conducted at select dwellings (receptors) during the EIS to ascertain the existing ambient noise levels in the area.

6.3.1.2 Potential Noise Impacts

Potential noise impacts from the WTGs were modelled and assessed based on applicable assessment standards and guidelines. The preliminary assessment considers the worst-case noise propagation conditions based on a preliminary WTG layout and WTG specifications.

6.3.1.3 Legislative Context

The Noise Bulletin provides advice about how noise impacts are assessed for large-scale wind energy development projects. It applies to all new SSD wind energy proposals such as the Project seeking to obtain SEARs. The Noise Bulletin provides practical guidance to applicants, planners, regulatory authorities, acoustic specialists, and the broader community on how to measure and assess environmental noise impacts from wind energy projects.

As stated in the Noise Bulletin, the NSW Government has adopted the 2009 South Australian document 'Wind farms – Environmental Noise Guidelines' (EPA SA, 2009), which forms the basis of the regulatory noise standard and assessment methodology that will apply to the Project.

6.3.2. Preliminary Assessment

6.3.2.1 Methodology

Noise data and specifications for a candidate WTG and preliminary WTG layout as shown in **Section 3.2.2** were utilised for the preliminary NIA.

Based on the Noise Bulletin, the maximum sound power level of a candidate WTG and worst-case noise propagation conditions were modelled to provide indicative noise predictions at associated and non-associated receptors.

Details of the candidate WTG used for the preliminary NIA are provided in **Table 3-2**.

The environmental noise model used for the assessment, SoundPLAN allows 3D elevation data to be combined with ground characteristics and receptor locations, to create a detailed representation of the Project Boundary and surrounding area. The noise model allows the quantification of noise levels from multiple wind turbines based on sound power levels emitted from each wind turbine. The parameter computed at all identified receptors was the $L_{eq,10\text{-minute}}$ parameter, measured in A-weighted decibels (dB(A)).

The Noise Bulletin provides guidance on the modelling parameters to be used. Details of the noise model and the modelling parameters used for this assessment are provided in **Table 6-2**.

Predicted L_{eq} noise levels from the noise model were then compared to the NSW base noise criteria of $L_{Aeq(10\ min)}$ 35 dB(A) for non-associated receivers and $L_{Aeq(10\ min)}$ 45 dB(A) for associated receivers.

Table 6-2 Modelling Parameters

Modelling aspect	Parameter
Software	SoundPLAN 8.2
Algorithm	'International Standard ISO 9613-2:1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation' (ISO 9613-2) (Standards Australia, 1996).
Ground Absorption Factor	0 (Hard ground)
Humidity	80%
Temperature	10°C
Topographical contours	10 m intervals
Receptor height	1.5 m
Wind direction	Downwind – noise level at each receptor is predicted based on being simultaneously downwind of every wind turbine at the site.

6.3.2.2 Predicted Noise Levels

Preliminary $L_{Aeq\ (10\ min)\ noise}$ levels in dB(A) have been predicted and the results are presented in **Table 6-3**.

Table 6-3 Predicted Noise Levels at Receptors

Receptor ID	Status of Landowner	GPS Co-ordinates (UTM Zone 55S, in m)		Predicted Noise Level, $L_{Aeq,10\ min}$ dBA	$L_{eq\ (10\ min)}$ Base Criterion, dBA	Exceedance?
		Easting	Northing			
398	Non-associated	618756	6421205	20.9	35	No
400	Non-associated	624520	6421698	24.6	35	No
1571	Non-associated	628281	6406583	26.7	35	No
59	Non-associated	628125	6406274	25.7	35	No
58	Non-associated	622655	6405741	26.2	35	No
64	Non-associated	621780	6408826	35.1	35	Yes (by 0.1 dB)
72	Associated	622555	6413222	37.2	45	No
29	Non-associated	623863	6419655	35	35	No
70	Non-associated	615869	6417044	21.6	35	No
105	Non-associated	618118	6418087	29.7	35	No
53	Non-associated	614724	6410176	0	35	No
81	Non-associated	614883	6414228	13.6	35	No
90	Non-associated	628273	6406961	28.3	35	No
91	Non-associated	628345	6406713	27	35	No
97	Non-associated	623626	6404341	19.3	35	No
98	Non-associated	623642	6405464	26.5	35	No
99	Non-associated	624462	6406404	32.2	35	No
25	Non-associated	630457	6412886	32.6	35	No
17	Non-associated	622015	6408679	35	35	No
86	Non-associated	622095	6408007	33.6	35	No
49	Non-associated	621858	6407609	31.6	35	No
60	Non-associated	620873	6407447	29	35	No
131	Non-associated	620280	6406676	24	35	No
103	Non-associated	622873	6405383	24.6	35	No
61	Non-associated	618436	6407962	26	35	No
34	Non-associated	626110	6406657	31.8	35	No
85	Non-associated	627866	6408139	34.5	35	No
3	Non-associated	621385	6408072	32.2	35	No
87	Non-associated	622305	6406861	30.4	35	No
108	Non-associated	622391	6406475	28.9	35	No
122	Non-associated	628969	6407419	27.4	35	No
102	Non-associated	622457	6412559	37.6	35	**Yes (By 2.6 dB)**
4	Non-associated	622159	6409040	36.1	35	**Yes (By 1.1 dB)**

Receptor ID	Status of Landowner	GPS Co-ordinates (UTM Zone 55S, in m)		Predicted Noise Level, $L_{Aeq,10\ min}$ dBA	$L_{eq\ (10\ min)}$ Base Criterion, dBA	Exceedance?
		Easting	Northing			
1	Non-associated	626009	6420371	27.4	35	No
5	Non-associated	625545	6406906	33.9	35	No
40	Non-associated	626822	6406391	29.3	35	No
109	Non-associated	622394	6407512	33.3	35	No
170	Non-associated	618954	6421108	22.4	35	No
69	Non-associated	615129	6416154	14	35	No
158	Non-associated	615676	6409974	21.1	35	No
46	Non-associated	623512	6405108	24.3	35	No
180	Associated	624317	6415587	38.5	45	No
7	Associated	616198	6413945	26.8	45	No
22	Associated	623457	6410357	44	45	No
41	Associated	616003	6416131	23.9	45	No
63	Associated	622413	6411866	38.5	45	No
171	Associated	627503	6412600	47.8	45	**Yes (By 2.8 dB)**
375	Associated	622038	6421408	28.2	45	No
1199	Associated	625454	6416192	39.7	45	No
84	Associated	620524	6405932	21.4	45	No
156	Associated	620991	6417819	41.4	45	No
168	Associated	624865	6415580	37.6	45	No

6.3.2.3 Summary of Findings

Noise levels were at the nearest landowner dwelling (receptor) were predicted as detailed in **Table 6-3**. The results indicate that three of the non-associated receptors are predicted to exceed the non-associated receptor base noise criterion of $L_{Aeq(10\ min)}$ 35 dB(A) and one associated receptor is predicted to exceed the associated receptor base noise criterion of $L_{Aeq(10\ min)}$ 45 dB(A).

Additional modelling was conducted using a Nordex N163-5.X – 5.7MW turbine with Serrated Trailing Edge technology (STET) as described in **Section 3.2.2**. The noise levels predicted for STET models are predicted to be 2 dB less than that of non-STET models. With STETs included (as per the project description in **Table 3-2**), one non-associated receptor and one associated receptor are predicted to exceed the base noise criteria of $L_{Aeq(10\ min)}$ 35 dB(A) and $L_{Aeq(10\ min)}$ 45 dB(A) respectively by less than 1 dB.

6.3.2.4 Noise Modelling Limitations

The preliminary NIA summarised above is based on predicted worst-case noise levels and a fixed $L_{Aeq(10\ min)}$ 35 dB(A) base noise criteria (as required in the Noise Bulletin).

Noise levels at receptors from WTG noise increase as the wind speed at the site increases. However, an increase in wind speed typically results in an equal or greater increase in the background noise at receptor locations due to aerodynamic and foliage noise which may mask turbine noise (NSW DPE, 2016). Accordingly, criteria compliance may change with project-specific wind speed-based noise limits that reflect this anticipated increase in background noise with elevated winds.

Background noise is also affected by factors other than wind speed. Several receptors are located near the Newell Highway (located to the south of the Project Boundary) and may experience masking from road traffic noise.

A ground factor of 0 has been adopted for modelling conducted (0 is hard ground, and 1 is soft ground) in alignment with the Noise Bulletin for maximum and worst-case assumptions to be adopted at the Scoping Report stage.

6.3.3. EIS Assessment Approach

This preliminary NIA has focused on operational noise emissions from the wind farm element of the Project. The EIS noise impact assessment will provide further assessment of this factor as well as other noise related aspects of the Project, as listed below:

- A baseline noise monitoring campaign to quantify existing noise conditions (and meteorological conditions) at select non-associated landholders. From this data, wind speed-based noise levels and limits would be established. A site survey will be conducted to assess ground conditions near the most affected receptors and verify a suitable ground factor for noise modelling;
- Detailed noise modelling of the Project's construction and operational phases, both of which will have been refined during the detailed design stages;
- Consideration of:
  - General construction and operational (including ancillary infrastructure) noise impacts to receptors within the potential area of influence of the Project;
  - Road traffic noise impacts (construction and operational phases, with a focus on construction) to receptors within the potential area of influence of the Project;
  - Vibration impacts (construction and operational phases, with a focus on construction) at receptors within the potential area of influence of the Project; and
  - Cumulative operational noise impacts associated with other nearby wind farms or surrounding industry (as relevant);
- Recommendations for noise and vibration reducing mitigation, management measures, safeguards and/or provisions for monitoring;
- The Proponent will undertake comprehensive engagement, and seek compensatory Neighbour Agreement(s), where appropriate.

6.4. Biodiversity

6.4.1. Background

The following section provides a summary of the results and findings of the Preliminary Biodiversity Assessment prepared and contained as **Appendix C** to this Scoping Report.

6.4.2. Preliminary Assessment

6.4.2.1 Overview

The Project is located within two bordering Bioregions and Sub-regions:

- NSW Southern Western Slopes Bioregion (NSS) and the Inland Slopes Sub-region (NSS02), of which almost all of the Project Boundary sits within; and
- Darling Riverine Plains Bioregion (DRP) and the Bogan-Macquarie Sub-region (DRP04); which borders the northern extent of the Project Boundary.

The NSS is dominated by a sub-humid climate, characterised by hot summers and no dry season. The South-Western Slopes Bioregion is a large area of foothills and ranges comprising the western fall of the Great Dividing Range to the edge of the Riverina Bioregion. Vegetation communities are dominated by white box woodlands and open woodlands where higher rainfall occurs in the east, and to the west and north vegetation communities are dominated by grey box and white cypress pine.

The DRP is comprised of the extensive alluvial plains of the network of rivers and creeks that flow into the Darling River. Vegetation in the DRP is dominated by river red gum, black box and black box woodlands, with areas of poplar box, belah, redbox and ironbark woodlands on higher parts of the landscape.

The Project Boundary has generally been utilised for small to mid-scale pastoral and cropping operations, with a predominant focus on sheep for merino wool and broad acre cereal cropping. Large portions of land within the Project Boundary have also been disturbed and are characterised by grazed native and modified grasslands resulting from vegetation clearing and livestock grazing. As a result, densely vegetated areas are primarily located close to, or on the ridges and inclines in the Project Boundary. The Project Boundary is characterised by a mix of improved pasture and high-quality native grasslands, with small remnant patches of woodlands in varying levels of condition. The Project Boundary also consists of densely vegetated ridge tops, scattered remnant trees, linear fragments of riparian vegetation and linear fragments of vegetation along fence lines.

6.4.2.2 Plant Community Types and Potential Threatened Ecological Communities

A review of the state vegetation type mapping for the Central West / Lachlan region (Version 1.4. VIS_ID 4468) was undertaken to access existing vegetation mapping information within the Project Boundary.

In the 2021 Spring survey, ERM conducted 15 vegetation integrity plots (BAM plots) across the Project Boundary, as well as 18 rapid data points. Further collection of BAM plots will be undertaken to meet the BAM requirements and will be completed in subsequent survey periods.

This mapping was further refined based on the Spring survey observations and BAM plot data, resulting in a total of 22 PCTs being identified across the Project Boundary, including non-native vegetation (refer **Figure 6-1**).

Table 6-4 lists these PCTs and the area (ha) of each within the Project Boundary.

Table 6-4 PCTs Mapped within the Project Boundary

PCT No.	PCT Name	Vegetation Class	Potential TEC	Area (ha)	% Project Boundary
0	Non-native	NA	-	3,719.3	38.55
27	Weeping Myall open woodland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion	Riverine Plain Woodlands	BC Act and EPBC Act endangered: ■ Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South-Western Slopes bioregions. ■ BC Act critically endangered: ■ Artesian Springs Ecological Community in the Great Artesian Basin.	1.9	0.02
36	River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion	Inland Riverine Forests	BC Act critically endangered: ■ Artesian Springs Ecological Community in the Great Artesian Basin	0.5	0.01
45	Plains Grass grassland on alluvial mainly clay soils in the Riverina Bioregion and NSW South-Western Slopes Bioregion	Riverine Plain Grasslands	BC Act and EPBC Act critically endangered: ■ Natural Grasslands of the Murray Valley Plains; and ■ Artesian Springs Ecological Community in the Great Artesian Basin.	21.8	0.23
49	Partly derived Windmill Grass – copperburr alluvial plains shrubby grassland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion	Semi-arid Floodplain Grasslands	EPBC Act endangered: ■ Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South-Western Slopes bioregions. BC Act critically endangered: ■ Artesian Springs Ecological Community in the Great Artesian Basin.	2.4	0.03
70	White Cypress Pine woodland on sandy loams in central NSW wheatbelt	Floodplain Transition Woodlands	-	126.4	1.31

PCT No.	PCT Name	Vegetation Class	Potential TEC	Area (ha)	% Project Boundary
74	Yellow Box – River Red Gum tall grassy riverine woodland of NSW South-Western Slopes Bioregion and Riverina Bioregion	Floodplain Transition Woodlands	BC Act and EPBC Act critically endangered: ■ White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South-Eastern Highlands, NSW South-Western Slopes, South-East Corner and Riverina Bioregions.	59.4	0.62
76	Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South-Western Slopes and Riverina Bioregions	Floodplain Transition Woodlands	BC Act and EPBC Act endangered: ■ Inland Grey Box Woodland in the Riverina, NSW South-Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.	247.8	2.57
77	Yarran shrubland of the NSW central to northern slopes and plains	North-west Plain Shrublands	BC Act critically endangered: ■ Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South-Western Slopes Bioregion.	18.4	0.19
80	Western Grey Box – White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South-Western Slopes Bioregion and Riverina Bioregion	Floodplain Transition Woodlands	BC Act and EPBC Act endangered: ■ Inland Grey Box Woodland in the Riverina, NSW South-Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.	11.9	0.12
81	Western Grey Box – cypress pine shrub grass shrub tall woodland in the Brigalow Belt South Bioregion	Floodplain Transition Woodlands	BC Act and EPBC Act endangered: ■ Inland Grey Box Woodland in the Riverina, NSW South-Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.	0.3	0.003
82	Western Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion	Floodplain Transition Woodlands	BC Act and EPBC Act endangered: ■ Inland Grey Box Woodland in the Riverina, NSW South-Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.	19.3	0.20

PCT No.	PCT Name	Vegetation Class	Potential TEC	Area (ha)	% Project Boundary
83	Yellow Box woodland on sandy loam soils on alluvial plains mainly in the upper Darling Riverine Plain Bioregion	Inland Floodplain Woodlands	BC Act and EPBC Act critically endangered: ■ White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South-Eastern Highlands, NSW South-Western Slopes, South-East Corner and Riverina Bioregions; and ■ Artesian Springs Ecological Community in the Great Artesian Basin.	0.4	0.004
110	Western Grey Box – Cypress Pine shrubby woodland on stony footslopes in the NSW South-Western Slopes Bioregion and Riverina Bioregion	Western Slopes Dry Sclerophyll Forests	BC Act and EPBC Act endangered: ■ Inland Grey Box Woodland in the Riverina, NSW South-Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.	0.3	0.004
185	Dwyer's Red Gum – White Cypress Pine – Currawang shrubby woodland mainly in the NSW South-Western Slopes Bioregion	Inland Rocky Hill Woodlands	-	279.5	2.90
186	Dwyer's Red Gum – Black Cypress Pine – Currawang shrubby low woodland on rocky hills mainly in the NSW South-Western Slopes Bioregion	Inland Rocky Hill Woodlands	BC Act critically endangered: ■ Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South-Western Slopes Bioregion.	113.7	1.18
201	Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South-Western Slopes Bioregion	Western Slopes Grassy Woodlands	BC Act endangered: ■ Fuzzy Box Woodland on alluvial Soils of the South-Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions.	0.9	0.01

PCT No.	PCT Name	Vegetation Class	Potential TEC	Area (ha)	% Project Boundary
217	Mugga Ironbark – Western Grey Box – cypress pine tall woodland on footslopes of low hills in the NSW South-Western Slopes Bioregion	Western Slopes Dry Scherophyll Forests	BC Act critically endangered: ■ Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South-Western Slopes Bioregion.	616.6	6.39
250	Derived tussock grassland of the central western plains and lower slopes of NSW	Western Slopes Grassland	BC Act and EPBC Act critically endangered: ■ White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South-Eastern Highlands, NSW South-Western Slopes, South-East Corner and Riverina Bioregions. EPBC Act endangered: ■ Inland Grey Box Woodland in the Riverina, NSW South-Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.	923.7	9.58
267	White Box – White Cypress Pine – Western Grey Box shrub/grass/forb woodland in the NSW South-Western Slopes Bioregion	Western Slopes Grassy Woodlands	BC Act and EPBC Act critically endangered: ■ White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South-Eastern Highlands, NSW South-Western Slopes, South-East Corner and Riverina Bioregions.	108.2	1.12
461	Tumbledown Gum woodland on hills in the northern NSW South-Western Slopes Bioregion and southern Brigalow Belt South Bioregion	Western Slopes Grassy Woodlands	-	199.9	2.07
796	Derived grassland of the NSW South-Western Slopes	Western Slopes Grasslands	BC Act critically endangered: ■ White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South-Eastern Highlands, NSW South-Western Slopes, South-East Corner and Riverina Bioregions.	3,174.3	32.90
TOTAL				**9646.9**	**100%**

Six (6) EPBC Act TECs were identified within the Protected Matters Search Tool as having the potential to occur within the Project Boundary. These TECs include:

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of Southeastern Australia;
- Weeping Myall Woodlands;
- Coolibah – Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions;
- White Box-Yellow Box-Blakeley's Red Gum Grassy Woodland and Derived Native Grassland;
- Poplar Box Grassy Woodland on Alluvial Plains; and
- Natural Grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland.

Further assessment and analysis within the BDAR will confirm TECs within the Project Boundary, specifically the Disturbance Footprint. Fieldwork completed to date has identified areas of potential White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland within the Project Boundary. For this community to meet the requirements of the EPBC Act TEC, the structure generally needs to be of a woodland community and excludes areas of derived native grassland.

A further three (3) TECs have the potential to occur based on their association with identified PCTs:

- Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South-Western Slopes Bioregion (PCT 217, 186, 77);
- Fuzzy Box Woodland on alluvial Soils of the South-Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions (PCT 201); and
- Artesian Springs Ecological Community in the Great Artesian Basin. (PCT 83, 49. 45, 27).

These will need further assessment and confirmation throughout the subsequent survey periods.

The dominant vegetation type within the Project Boundary has been identified as PCT 796 'Derived grassland of the NSW South-Western Slopes', which covers approximately a third of the Project Boundary. Other dominant communities include PCT 250 'Derived tussock grassland of the central western plains and lower slopes of NSW', PCT 217, and 'Mugga Ironbark – Western Grey Box – cypress pine tall woodland on foot-slopes of low hills in the NSW South-Western Slopes Bioregion'.

Potential Threatened Ecological Communities within the Project Boundary

F6-1

Drawing No:	0599824m_WCWF_SR_G026_R04.mxd		
Date:	29/11/2022	Drawing Size: A3	
Drawn By:	MB/SP	Reviewed By: NB	

Coordinate System: GDA 1994 MGA Zone 55

0 1 2 km

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Wallaby Creek Wind Farm Scoping Report

Client: Acciona

ERM

Legend

- Main Roads
- Minor Roads

Project Elements

- Project Boundary
- Narromine South Switching Station
- Site Access
- Turbines
- Met Masts
- Access Tracks
- Public Road - Proposed Upgrade
- Carpark
- Hardstands
- Batching Plant
- Compound
- Laydown
- Borrow Pit
- O & M
- BESS
- Substations
- Transmission Line
- Transmission Corridor

Data Source:
Layout: Client Provided (October 22)
PCT - West Lachlan v1.4 VIS ID 4468
Basedata: NSW DCDB/ DTDB
Imagery: ESRI World Imagery July 2021

Floodplain Transition Woodlands
74
76
80
81
82

Inland Floodplain Woodlands
83

Inland Riverine Forests
36

Inland Rocky Hill Woodlands
186

Riverine Plain Grasslands
45

Riverine Plain Woodlands
27

Semi-arid Floodplain Grasslands
49

Western Slopes Dry Schlerophyll Forests
110
217

Western Slopes Grassland
250
796

Western Slopes Grassy Woodlands
201
267

620000
630000
6430000
6420000
6410000
GAINSBOROUGH ROAD
DAPPO ROAD
WEBBS SIDING ROAD
REIDS ROAD
Benson / Tanitha Road
FARRENDALE ROAD
THE MCGRANE WAY
VILLENEUVE DRIVE
WALLABY ROAD
CRAIGIE LEA LANE
PINEDEAN ROAD
BOOTLES ROAD
HABERWORTH LANE
FAIRVIEW ROAD
TOMINGLEY ROAD
PEAK HILL ROAD
DAYS ROAD
BELOWRIE ROAD
BENSONS ROAD
MOMO ROAD
NEWELL HIGHWAY
WARDS ROAD
GUNDONG ROAD
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6.4.2.3 Threatened Flora and Fauna Species

As described in the Preliminary Biodiversity Assessment (refer **Appendix C**), **Table 6-5** presents the species, which are likely to occur within the Project Boundary based on database records, suitable habitat present within the Project, and / or from observations during Spring 2021 and Summer 2022 field surveys. **Table 6-5** also includes the species likelihood of occurrence assessment outcomes and State and Commonwealth listing status.

Figure 6-2 further presents the field survey locations and effort from the Spring 2021 and Summer 2022 surveys, while **Figure 6-3** presents the species' observations during field surveys.

Table 6-5 Threatened Species Known or Likely to Occur within the Project

Scientific Name	Common Name	BC Act	EPBC Act	Likelihood of Occurrence	Recorded During Surveys
Flora					
Swainsona sericea	Silky Swainson-pea	V	-	Likely	No
Dichanthium setosum	Bluegrass	V	V	Likely	No
Androcalva procumbens	-	V	V	Potential	No
Austrostipa wakoolica	-	E	E	Potential	No
Diuris tricolor	Pine Donkey Orchid	V	-	Potential	No
Homoranthus darwinioides	Fairy-bells	V	V	Potential	No
Lepidium aschersonii	Spiny Pepper-cress	V	V	Potential	No
Lepidium monoplocoides	Winged Pepper-cress	E	E	Potential	No
Pterostylis cobarensis	Greenhood Orchid	V	-	Potential	No
Swainsona plagiotropis	Red Darling pea	V	V	Potential	No
Swainsona recta	Small Purple-pea	E	E	Potential	No
Tylophora linearis	-	V	E	Potential	No
Fauna					
Aphelocephala leucopsis	Southern Whiteface	-	V	Known	No
Artamus cyanopterus	Dusky Woodswallow	V	-	Known	Yes
Circus assimilis	Spotted Harrier	V	-	Known	Yes
Pomatostomus temporalis	Grey-crowned Babbler	V	-	Known	Yes
Saccolaimus flaviventris	Yellow-bellied Sheathtailed Bat	V	-	Known	Yes
Stagonopleura guttata	Diamond Firetail	V	V	Known	Yes
Tyto novaehollandiae	Masked Owl	V	-	Known	Yes
Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	V	V	Likely	Yes
Calyptorhynchus lathami	Glossy Black-Cockatoo	V	V	Likely	No

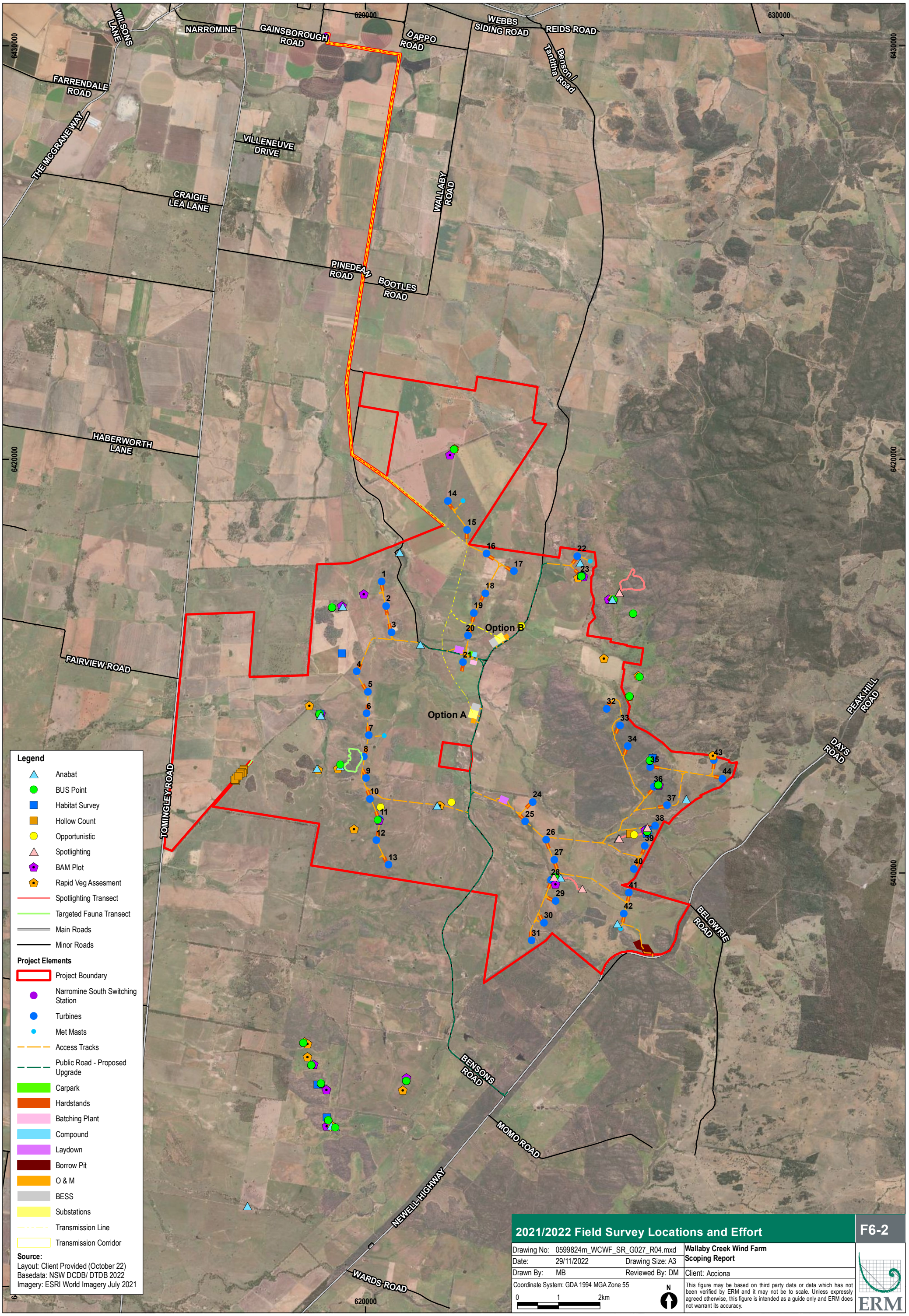
Scientific Name	Common Name	BC Act	EPBC Act	Likelihood of Occurrence	Recorded During Surveys
Chthonicola sagittata	Speckled Warbler	V	-	Likely	No
Daphoenositta chrysoptera	Varied Sittella	V	-	Likely	No
Hieraaetus morphnoides	Little Eagle	V	-	Likely	No
Glossopsitta pusilla	Little Lorikeet	V	-	Likely	No
Lathamus discolor	Swift Parrot	E	CE	Likely	No
Melanodryas cucullata cucullata	South-eastern Hooded Robin	E	E	Likely	No
Ninox connivens	Barking Owl	V	-	Likely	No
Petroica phoenicea	Flame Robin	V	-	Likely	No
Polytelis swainsonii	Superb Parrot	V	V	Likely	No
Chalinolobus picatus	Little Pied Bat	V	-	Likely	No
Nyctophilus corbeni	Corben's Long-eared Bat	V	V	Likely	Potentially
Dasyurus maculatus maculatus	Spotted-tailed Quoll	V	E	Likely	No
Pteropus poliocephalus	Grey-headed Flying-fox	V	V	Likely	No
Phascolarctos cinereus	Koala	E	E	Likely	No

In the case of Corben's Long-eared Bat, the call from this species has been recorded across the Project Boundary (refer **Figure 6-3**) but is not readily distinguished between other individuals in the *Nyctophilus* genus. However, a conservative approach of considering it likely to occur has been taken.

The survey effort for threatened flora will be continued during upcoming field surveys to meet the requirements of the BAM, and to inform the EIS.

In accordance with the requirements of Section 5.2 of the BAM, the BDAR will identify the habitat suitability for threatened species within the Project Boundary.

Species that meet all the relevant criteria will be automatically populated in the BAM-C to be assessed either for ecosystem credits or species credits. No further assessment is required for those species that are unlikely to occur or where the Project Boundary is considered as unsuitable habitat.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REIDS ROAD
Benson / Tamitha Road
FARRENDALE ROAD
THE MCGRANE WAY
VILLENEUVE DRIVE
WALLABY ROAD
CRAIGIE LEA LANE
PINEDEAN ROAD
BOOTLES ROAD
HABERWORTH LANE
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TOMINGLEY ROAD
Option A
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DAYS ROAD
BELOWRIE ROAD
BENSONS ROAD
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Habitat Survey
Hollow Count
Opportunistic
Spotlighting
BAM Plot
Rapid Veg Assesment
Spotlighting Transect
Targeted Fauna Transect
Main Roads
Minor Roads
Project Elements
Project Boundary
Narromine South Switching Station
Turbines
Met Masts
Access Tracks
Public Road - Proposed Upgrade
Carpark
Hardstands
Batching Plant
Compound
Laydown
Borrow Pit
O & M
BESS
Substations
Transmission Line
Transmission Corridor
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021
2021/2022 Field Survey Locations and Effort
F6-2
Drawing No: 0599824m_WCWF_SR_G027_R04.mxd
Date: 29/11/2022
Drawing Size: A3
Drawn By: MB
Reviewed By: DM
Coordinate System: GDA 1994 MGA Zone 55
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Wallaby Creek Wind Farm
Scoping Report
Client: Acciona
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
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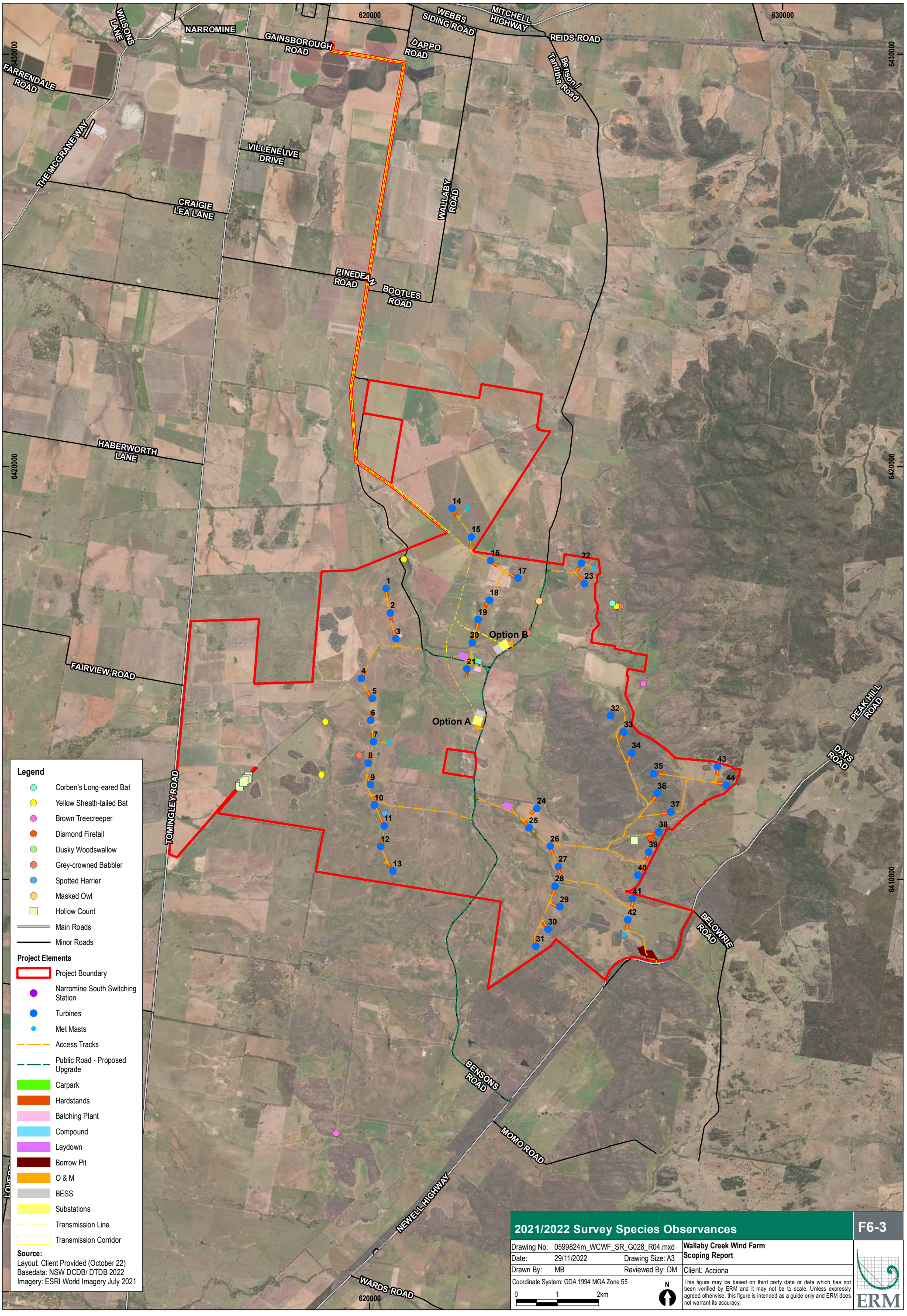
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WILSONS LANE
NARROMINE
GAINSBOROUGH ROAD
DAPPO ROAD
WEBBS SIDING ROAD
MITCHELL HIGHWAY
REIDS ROAD
Benson / Tantitha Road
FARRENDALE ROAD
THE MCGRANE WAY
VILLENEUVE DRIVE
WALLABY ROAD
CRAIGIE LEA LANE
PINEDEAN ROAD
BOOTLES ROAD
HABERWORTH LANE
FAIRVIEW ROAD
TOMINGLEY ROAD
Option A
Option B
PEAK HILL ROAD
DAYS ROAD
BELOWRIE ROAD
BENSONS ROAD
MOMO ROAD
NEWELL HIGHWAY
WARDS ROAD
Legend
Corben's Long-eared Bat
Yellow Sheath-tailed Bat
Brown Treecreeper
Diamond Firetail
Dusky Woodswallow
Grey-crowned Babbler
Spotted Harrier
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Hollow Count
Main Roads
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Narromine South Switching Station
Turbines
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Public Road - Proposed Upgrade
Carpark
Hardstands
Batching Plant
Compound
Laydown
Borrow Pit
O & M
BESS
Substations
Transmission Line
Transmission Corridor
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021
2021/2022 Survey Species Observances
F6-3
Drawing No: 0599824m_WCWF_SR_G028_R04.mxd
Date: 29/11/2022
Drawing Size: A3
Drawn By: MB
Reviewed By: DM
Coordinate System: GDA 1994 MGA Zone 55
0 1 2km
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Wallaby Creek Wind Farm
Scoping Report
Client: Acciona
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

A preliminary list of candidate species is provided in **Table 6-6**.

Table 6-6 Candidate Species Requiring Assessment under the BAM

Scientific Name	Common Name
Fauna	
Anthochaera phrygia	Regent Honeyeater
Aprasia parapulchella	Pink-tailed Legless Lizard
Ardeotis australis	Australian Bustard
Burhinus grallarius	Bush Stone-curlew
Calyptorhynchus banksii samueli	Red-tailed Black cockatoo
Calyptorhynchus lathami	South-eastern Glossy Black-Cockatoo
Crinia sloanei	Sloane's Froglet
Haliaeetus leucogaster	White-bellied Sea-Eagle
Hamirostra melanosternon	Black-breasted Buzzard
Hieraaetus morphnoides	Little Eagle
Hoplocephalus bitorquatus	Pale-headed Snake
Lophochroa leadbeateri	Major Mitchell's Cockatoo
Lophoictinia isura	Square-tailed Kite
Ninox connivens	Barking Owl
Pandion cristatus	Eastern Osprey
Phascogale tapoatafa	Brush-tailed Phascogale
Phascolarctos cinereus	Koala
Polytelis swainsonii	Superb Parrot
Pteropus poliocephalus	Grey-headed Flying-fox
Turnix maculosus	Red-backed Button-quail
Tyto novaehollandiae	Masked Owl
Flora	
Dichanthium setosum	Bluegrass
Pterostylis cobarensis	Greenhood Orchid
Diuris tricolor	Pine Donkey Orchid
Lepidium monoplocoides	Winged Pepper-cress
Swainsona murrayana	Slender Darling Pea
Swainsona recta	Small Purple Pea
Swainsona plagiotropis	Red Darling Pea

6.4.2.4 Bird Utilisation

Prescribed impacts related to wind farm development apply not only to threatened species but also to any resident raptor species and nomadic or migratory species whose flight paths are likely to cross the Project Boundary, in particular the Disturbance Footprint (Paragraph 6.7.1.5 of the BAM).

Initial Bird Utilisation Surveys (BUS) were undertaken by ERM during the Spring 2021 and Summer 2022 surveys. The survey effort was consistent with the requirements for a 'Level One' bird risk assessment in accordance with the *Best Practice Guidelines for Implementation of Wind Energy Projects in Australia* issued by the Clean Energy Council (CEC, 2018) and the Australian Wind Energy Association Report *Wind Farms and Birds: Interim Standards for Risk Assessment* (AusWind, 2005). During the formal BUSs, a combined total of 61 species were recorded over Spring and Summer.

During the initial BUS, three (3) raptor species were considered vulnerable to collision and were recorded within the likely Rotor Swept Area (RSA), however the level of use of the site by these species was considered low.

- Wedge-tailed Eagle (*Aquila audax*);
- Brown Falcon (*Falco berigora*); and
- Spotted Harrier (*Circus assimilis*).

Nesting sites were recorded for raptors, including the Little Eagle, Brown Falcon and Wedge-tailed Eagle. At least three pairs of Wedge-tailed Eagles were observed to potentially hold territories and nests within the Disturbance Footprint.

The EIS and BDAR will assess potential collision risks to both birds and bats.

6.4.2.5 Bat Utilisation

Analysis of the calls that were obtained from the songmeters and anabats deployed in the 2021 Spring and Summer 2022 surveys returned a total of 12 species identifications. Of these species, the following two listed threatened species were identified as present within the Project Boundary:

- Corben's Long-eared Bat (*Nyctophilus corbeni)*; and
- Yellow-bellied sheath-tailed Bat (*Saccolaimus flaviventris*).

Calls from *Nyctophilus sp.* have been confirmed within the Project Boundary. Three species of *Nyctophilus* possibly occur within the Project Boundary, however, the calls of this genus cannot be distinguished from each other. *Nyctophilus corbeni* (Corben's Long-eared Bat) is listed Vulnerable under the BC Act and the EPBC Act. All species would be subject to further survey assessment in the future.

6.4.3. EIS Assessment Approach

The construction and operation of the Project has the potential to cause impacts to threatened species and TECs listed under the BC Act and EPBC Act. These will need to be considered as part of the EIS to be prepared under Part 4 of the NSW EP&A Act. Additionally, an EPBC Act Referral for the Project will be made to DCCEEW.

As the Project is a major project and there are recorded biodiversity values within the Project Boundary, application of the BAM and the preparation of a BDAR will be required. Survey requirements will be undertaken throughout the development of the EIS as per the 'Biodiversity Assessment Method 2020'.

Candidate species will be selected for further assessment by considering how they and their habitat might be affected by the Project. A preliminary list has been presented at **Table 6-6**.

The main potential impacts of the Project (during construction and operation) that would need to be assessed include:

- Clearing of TECs;
- Loss of extant native vegetation communities and associated fauna habitat and the subsequent impacts to local population of native species, particularly threatened and migratory species;
- Loss of and impact to resident raptor nesting sites;
- Increased habitat fragmentation;
- Mortality and injury of avian and microchiropteran species from turbine strike;
- Mortality and injury from vehicle strike and vegetation clearing; and
- Mortality and injury from barotrauma.

Mitigation measures relevant to threatened species, TECs, native vegetation communities, species vulnerable to turbine strikes, hydrology and construction impacts will be addressed within the EIS. There is also a risk that weeds may be transported within and off-site. Mitigation measures to reduce the chance of the spread of weeds will be considered within the EIS.

At this early development and assessment phase, the Applicant has taken steps to prioritise the avoidance and mitigation of potential impacts to biodiversity by the Project. This includes the early and proactive decision to undertake field surveys for the Project to make more informed decisions about impact assessment to environmental values. This early and proactive decision has helped inform the most current layout in order to avoid highly sensitive areas prior to the BAM assessment.

The desktop assessment and field surveys undertaken to date have highlighted a range of known and potential biodiversity constraints (refer **Figure 6-4**).

The following steps are considered essential in ensuring an adequate assessment of biodiversity values is continued throughout future stages of the Project:

- Prepare and submit a BDAR in accordance with the BAM, that includes design recommendations to avoid and minimise impacts to significant biodiversity features and SAII entities;
- Prepare a detailed assessment of MNES;
- Conduct further BAM plots to delineate vegetation zones, and targeted seasonal fauna and flora surveys for species considered likely or with the potential to occur within the Project Boundary, in accordance with relevant Commonwealth and State survey guidelines; and
- Effectively minimise impacts associated with the Project through appropriate implementation of the mitigation hierarchy (avoid, minimise and mitigate).

PCT ID	Abbreviation
27	(BC CEEC & EEC, EPBC CEEC)
36	(BC CEEC)
45	(BC CEEC)
49	(BC CEEC, EEC)
74	(BC CEEC, EPBC CEEC)
76	(BC CEEC, EPBC CEEC)
77	(BC CEEC)
80	(BC CEEC, EPBC CEEC)
81	(BC EEC, EPBC EEC)
82	(BC CEEC, EPBC CEEC)
83	(BC EEC, EPBC EEC)
110	(BC EEC, EPBC EEC)
186	(BC CEEC)
201	(BC EEC)
217	(BC CEEC)
250	(BC CEEC, EPBC CEEC & EEC)
267	(BC CEEC, EPBC CEEC)
796	(BC CEEC)

Legend

- Corben's Long-eared Bat
- Yellow Sheath-tailed Bat
- Brown Treecreeper
- Diamond Firetail
- Dusky Woodswallow
- Grey-crowned Babbler
- Spotted Harrier
- Masked Owl
- TEC
- Exempt Lands
- Main Roads
- Minor Roads
- Path/Track

Project Elements

- Project Boundary
- Narromine South Switching Station
- Site Access
- Turbines
- Met Masts
- Access Tracks
- Public Road - Proposed Upgrade
- Carpark
- Hardstands
- Batching Plant
- Compound
- Laydown
- Borrow Pit
- O & M
- BESS
- Substations
- Transmission Line
- Transmission Corridor

Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021

PCT ID: 0, 27, 36, 45, 49, 70, 74, 76, 77, 80, 81, 82, 83, 110, 185, 186, 201, 217, 250, 267, 461, 796

Preliminary Biodiversity Constraints

F6-4

Drawing No:	0599824m_WCWF_SR_G029_R05.mxd		Wallaby Creek Wind Farm Scoping Report
Date:	02/03/2023	Drawing Size: A3	
Drawn By:	MB	Reviewed By: EM	Client: Acciona

Coordinate System: GDA 1994 MGA Zone 55

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6.5. Heritage – Aboriginal

6.5.1. Background

The Project Boundary is comprised of a transitional environment where the western portion of the Project Boundary is located within the Darling Riverine Plains Bioregion, and the eastern portion of the Project Boundary is located within the NSW South Western Slopes Bioregion.

The Darling Riverine Plains Bioregion is comprised of an extensive network of alluvial plains and rivers which flow into the Darling River. Landscapes across this portion of the Project Boundary include Pleistocene and Holocene aged fluvial sediments and Holocene aged tributaries and floodplains (NPWS 2003) (refer **Figure 6-5**).

The South Western Slopes Bioregion is comprised of extensive foothills and ranges comprised of the lower slopes of the Great Dividing Range (NPWS 2003). Elevation is highest in the southern portion of the Project Boundary associated with the Geurie Granite landscape while foothills of a lower elevation are associated with the Narromine Hills to the north. These landscapes are underlain by Yeoval Granites comprised of Granite, Adamellite, Granodiorute, Diorite and Porphyritic phases and Middle Ordovician Phyllite overlain by eluvial deposits (Sherwin and Healy 1972). Underlying geologies across the eastern portion of the Project Boundary are volcanic and include the Mugincoble Chert which is associated with prominent ridges (Percival, Quinn and Glen 2011:20).

There are a number of soil types across the Project Boundary which range from sandy clay loams to silty clay loams (OEH 2021a). Soil depths are generally shallow within upper slopes increasing significantly in lower slopes where colluvial and alluvial sediments have accumulated.

The Project Boundary is crossed by a number of west-flowing non perennial creek lines including Bundara Creek and Wallaby Creek. These tributaries are fed by a number of unnamed low order tributaries.

6.5.1.1 Ethnographic Background

The Project Boundary is within the boundaries of the Wiradjuri linguistic group (Tindale 1974). The Wiradjuri lands cover a vast distance including the Riverine Plains in the west and the Central Tablelands in the east. The Wiradjuri Nation are known as the people of the three rivers, being the Macquarie River (Wambool), Lachlan River (Kalari) and the Murrumbidgee River (Murrumbidjeri). The Project Boundary is within the boundaries of the Bogan River Wiradjuri whose lands are bound to the east by the Hervey Ranges (Goobang) (OzArk 2011: 31).

Records of early European exploration of the region by Oxley and Cunningham in 1817 includes reference to evidence of Aboriginal use of the landscape in proximity to Tomingley.

Relating to the travels of August 10, 1817, Oxley wrote:

> *"We have hitherto seen no other signs of this being inhabited country than the marks usually made by the natives in ascending the trees, and none of these were very recent. It is probable that they may see us without discovering themselves….. (Whitehead 2003: 298 in OzArk 2010:31)".*

On August 13, 1817 Oxley noted that:

> *"On the banks of that burn (Scottish for creek), many heaps of the pearl mussel shells were found, and marks of flood about eight feet. We have for several days past seen no signs of any natives being the marks on the trees, which were the only marks we saw, being several months old, and never seen except in the vicinity of water. Marks of the natives' tomahawks were to us certain signs of approaching water (Whitehead 2003: 303 in OzArk 2010: 32)".*

Rivers have been identified as integral to the cultural landscape of the Wiradjuri people with ethnographic records identifying Wiradjuri people as moving in small groups along river flats, open plains and waterways. The use of the landscape was also determined by the seasons and available resources (Comber 2007:24). Mitchell in his observations of the people of the Bogan River noted that the Bogan River Wiradjuri lived on possum, kangaroo, emu, fish and freshwater mussels (as sited in Comber 2007: 29).

With the encroachment of pastoral stations in the mid-late 1800s many Aboriginal people began to congregate near stations and seek work as timber cutters, shearers, stockmen and domestic workers (Comber 2007:31). While this transition somewhat altered the way of life for Aboriginal people, aspects of traditional life were able to be maintained with initiations continuing around Tomingley and Bulgadramine until the 1870s (Macdonald and Powell 2001:6 in Comber 2007:31).

The Aborigines Protection Act took effect in 1910 which placed increasing pressure on the Wirradjuri to move onto Aboriginal reserves. At that time many of the Bogan River Wiradjuri had congregated at several preferred traditional camping areas including one at Tomingley. The site at Tomingley was recorded to be located on a well-used route along Gundong Creek.

6.5.2. Preliminary Assessment

6.5.2.1 AHIMS Search Results

The Aboriginal Heritage Information Management System (AHIMS) database provides information concerning previously recorded Aboriginal sites in NSW. An extensive search of the AHIMS database was conducted on 21 September 2021 to identify registered sites within and in the vicinity of the Project Boundary. The results of the AHIMS search were re-downloaded on 9 May 2023 to identify any additional sites which had been identified following the preliminary search. The AHIMS search utilised the details provided in **Table 6-7**.

A total of 50 registered Aboriginal sites were identified within the AHIMS search area (as of 9 May 2023) (refer **Appendix D** for map of search area). The majority of sites were recorded as Modified Tree (Carved or Scarred) (n=37, 74%) with some modified tree sites including artefact and burial site features (the latter of are both outside the Project Boundary).

One previously registered site was identified within the Project Boundary with the site identified as a Modified Tree. The results of the extensive AHIMS search are summarised in **Table 6-8** and shown in **Appendix D**.

Table 6-7 AHIMS Database Search Details

Item	Detail
Client Service ID	623972
Datum	GDA Zone 55
Eastings	613101 to 630971 m E
Northings	6398293 to 6426135 m N
Buffer	0 m
Number Sites	50

Table 6-8 AHIMS Registered Site Features

Site Type	Total Number
Artefact	10
Artefact, Modified Tree (Carved or Scarred)	1
Modified Tree (Carved or Scarred)	37
Modified Tree (Carved or Scarred), Burial	2

6.5.2.2 Landform Potential

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (Due Diligence Code of Practice) (DECCW 2010: 12) identifies landscape features which are likely to indicate the presence of Aboriginal objects. These features include land:

- Within 200 m of waters, or;
- Located within a sand dune system, or;
- Located on a ridge top, ridge line or headland, or;
- Located within 200 m below or above a cliff face, or;
- Within 20 m of or in a cave, rock shelter, or a cave mouth.

Desktop assessment has identified that the Project Boundary is located within a transitional environment extending from an area of undulating foothills in the east of the Project Boundary towards the alluvial flats of the surrounding floodplain in the west. Several spur and ridge landforms were identified within the Project Boundary which were identified to be archaeologically sensitive. These areas often overlapped with areas of intact vegetation which were also flagged as archaeologically sensitive based on the high number of culturally modified trees noted in the extensive AHIMS search. While it is noted that culturally modified trees are more likely to be located close to water, the extensive AHIMS search provides evidence to suggest that culturally modified trees may be located in any area where vegetation of an appropriate age and species exists.

Review of ethnographic sources has identified the proximity of water as a key determining feature of past Aboriginal land use. A number of non-perennial drainage lines have been identified across the project site. In accordance with the due diligence code of practice, land within proximity to these watercourses have also been mapped as archaeologically sensitive. Identified areas of archaeological sensitivity are shown in **Figure 6-5** . It is noted that this figure is based on high-level mapping analysis and further investigation would be required to ground truth these features and any significant areas of concern.

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6400000
FARRENDALE ROAD
WILSONS LANE
NARROMINE
GAINSBOROUGH ROAD
APPO ROAD
WEBBS SIDING ROAD
REIDS ROAD
Benson / Tantitha Road
CRAIGIE LEA LANE
WALLABY ROAD
NARWONAH ROAD
THE MCGRANE WAY
PINEDEAN ROAD
BOOTLES ROAD
HABERWORTH LANE
PEAK HILL RAILWAY ROAD
HARGREAVES ROAD
TOM MCCARRONS ROAD
FAIRVIEW ROAD
TOMINGLEY ROAD
Option A
Option B
PEAK HILL ROAD
DAYS ROAD
BELOWRIE ROAD
BENSONS ROAD
MOMO ROAD
NEWELL HIGHWAY
WARDS ROAD
GUNDONG ROAD
TINKS LANE
MYALL STREET
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Legend

- Main Roads
- Minor Roads
- Parkes Narromine Railway
- Narromine South Switching Station

Project Elements

- Project Boundary
- Turbines
- Met Masts
- Access Tracks
- Public Road - Proposed Upgrade
- Carpark
- Hardstands
- Batching Plant
- Compound
- Laydown
- Borrow Pit
- O & M
- BESS
- Substations
- Transmission Line
- Transmission Corridor

AHIMS Sites

- Artefact
- Artefact, Modified Tree (Carved or Scarred)
- Modified Tree (Carved or Scarred)
- Modified Tree (Carved or Scarred), Burial

Aboriginal Heritage Sensitivity

- High
- Moderate
- Low
- Tantitha Homestead
- Tantitha Homestead Curtilage

Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB
Imagery: ESRI World Imagery July 2021

Heritage

F6-5

Drawing No:	0599824m_WCWF_SR_G021_R04.mxd		**Wallaby Creek Wind Farm Scoping Report**
Date:	29/11/2022	Drawing Size: A3	
Drawn By:	MB	Reviewed By: DM	Client: Acciona

Coordinate System: GDA 1994 MGA Zone 55

0 1.5 3km

N

ERM

6.5.3. EIS Assessment Approach

Based on the results of the preliminary assessment, it is understood that the Project Boundary contains recorded Aboriginal archaeological resources, and it is considered likely that portions of the Project Boundary not previously subject to survey would also contain evidence of past Aboriginal land use. Predictive modelling prepared at this stage of the process can assist in determining sensitive landscapes; however, it is acknowledged that more detailed investigation and assessment will be required to inform the next phase of project planning and design. In consideration of these factors, the following recommendations are made:

- Comprehensive investigation, to include pedestrian field survey, consultation with Aboriginal stakeholders, sensitivity mapping, and archaeological test excavation (as required) should be undertaken during the EIS stage;
- These investigations are to be undertaken in accordance with all NSW legislation and relevant guidelines including the 'Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW' (OEH, 2011), the 'Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW' (DECCW, 2010a), and 'Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010' (DECCW, 2010b);
- Results of the investigations are to be detailed in an Aboriginal Cultural Heritage Assessment Report (ACHAR), in accordance with the 'Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW' (DECCW, 2010a); and
- Depending upon the results of the ACHAR, a Cultural Heritage Management Plan (CHMP) may be required to be prepared to ensure appropriate management of any identified cultural heritage throughout the construction process.

6.6. Heritage – Historic

6.6.1. Background

The Parkes district was visited by several explorers and surveyors in the early 1800s. The first survey was undertaken by John Oxley in 1817 which included the watershed between the Bogan and Lachlan Rivers. Mitchell completed further survey in 1835 which found that European squatters were entering the area despite the land being outside the limits of settlement at the time. Formal pastoral stations were quickly established following Mitchell's exploration across the region. In 1848, a run of 22,400 acres was claimed by J Gilmore which was named Tomingley.

This run covered the majority of current extent of Tomingley town as well as the southern portion of the Project Boundary. The northern portion of the Project Boundary was within the Euromedah run which was initially held by Edwin Park, before being taken up by Thomas Gore and then Saul Samuel (Narromine Local History Group 2002:144). In the mid 1800's recorded structures on the Euromedah run included huts and sheep yards while Tomingley was identified to contain huts, store, kitchen and stockyards (Narromine Local History Group 2002:146).

The *Robertson Land Act 1861* was passed allowing free selection before survey. The opening up of these conditional purchases resulted in the growth of the number of pastoral runs in the area including the taking up 200 acres on the Euromedah run by J.C. Ryrie in1868 (Narromine Local History Group 2002:33).

Gold was discovered in Tomingley in 1879. Bill Reakes and Jim Smith had sunk two exploration shafts which found gold deposits at 65 feet and 25 feet depth. The quality of the gold was substantial enough to support a gold mining community. In 1883 the Tomingley Gold Mining Company was established with the town of Tomingley proclaimed in 1884. The Tomingley Goldfields were located in the central portion of the Project Boundary within the land previously occupied by the Euromedah run.

In 1895 five leases south of Tomingley were sold to the Myall United Gold Mine which later became the McPhail Mine. The McPhail mine was located approximately 2 km south of the current Tomingley township.

By the 1880s gold mining was providing work for hundreds of people prompting the development of infrastructure within the Tomingley township. Developments included churches, a school, hotels and houses. By the early 1900's gold mining in the area had begun to decline with grazing and cropping overtaking gold as the area's staple industry (Narromine Local History Group 2002:75). Historical and recent aerial photographs indicate that land within the Project Boundary continues to be utilised predominantly for agriculture.

6.6.2. Preliminary Assessment

6.6.2.1 Heritage Register Searches

A search of online heritage databases was undertaken on 20 June 2022.

The following online databases were reviewed:

- Australian Heritage Database;
- NSW State Heritage Inventory (SHI);
- NSW State Heritage Register; and
- Schedule 5 of the Narromine LEP 2011.

The search identified that there is one locally listed heritage item located within the Project Boundary:

- Tantitha Homestead (Narromine LEP I22) (refer **Figure 6-5**).

No additional registered heritage items were identified within 3 km of the Project Boundary.

The physical description of Tantitha Homestead within its SHI listing describes the item as being comprised of:

> *"An early settlers homestead that is over 100 years old in a dense and shady house garden.*
>
> *The roof is a wide spreading iron clad roof with a dual pitch extending out over a verandah on all sides. Gradually some of these verandahs have been enclosed to provide more useful lining spaces and new verandahs added. The main original walls of the house are wattle and daub style constructions, using small cypress pines as the basis. These are rendered and paint finished. The verandahs are supported on timber posts and frames and original adzed posts can be seen. The floors are timber framed and still supported on the original timber stump foundation. Some of the original flooring remains. The house features high ceilings and French doors to the outside.*
>
> *Newer additions to the house are in timber frame construction with weatherboard cladding."*

The buildings associated with the Tantitha Homestead are set on flat to undulating land, in a protected area which has the hills right behind and to the west. Nearby the house are a number of related structures such as tool shed (former meat house) garden structures such as an arbour, and a former 'out-house' (OEH 2021b)".

6.6.3. EIS Assessment Approach

As preliminary research has identified that the Project Boundary contains a registered historic heritage item as well as the potential for additional heritage values to be present across the full extent of the Project Boundary, a Statement of Heritage Impact (SoHI) will be prepared as part of the EIS.

The SoHI will consider known and potential heritage values across the Project Boundary including but not limited to areas associated directly with the Tantitha Homestead curtilage. The assessment will consider potential impacts to built heritage features and areas of historical archaeological sensitivity within the Project Boundary, as well as any intangible (social) values held by the community or relevant stakeholders.

Preparation of the SoHI will involve detailed historical research, including analysis of historical aerial imagery, and physical inspection of the relevant areas within the Project Boundary. The preparation of this report would ensure compliance with all statutory obligations and best practice guidelines and would assist in the management of risk associated with inadvertent impact to heritage values.

6.7. Traffic and Transport

6.7.1. Background

Wind farm components will be delivered from either the Port of Newcastle or the Port Kembla and transported by road to the Project Boundary.

The Project Boundary is serviced by a road network which includes Newell Highway, Tomingley Road, Mitchell Highway, Golden Highway and Tantitha Road. Access to the Project will likely be via the Newell Highway, which borders the Project Boundary to the south-east, and/or the Tantitha Road, which crosses the Project from north to south.

The Newell Highway, Mitchell Highway and Golden Highway are major highways that have the capacity to carry Oversize and Overmass (OSOM) vehicles to and from the Project Boundary. These highways are anticipated to be used as much as possible to avoid road upgrades and impacts on local roads and local traffic. Secondary access will be subject to assessment in the EIS phase.

The transport route of WTG components and other Project-related materials are subject to a Transport Route Assessment as part of the EIS, the outcomes of which will be incorporated into the Traffic and Transport Impact Assessment (TTIA). This will identify the preferred proposed transport route from port to the Project Boundary, as well as any required road upgrades.

Whilst a port and transport route has not yet been determined, indicative options that may be considered (but not necessarily limited to) are summarised in **Table 6-9** with further detail provided in **Section 3.2.7**.

Table 6-9 Potential Port Options and Distance to Project Boundary

Port	City and State	Approx. distance from Project Boundary (by road)
Port of Newcastle	Sydney, NSW	421 km
Port Kembla	Sydney, NSW	497 km

6.7.2. Preliminary Assessment

The Project may require upgrades to roads along the transport route. The details and specifications of these upgrades will be dependent on the size of the vehicles and infrastructure required to be delivered to the Project Boundary and are subject to assessment in a Transport Route Assessment.

In addition, the construction of access tracks will also be required throughout the Project Boundary to facilitate construction and to allow for maintenance to occur throughout the operational phase of the Project.

6.7.3. EIS Assessment Approach

A detailed TTIA (including Transport Route Assessment) will be prepared. It will consider potential transportation routes for construction traffic and potential impacts of the size, loads, and volumes of vehicles on the road network.

The TTIA will generally be prepared in accordance with the 'Guide to Traffic Generating Developments' (RTA, 2002), 'Austroads Guide to Road Design' (Austroads, 2021) and 'Austroads Guide to Traffic Management' (Austroads, 2020).

The scope of the TTIA will include:

- Assessment of haulage routes, access points, and swept paths through intersections to determine potential risks and impacts from the largest vehicles;
- Assessment of likely Project-alone and cumulative traffic impacts during the construction and operational phases of the Project (including intersection performance, capacity, safety and site access);
- Review of any previous traffic impact assessments undertaken for the surrounding area and traffic counts in selected areas;
- Identification of mitigation and management measures if required, including in relation to traffic volumes and sight lines;
- Identification of any road upgrades required and associated clearing and disturbance works; and
- Assessment of the potential impacts of the proposed works on residences and access ways;
- Determination of required mitigation measures.

6.8. Aviation

6.8.1. Background

Operation of wind farms may cause potential aviation safety impacts. The Project will require aviation safety advice in respect of relevant requirements of air safety regulations and procedures, in consultation with the relevant aviation agencies and stakeholders.

6.8.2. Preliminary Assessment

A preliminary review of aircraft landing areas (ALAs) was undertaken, encompassing the Project Boundary and its surrounding regions. Two small ALAs were identified within 60 km of the Project Boundary, the Grange View homestead airfield Airport (AG18450) approximately 49 km east, and the Jemalong Airport (YJEM) approximately 60 km east as shown on **Figure 1-1.** These ALAs are likely only used for local transport and aerial application operations.

The closest regional airports are located in the towns of Narromine, Dubbo, and Peak Hill, and include:

- Narromine Airport (YNRM) approximately 13 km north;
- Peak Hill Airport (YPKH) 25 km south;
- Dubbo City Regional Airport (YSDU) 26 km north-east;
- Parkes Airport (YPKS) 70 km south; and
- Warren Airport (YWRN) 79 km north-west.

Narromine Airport is home to the Narromine Gliding Club, which accommodates a large gliding community. Recreational gliding takes place all year round and major gliding competitions including world championship events are regularly held. A flight training school, 'Wings Out West' is also located approximately 17 km east of the nearest proposed turbine.

6.8.3. EIS Assessment Approach

An aviation impact assessment will be undertaken for the EIS, which will assess any potential impacts to aviation safety associated with the Project. The assessment will include consideration of:

- Potential impacts to aviation safety including wake / turbulence issues;
- The need for aviation safety lighting;
- Air traffic routes, heights procedures, radar and communications systems and navigation aids;
- Potential impacts on aerial emergency services, aerial firefighting, and aerial agricultural operations; and
- Required mitigation.

The assessment will address any aviation concerns raised during consultation with the community and key stakeholders and identify relevant mitigation strategies to be implemented where required. Consultation with the Civil Aviation Safety Authority (CASA), Royal Australian Air Force, Airservices Australia, and other relevant regulators (as indicated in **Section 5.3**) will also be undertaken to determine relevant aviation safety lighting requirements, notification and reporting requirements, and the potential marking of turbines, wind monitoring towers, and overhead transmission lines and poles.

6.9. Telecommunications

6.9.1. Background

The operation of a wind farm has the potential to interfere with the electromagnetic signals associated with telecommunication services. Existing telecommunication services in the vicinity of the Project Boundary include mobile phone services, radio communication services, television and radio broadcast services, and aircraft navigation services, which local residents and local towns (including Narromine) are reliant upon.

6.9.2. Existing Environment

A search of the Australian Communication and Media Authority (ACMA) database on 8 August 2022 identified 52 sites within 20 km of the Project Boundary.

6.9.3. EIS Assessment Approach

A Telecommunications (Electromagnetic Interference (EMI)) assessment will be undertaken as a component of the EIS, which will consider the potential impacts of the Project on telecommunications services. It will involve the preparation of a detailed desktop assessment of existing proximal electromagnetic services to the Project Boundary, and recommended measures to avoid or minimise potential impacts to telecommunications services during construction and operation of the Project.

Consultation with operating services that may be impacted by the Project will be undertaken where necessary to understand potential EMI-related impacts to operations and services.

6.10. Water Resources

6.10.1. Background

Soils will be subject to disturbance during construction activities associated with site establishment, installation of infrastructure and replacement of soils for revegetation, and therefore the Project may result in impacts to downstream watercourse in the absence of management and mitigation measures. Operational and maintenance activities may also lead to impacts on water resources in the absence of management and mitigation measures.

6.10.2. Preliminary Assessment

The Project Boundary is located within the Macquarie-Bogan Catchment that forms part of the Murray-Darling Basin in central-western NSW. The Macquarie-Bogan Catchment covers more than 90,370 km^2 and represents about 8.5 percent of the Murray-Darling Basin (DPI, 2018).

Bioregions and the local hydrology of the Project Boundary are provided in **Figure 6-6** and **Figure** 6-7, respectively.

Under the Narromine LEP, there are no wetlands within the Project Boundary. A small portion of the transmission line corridor (10.24 ha or 0.11% of the total Project Boundary) intersects land mapped as flood prone under the Narromine LEP.

There are a number of watercourses within the Macquarie-Bogan Catchment located near the Project Boundary. At its closest points, the Project Boundary is located approximately 10 km south of the Macquarie River, and 30 km east of the Bogan River.

Wallaby Creek is a watercourse that flows north-south through the northern portion of the Project Boundary. Wallaby Creek then divides into the Ugumjil Creek, Hawkes Creek, Jacks Creek, Rays Creek and Bundara Creek. The Fiddlers Creek flows west-east through the southern portions of the Project Boundary and the Brummagen Creek flows along the north-east border of the Project Boundary. All creeks and watercourses within the broader area are non-perennial, and there are no wetland areas or lakes (other than small farm dams) within the Project Boundary. Poles associated with the proposed overhead transmission line may be located within or adjacent to the Backwater Cowal, which is land subject to inundation.

The overall topography of the Project Boundary is relatively flat, with only slight variances in elevation. The elevation across the Project Boundary lies at approximately 260 m (north) to 480 m (south) ASL.

Under the *Water Management Act* 2000, water access licences and controlled activity approvals are required for certain activities. The Project may require water access licences, however approval for controlled activities is not required for SSD projects.

6.10.3. EIS Assessment Approach

The following approach to water resources will be undertaken as part of the EIS:

- Flooding and Hydrology Assessment:

  A flooding assessment will be undertaken which will assess:

  - Existing flood behaviour through review of existing available data, developing computer models and defining flood levels, depths, velocities and flood hazard category for the Project Boundary for existing topographic conditions; and
  - Post development flood behaviour, including quantifying flood levels, depths, velocities and flood hazard category with the Project in place.

- Water Assessment:

  A water impact assessment will be undertaken for the Project, which will include a review of standard construction environmental management plans to ensure that impacts during excavation, road works, transport of machinery, etc. are adequately mitigated through avoidance, minimisation and management.

  The assessment will consider the potential impacts of the Project on hydrology and groundwater and will determine the need for further hydrological investigations. The assessment will also identify and quantify sources of water required during construction and operation of the Project and determine whether any water access licences under the *Water Management Act* 2000 are likely to be required.

  The water impact assessment will be generally undertaken in accordance with the following guidelines and resources:

  - ‘Managing Urban Stormwater; Soils & Construction’ (Landcom, 2004);
  - ‘Guidelines for Controlled Activities on Waterfront Land’ (DPI, 2018);
  - ‘Relevant Water Sharing Plans’ (DPI Water); and
  - ‘Guidelines for Watercourse Crossings on Waterfront Land’ (DPI Water, 2012).

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NARROMINE
BACKWATER COWAL
YELLOW CREEK
WALLABY CREEK
BRUMMAGEN CREEK
SCRUBBY CREEK
DRILL CREEK
THIRTEEN MILE CREEK
HAWKES CREEK
JACKS CREEK
RAYS CREEK
UGUMJIL CREEK
HYANDRA CREEK
BUNDARA CREEK
BRADYS COWAL
BLACK WATERHOLE CREEK
MOMO CREEK
FIDDLERS CREEK
CAPTAINS STATION CREEK
BELOWRIE CREEK
GUNDONG CREEK

Legend

- Project Boundary
- Watercourse

IBRA Region

- Darling Riverine Plains
- NSW South Western Slopes

Source:
Boundary: Client Provided (WCWF_AoI_20220829.shp Outline applied)
Basedata: NSW DCDB/ DTDB 2022

Existing Environment

F6-6

Drawing No:	0599824m_WCWF_SR_G020_R04.mxd		**Wallaby Creek Wind Farm Scoping Report**
Date:	22/11/2022	Drawing Size: A3	
Drawn By:	MB	Reviewed By: DM	Client: Acciona

Coordinate System: GDA 1994 MGA Zone 55

0 1 2km

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ERM

GAINSBOROUGH ROAD
NARROMINE
620000
D'APPO ROAD
REIDS ROAD
6430000
BACKWATER COWAL
FARRENDALE ROAD
Benson/Tarrtitha Road
THE MCGRANE WAY
VILLENEUVE DRIVE
CRAIGIE LEA LANE
WALLABY ROAD
PINEDEAN ROAD
BOOTLES ROAD
HABERWORTH LANE
6420000
WALLABY CREEK
YELLOW CREEK
FAIRVIEW ROAD
HAWKES CREEK
JACKS CREEK
Option B
Option A
TOMINGLEY ROAD
RAYS CREEK
UGUMJIL CREEK
BUNDARA CREEK
BELOWRIE ROAD
NEWELL HIGHWAY
BRADYS COWAL
6410000
620000

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

Legend

- Main Roads
- Minor Roads
- Parkes Narromine Railway
- Perennial Watercourse
- Non-perennial Watercourse
- Waterbody
- Flood Prone Land

Project Elements

- Project Boundary
- Narromine South Switching Station
- Turbines
- Met Masts
- Access Tracks
- Public Road - Proposed Upgrade
- Carpark
- Hardstands
- Batching Plant
- Compound
- Laydown
- Borrow Pit
- O & M
- BESS
- Substations
- Transmission Line
- Transmission Corridor

Source:
Layout: Client Provided (October 22)
Flood: NSW EPI
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021

Local Hydrology

F6-7

Drawing No:	0599824m_WCWF_SR_G025_R0.mxd		
Date:	29/11/2022	Drawing Size: A3	
Drawn By:	MB	Reviewed By: DM	

Coordinate System: GDA 1994 MGA Zone 55

0 1 2km

N

Wallaby Creek Wind Farm
Scoping Report

Client: Acciona

ERM

6.11. Land Resources

6.11.1. Background

Soils will be subject to disturbance during construction activities associated with site establishment, installation of infrastructure and replacement of soils for revegetation. Operational and maintenance activities may also lead to impacts on land resources of the Project Boundary.

6.11.2. Preliminary Assessment

A preliminary review of the Soil and Land Capability Mapping data for NSW (OEH, 2012) suggests that there are four Land and Soil Capability (LSC) classes within the Project Boundary:

- The majority of land within the Project Boundary is classified as *Class 5 – Severe limitations*;
- An area within the northern portion of the Project is classified as *Class 4 – Moderate to severe limitations;*
- A small area in the far east corner of the Project is classified as *Class 3 – Moderate limitations;*
- A very small presence of land classified as *Class 7 – Extremely severe limitations*; and
- There are no Class 1 or 2 soils within the Project Boundary.

A preliminary map of land and soil capability classes in the vicinity of the Project Boundary is provided in **Figure 6-8** which shows that three WTGs (WTG 33, 43 and 44) and a small section of the transmission line corridor are located on Class 3 soils.

A search of the 'Australian Soil Classification (ASC) Soil Type Map of NSW' (OEH, 2017) shows that the Project Boundary has predominately Sodosols (SO) soils, which are texture-contrast soils with impermeable subsoils, having a very low agricultural potential with high sodicity leading to high erodibility and poor structure. To a lesser extent, the ASC Soil Type Map of NSW also showed the presence of:

- Kandosols (KA) in the north of the Project Boundary;
- Chromosols (CH) in a western portion of the Project Boundary adjacent to Tomingley Road; and
- Tenosols (TE) in a small eastern portion of the Project Boundary.

A map of the Australian soil classification in the vicinity of the Project Boundary is provided in **Figure 6-9**.

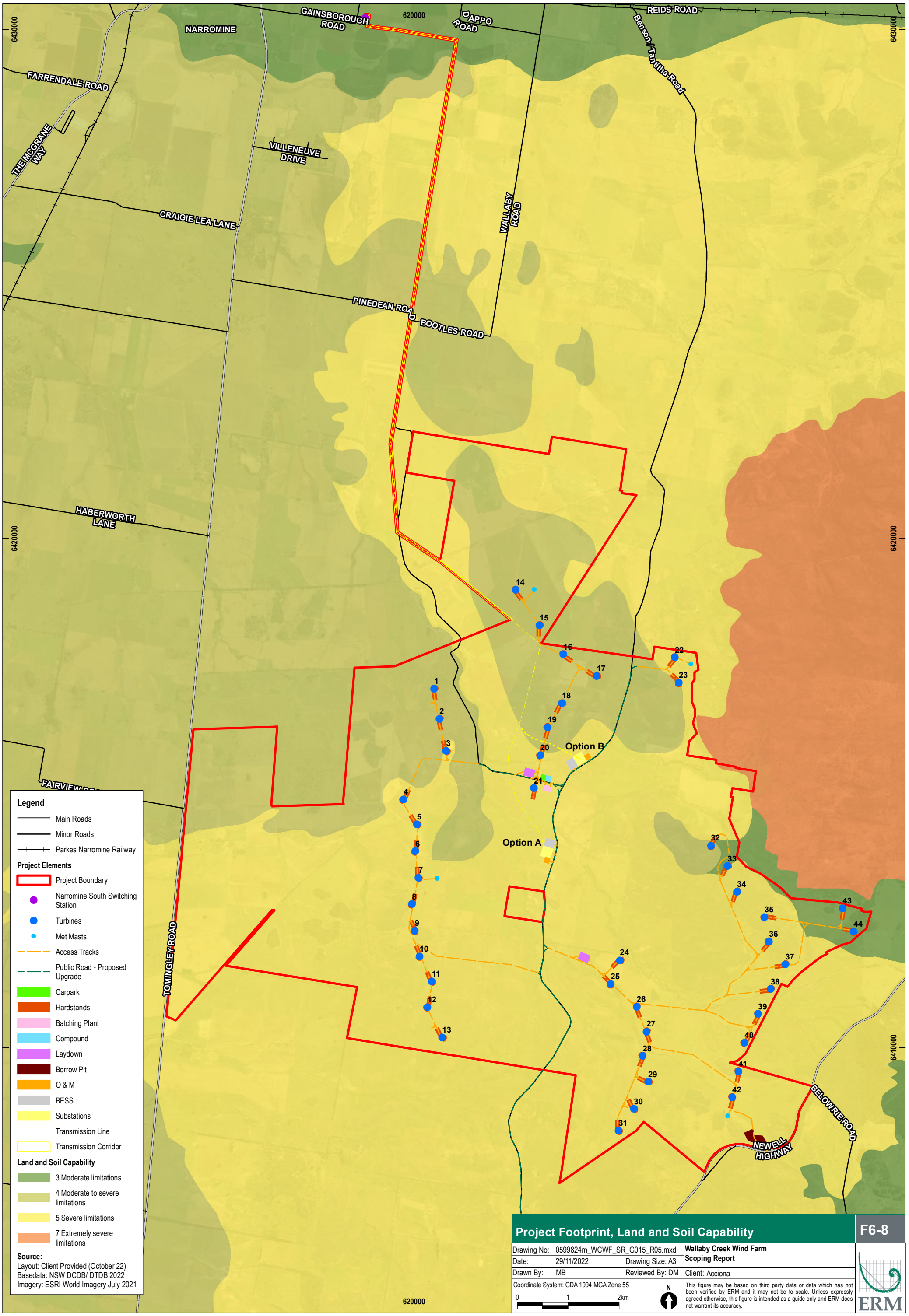
A review of Biophysical Strategic Agricultural Land (BSAL) and Critical Industry Cluster (CIC) data showed that there are no areas of BSAL or CIC mapped within, or in close proximity to the Project Boundary.

6.11.3. EIS Assessment Approach

A Soil Assessment will be undertaken for the EIS, which will primarily focus on assessing the impacts of soil disturbance from vegetation clearing and erosion from excavation works. The assessment will also propose appropriate mitigation measures during construction and operation of the Project.

The Soil Assessment will generally consider the following guidelines:

- 'Soil and Landscape Issues in Environmental Impact Assessment' (OEH, 2000);
- 'Landslide Risk Management Guidelines' (AGS, No Date); and
- 'Site Investigations for Urban Salinity' (OEH, 2002).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Legend
Main Roads
Minor Roads
Parkes Narromine Railway
Project Elements
Project Boundary
Narromine South Switching Station
Turbines
Met Masts
Access Tracks
Public Road - Proposed Upgrade
Carpark
Hardstands
Batching Plant
Compound
Laydown
Borrow Pit
O & M
BESS
Substations
Transmission Line
Transmission Corridor
Land and Soil Capability
3 Moderate limitations
4 Moderate to severe limitations
5 Severe limitations
7 Extremely severe limitations
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021
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Project Footprint, Land and Soil Capability
F6-8
Drawing No: 0599824m_WCWF_SR_G015_R05.mxd
Date: 29/11/2022
Drawing Size: A3
Drawn By: MB
Reviewed By: DM
Coordinate System: GDA 1994 MGA Zone 55
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Wallaby Creek Wind Farm
Scoping Report
Client: Acciona
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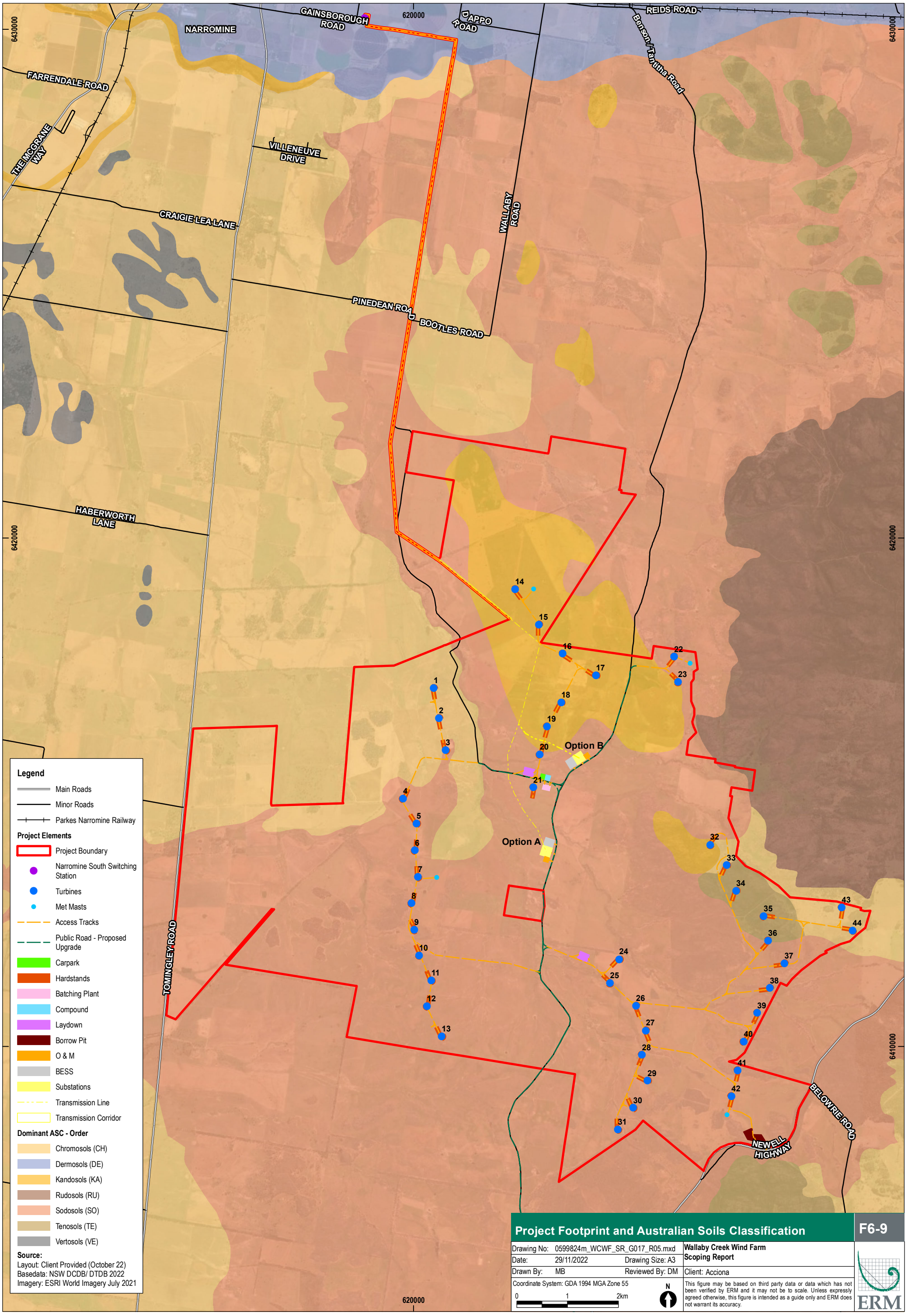
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Carpark
Hardstands
Batching Plant
Compound
Laydown
Borrow Pit
O & M
BESS
Substations
Transmission Line
Transmission Corridor
Dominant ASC - Order
Chromosols (CH)
Dermosols (DE)
Kandosols (KA)
Rudosols (RU)
Sodosols (SO)
Tenosols (TE)
Vertosols (VE)
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021
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Project Footprint and Australian Soils Classification
F6-9
Drawing No: 0599824m_WCWF_SR_G017_R05.mxd
Date: 29/11/2022
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Wallaby Creek Wind Farm
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6.12. Social and Economic[1]

6.12.1. Background

6.12.1.1 Introduction

This section provides the first phase SIA for the Project, undertaken in accordance with the 'Social Impact Assessment Guideline: For State Significant Projects' (SIA Guidelines) (DPIE, 2021b) and 'Technical Supplement: Social Impact Assessment Guideline for State Significant Projects' (Technical Supplement) (DPIE, 2021e).

The first phase SIA involves scoping and a preliminary assessment, identifies the level of assessment to be applied and sets further parameters for the second phase SIA (DPIE, 2021b, p. 12). Accordingly, the first phase SIA includes:

- Defining the Project's Social Locality;
- Describing the profile of the community in a preliminary social baseline and outlining the potential social impacts; and
- Outlining the approach that will be undertaken to complete the second phase SIA during the EIS phase.

6.12.1.2 Social Locality

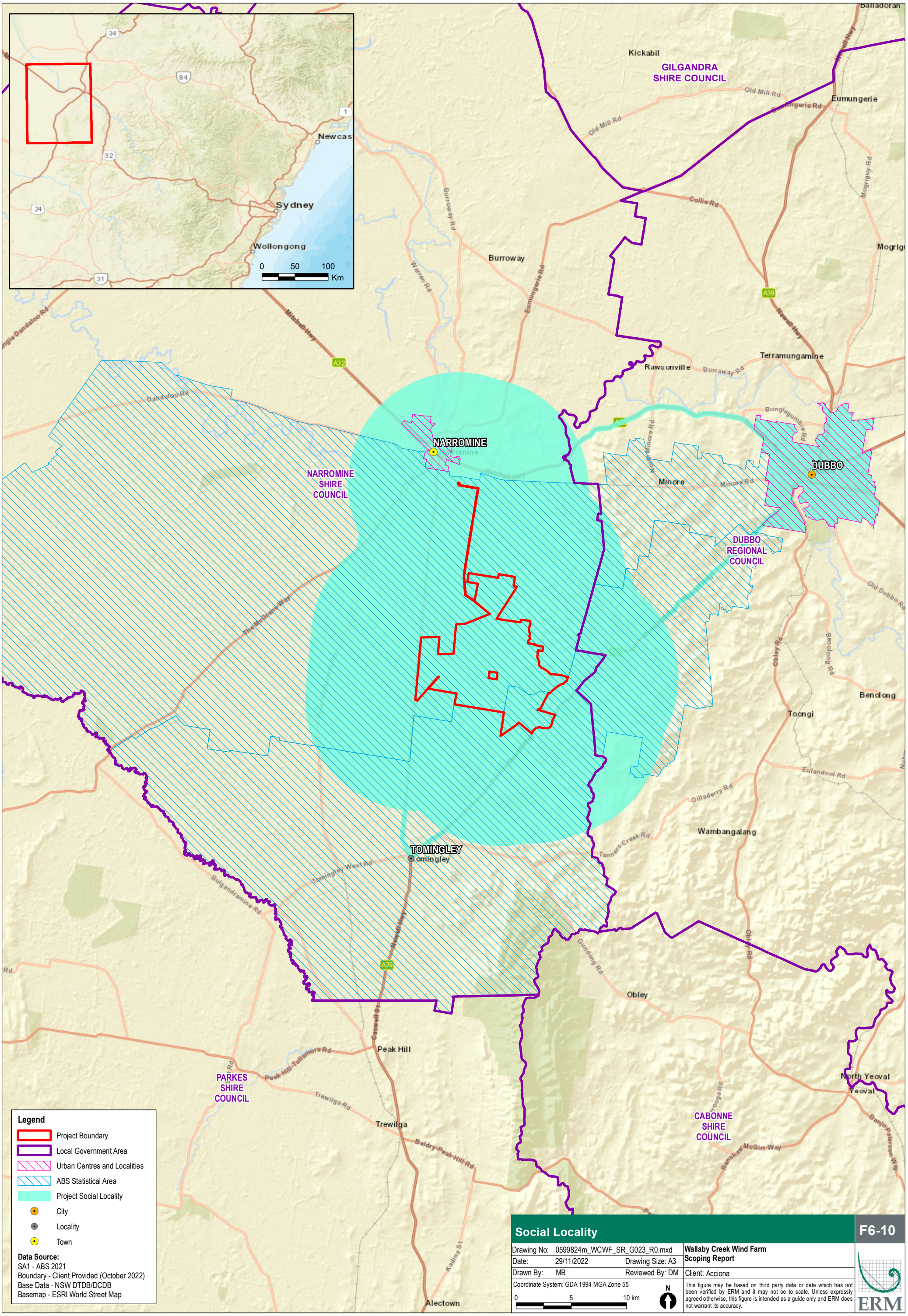
Determining the Social Locality for the project involves understanding the nature of the project, the characteristics of the surrounding communities, and how potential positive and/or negative impacts will be experienced by different community members/groups.

The Project's Social Locality, as defined for the purposes of the SIA, is comprised of the following three components:

- The Project Boundary and immediate surrounding areas, located within the Australian Bureau of Statistics (ABS) Statistical Area Level 1 (SA1) Nos. 1110515 and 1110516 (containing the Project), and 1110306 and 1110317 (immediately adjacent to the Project Boundary). SA1 data has been used to identify key baseline indicators for the Social Locality, where applicable. Additionally, LGA level data for the Narromine and Western Plains Regional LGAs, and state level data for NSW were used to provide an understanding of the broader and comparative social context within which the Project is located;
- The transportation and haulage routes; and
- The surrounding towns and regional centres of Tomingley, Narromine, and Dubbo, which may provide goods and services to support the construction phase of the Project. ABS Urban Centres and Localities (UCLs) provide baseline data for Narromine and Dubbo.[2] **Figure 6-10** provides an illustration of the Project's Social Locality.

[1] The first phase SIA Report, included in the Scoping Report, was completed by Dr Rene Provis, lead author, and contains all relevant information. The lead author holds a PhD in development anthropology from the University of New South Wales, and is a member of the International Association for Impact Assessment (IAIA) and the Australian Anthropological Society (AAS). The Report was completed in good faith in accordance with the relevant ethical frameworks, and to the lead author's knowledge does not contain any false or misleading information.

[2] Due to limited population, UCL data is not available for Tomingley.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NARROMINE SHIRE COUNCIL
DUBBO REGIONAL COUNCIL
PARKES SHIRE COUNCIL
CABONNE SHIRE COUNCIL
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TOMINGLEY
Kickabil
Eumungerie
Burroway
Rawsonville
Terramungamine
Minore
Wambangalang
Benolong
Toongi
Obley
Peak Hill
Trewilga
North Yeoval
Yeoval
Alectown
Ballaroran
Mogrigal
Old Mill Rd
Collie Rd
Burroway Rd
Warren Rd
Eumungerie Rd
Mitchell Hwy
Newell Hwy
Burraway Rd
Bungleguminie Rd
Minore Rd
Old Dubbo Rd
Benolong Rd
Obley Rd
Eulandool Rd
Dilladerry Rd
Tanners Creek Rd
Gundong Rd
Caswell St
Peak Hill-Tullamore Rd
Trewilga Rd
Baldry-Peak Hill Rd
Renshaw McGirr Way
Banjo Paterson Way
Kadina St
Bulgandramine Rd
Tomingley West Rd
The McGrane Way
Dandaloo Rd
Legend
Project Boundary
Local Government Area
Urban Centres and Localities
ABS Statistical Area
Project Social Locality
City
Locality
Town
Data Source:
SA1 - ABS 2021
Boundary - Client Provided (October 2022)
Base Data - NSW DTDB/DCDB
Basemap - ESRI World Street Map
Social Locality
F6-10
Drawing No: 0599824m_WCWF_SR_G023_R0.mxd
Date: 29/11/2022
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Scoping Report
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6.12.1.3 Community Profile

The community profile presented in this section will inform the social baseline in the second phase SIA and is largely based on ABS 2016 census data.

Table 6-10 outlines the primary ABS datasets used to provide key demographic data across the Project's Social Locality. For the purposes of the first phase SIA, only 2016 ABS datasets (i.e. latest available) were considered, however, in the second phase SIA, relevant 2011 ABS data (or 2021 ABS data, dependent upon release) will also be used for the purposes of trend analysis.

Table 6-10 Summary of Relevant ABS Datasets

Location	2016 ABS Data Reference (Census)
Narromine LGA	15850 (LGA)
SA1 (South-East of Narromine LGA)	1110515 (SA1)
SA1 (South of Narromine LGA)	1110516 (SA1)
Narromine	115105 (UCL)
Western Plains Regional LGA	18230 (LGA)
SA1 (North-East of Project Boundary)	1110317 (SA1)
SA1 (East of Project Boundary)	1110306 (SA1)
Dubbo	112007 (UCL)
NSW	Code 1 State and Territory (STE)

In addition to the above listed ABS datasets, the second phase SIA social baseline will be informed by a desktop review of sources including from public health advisory bodies, principally NSW Health and local hospitals (i.e. regarding physical and mental health issues prevalent in the local community), and educational institutions, principally the NSW Department of Education and local schools. Information relating to the economic profile of the Project is also provided by ABS 2016 Census data, while information on developmental priorities and challenges in the region will be provided by local and state government planning documents, such as Narromine and Dubbo LGAs' Local Strategic Planning Statements.

Table E-1 of **Appendix E** provides a demographic overview of the Project's Social Locality and includes the ABS' Socio-Economic Indexes for Areas (SEIFA)[3] to provide an indication of comparative socio-economic advantage and disadvantage, alongside details of unoccupied dwellings, dwelling tenure, and household composition.

Table E-2 of **Appendix E** outlines the key industries and areas of employment for SA1s and the two LGAs (Narromine LGA and Western Plains Regional LGA) included in the project's Social Locality, and NSW as a whole.

6.12.2. Preliminary Assessment

6.12.2.1 Social Infrastructure Overview

Social infrastructure comprises schools and other education institutions, medical services, emergency services, recreational facilities and community organisations. Some commercial services are also listed under social infrastructure, such as childcare facilities.

[3] Socio-Economic Indexes for Areas (SEIFA) is a product developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage. The indexes are based on information from the five-yearly Census, available at: https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/2033.0.55.001Main+Features12016?OpenDocument.

Social Infrastructure in the rural localities in the immediate vicinity of the Project Boundary is limited to the outdoor recreation Dubbo Field and Game Association located north and east of the Project Boundary. The nearest town is Tomingley (population of 306) located approximately 10 km south-west of the Project Boundary. Tomingley residents would travel 18 km south to Peak Hill (population 1,106) to access the nearest Medical Centre, grocery store and post office. Tomingley hosts a public primary school, a memorial hall, accommodation and service stations. As Tomingley is a small town, the majority of its social infrastructure facilities are located in Peak Hill.

Narromine (population 6,444) is the nearest regional town with social infrastructure located north of the Project Boundary. Narromine has a Hospital and Community Health facility that is open 24/7 to provide a range of medical services and an emergency facility. Additionally, Narromine Shire Medical Centre is opened 9 am – 5 pm Monday to Saturday to assist in providing residents with general practice, diabetic education and podiatry services. A pharmacy is located in Narromine to provide residents with pharmaceutical needs and vaccinations. Emergency services based in Narromine include NSW Ambulance, Fire and Rescue NSW, NSW Police and Narromine Police Rescue Squad. Narromine has private and public primary schools, a high school and a childcare centre. A variety of religious churches and organisations are present in Narromine, these include Catholic, Anglican, Baptist and Uniting Churches; and services such as Catholic Care and St Vincent de Paul Society. The Narromine Airport is located in proximity to the township and is home to the Narromine Gliding Club. Narromine also provides grocery stores, sporting and fitness centres, Meals on Wheels, hardware stores, service stations, a United Services Memorial Centre, accommodation, and an Australia Post office. As the Narromine Railway Station is closed to passenger services, public transport to Narromine is through NSW Train Link coach services.

Dubbo (population 34,339) is the largest regional centre located north-west of the Project Boundary. A train station in Dubbo runs a daily XPT train from Sydney to Dubbo and also a daily NSW Train Link that runs services to Lithgow with connecting coaches to Dubbo. Dubbo City Regional Airport operates 24/7 and provides direct return services from Dubbo to Sydney, Brisbane, Melbourne (Essendon), Newcastle, Ballina, Broken Hill, Walgett and Lightning Ridge. There are 19 public and private primary and secondary schools in Dubbo servicing its population. The Dubbo Base Hospital is a major medical facility offering a wide variety of medical services, while several medical practices are also located in the town. Dubbo also has a strong presence of all major emergency services and a wide variety of community organisations and recreational facilities.

6.12.2.2 Potential Social Impacts

The scoping of potential social impacts was initially facilitated through consideration of the updated SIA Scoping Tool that complements the SIA Guideline (DPIE 2021a, 2021c). The scoping tool identifies the social impacts that are considered likely to occur, and the corresponding level of assessment for each social impact. Use of the updated SIA Scoping Tool allows for the level of assessment for the potential social impacts to be identified, which in this case was determined to be ‘detailed assessment’.

The SIA approach utilised follows DPE’s Technical Supplement on evaluating the likely significance of both potential positive and negative social impacts (DPIE, 2021b). The first phase SIA provides a preliminary desktop assessment of these potential impacts while the second phase SIA, that will be incorporated into the EIS, develops this preliminary assessment into a full assessment report. The full assessment report provides a detailed analysis of the potential impacts and incorporates key stakeholder feedback.

An outline of the methodology the second phase SIA is provided below. The second phase SIA will elaborate potential cumulative impacts in view of recent and proposed wind farms and other large-scale projects in the project’s Social Locality.

As this is a first phase SIA, this impact assessment is preliminary in nature and makes assumptions based on the desktop assessment and prior wind farm SIA experience. The identified potential impacts listed in **Table 6-11** will be ground-truthed, supplemented by key stakeholder feedback, and reviewed against any changes associated with further design development subsequent to issuing the SEARs. Further development of this assessment in the second phase SIA will include application of DPE's social impact significance matrix, and an assessment of both pre- and post-mitigation scenarios.

Early engagement is discussed in **Section 5** with changes to the Project Description as a result included at **Section 5.2**.

Table 6-11 Preliminary Social Impact Assessment

Description of Impact	Impact Type and Categories	Project Phase	Level of Assessment
Impacts on social infrastructure and availability of services (including accommodation) due to increased population/increased demand for services	Negative: Way of life, community, accessibility, health and wellbeing	Construction	Detailed assessment
Increased economic activity within the region	Positive: Way of life, livelihoods	Construction	Detailed assessment
Diversification of income streams for Associated landowners	Positive: Way of life, livelihoods	Operation	Detailed assessment
Impacts to existing agricultural operations, including efficiency of aerial agricultural applications in the vicinity of Project	Negative: Way of life, livelihoods	Operation	Detailed assessment
Construction traffic impacts to community safety and amenity	Negative: Way of life, community, accessibility, health and wellbeing	Construction	Detailed assessment
Perceived impacts to land values	Negative: Way of life, livelihoods	Life of Project	Detailed assessment
Construction noise impacts	Negative: Way of life, community, health and wellbeing, surroundings	Construction	Detailed assessment
Operational noise impacts	Negative: Way of life, community, health and wellbeing, surroundings	Operation	Detailed assessment
Visual amenity impacts	Negative: Way of life, community, culture, health and wellbeing	Operation	Detailed assessment
Perceived health impacts, including from EMI, shadow flicker, blade throw and noise	Negative: Way of life, community, culture, health and wellbeing	Operation	Detailed assessment

6.12.3. EIS Assessment Approach

The second phase SIA will be prepared in accordance with the requirements of the 'Social Impact Assessment Guideline and Technical Supplement' (DPIE 2021a, 2021b), and will be structured according to the following sections:

- **Introduction, Project Description, Regulatory Context**;

  This section will provide a detailed overview of the project locale, components, stages, and history. It will also provide a detailed review of the legislative and regulatory framework applicable to the SIA, taking into account relevant company policies.

- **Social Locality and Stakeholder Identification**;

  This section will elaborate on the preliminary outline of the project's Social Locality. The update will incorporate regulator feedback and provide an updated stakeholder list as the SIA moves into the second phase and more information becomes available.

- **Methodology**;

  The impact assessment methodology to be applied to the second phase SIA follows DPE's (2021b, pp 12-13) Social Impact Significance matrix, as depicted in **Table 6-12**. In this matrix, the likelihood level refers to the probability of a social impact's occurrence as a result of the Project while the magnitude is considered in terms of the following elements:

  - Extent: Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any potential vulnerable people? Which location(s) and people are affected? (e.g., near neighbours, local, regional);
  - Duration: When is the social impact expected to occur? Will it be time-limited (e.g., over particular Project phases) or permanent?;
  - Severity: What is the likely scale or degree of change? (e.g., mild, moderate, severe);
  - Intensity: How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change; and
  - Level of Concern/Interest: How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or severity. Concern itself can lead to negative impacts, while interest can lead to expectations of positive impacts.

  The characteristics of the magnitude of impact combine with their likelihood of occurrence to yield a rating of social impact significance, as indicated in **Table 6-12**. The social impact significance matrix depicted in **Table 6-12** will be applied to yield the initial evaluation of social impacts that are likely to be experienced by different groups within the Project's Social Locality.

Table 6-12 Adapted DPIE Social Impact Significance Matrix

		Magnitude level				
		1 Minimal	**2** Minor	**3** Moderate	**4** Major	**5** Transformational
Likelihood level	**A** Almost certain	Medium	Medium	High	Very High	Very High
	B Likely	Low	Medium	High	High	Very High
	C Possible	Low	Medium	Medium	High	High
	D Unlikely	Low	Low	Medium	Medium	High
	E Very unlikely	Low	Low	Low	Medium	Medium
	F Positive	P1	P2	P3	P4	P5

- **Stakeholder Engagement for SIA**;

  This section will provide a summary of stakeholder engagement relevant to the SIA. Key stakeholder interviews specific to the SIA will be conducted as part of wider stakeholder engagement activities. SIA tailored questions and discussion topics will guide semi-structured interviews with key informants in a manner designed to elicit honest responses underpinned by free, prior informed consent of the participants.

  The broad categories of stakeholders to be targeted for the SIA include associated landowners, neighbouring landowners, Traditional Owner groups, local governments, local businesses and representative groups, social and community service providers, and the wider community. More extensive details of stakeholder engagement activities will be included in appendices, where relevant.

- **Social Baseline**;

  This section will update and expand on the community profile outlined above. The preliminary desktop assessment will be supplemented and ground-truthed with data obtained during fieldwork, including from stakeholder engagement activities outlined above.

- **Expected and Perceived Impacts**;

  This section explains the potential social impacts as identified through the preceding sections of the SIA, particularly the stakeholder inputs into the social baseline as limited by identification of the Project's Social Locality.

- **Impact Assessment and Prediction**;

  This section will update and expand on the preliminary SIA outlined above, providing an impact assessment informed by the stakeholder engagement. Two ratings will be provided in the impact assessment table covering pre- and post-mitigation levels of impact significance.

- **Social Impact Enhancement, Mitigation, and Residual Impacts**;

  This section provides a summary of all of the impact assessment mitigations which have applied to the project through all phases, including earlier phases of planning and development. As noted, the impact assessment will include pre- and post-mitigation impact significance levels. This section elaborates the mitigation measures which may be applied to reduce the social impact significance levels for the various social impacts identified. The level of residual impacts will also be noted.

- **Monitoring and Management Framework**;

  This section will provide an overview of the recommended monitoring and social impact management measures that are to be put in place covering both the construction and operation phases of the Project. For the post-mitigation impact significant levels to be achieved, the social impact mitigations outlined in this section will need to be implemented according to the plan outlined in this section.

- **References**; and

  List of all documents and other resources cited in the SIA.

- **Appendices**.

  Appendices will include community profiles and other supporting information such as summaries of stakeholder engagement and primary research.

6.13. Hazards

This section provides a preliminary assessment of environmental hazards and risks that could arise during the construction and operation of the Project. Specifically, it considers hazards and risks associated with hazardous materials, bushfire, blade throw, EMI and Electromagnetic Field (EMF).

6.13.1. Preliminary Hazard Assessment

A Preliminary Hazard Assessment (PHA) is required for potentially hazardous or offensive development under Resilience and Hazards SEPP 2021. Clause 3.2 of the Resilience and Hazards SEPP defines a potentially hazardous industry is as:

> *development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality—*
>
> *(a) to human health, life or property, or*
>
> *(b) to the biophysical environment,*

Appendix 3 of the 'Applying SEPP 33 Guidelines' (DoP, 2011) lists the industries that may fall within the Resilience and Hazards SEPP (former SEPP 33), which do not include wind farms or energy storage facilities. However, the BESS facility proposed for the Project is likely to utilise lithium-ion batteries, which are listed as *Class 9 - Miscellaneous dangerous goods*. While Class 9 materials are excluded from the SEPP 33 screening test, the hazards related to these materials should be considered in accordance with the 'Applying SEPP 33 Guidelines'.

Batteries can be a serious safety risk for occupants and installers if incorrectly installed or operated, potentially leading to electric shock, fire, flash burns, explosion or exposure to hazardous chemicals and released gases. The 'Battery installation guidelines for accredited installers guidelines' Clean Energy Council, (2017) state that there are numerous hazards associated with battery systems and storage in relation to electrical, energy, fire, chemical, explosive gas, and mechanical hazards. Where a hazard is identified, risk reduction should be applied to eliminate or reduce these risks, in order to protect persons, property and livestock from fire, electric shock, or physical injury (CEC, 2017).

A Preliminary Hazards Assessment will be undertaken as a component of the EIS, which will assess the potential hazards and risks associated with the Project in accordance with the requirements of the Resilience and Hazards SEPP. Specifically, it will assess the potential hazards associated with the inclusion of a BESS within the Project Boundary, and evaluate the likely risks to public safety, by focusing on the transport, handling and use of hazardous materials. The assessment will also determine whether the Project should be considered a hazardous or potentially hazardous industry under the Resilience and Hazards SEPP.

6.13.2. Bushfire

Bushfire presents a threat to human life and assets and can adversely impact ecological values. Bushfire risk can be considered in terms of environmental factors that increase the risk of fire (fuel quantity and type, topography and weather patterns), as well as specific activities (such as hot works and construction activities) or infrastructure components that exacerbate combustion or ignition risks (such as transmission lines and other electrical components).

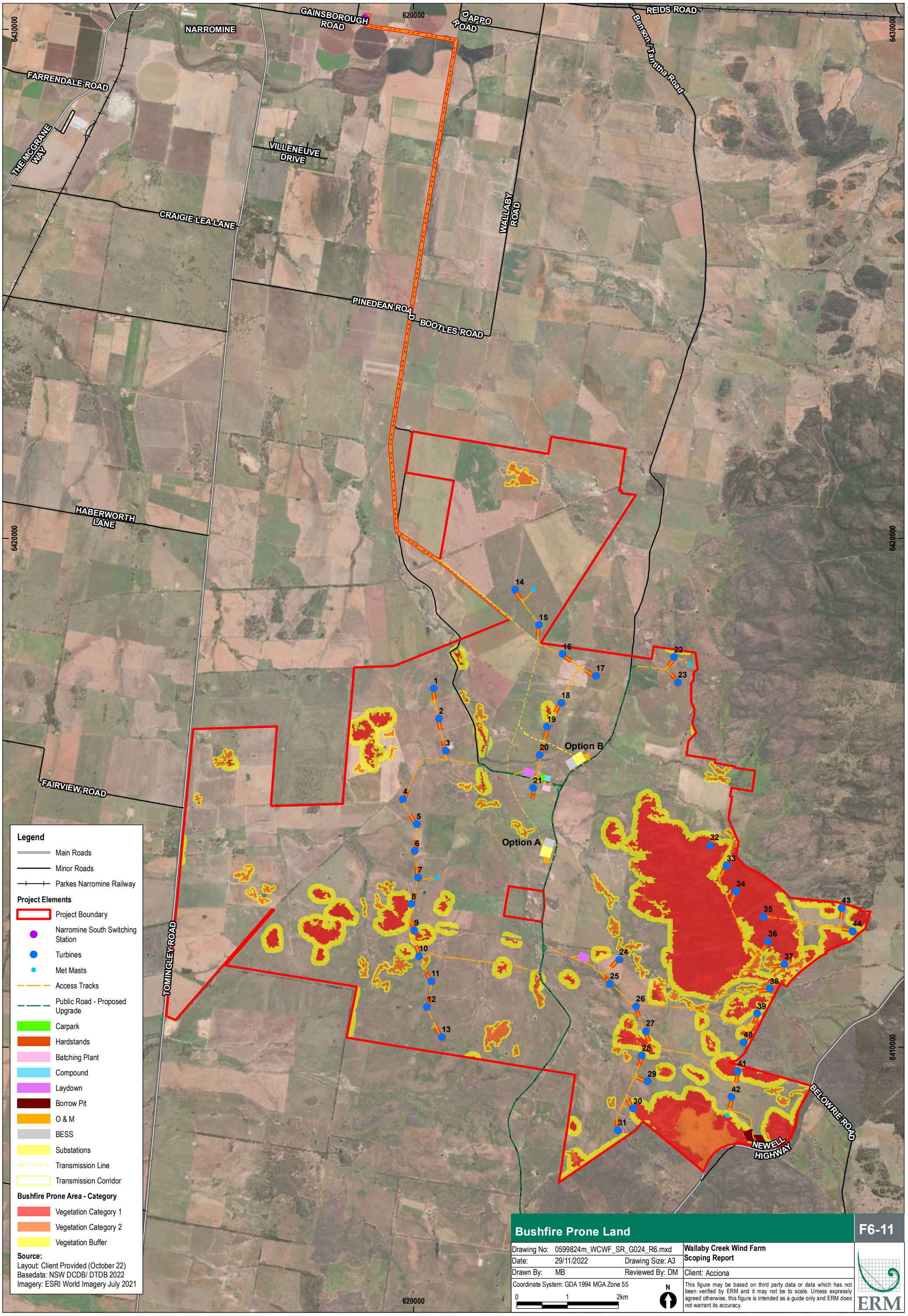
A review of the NSW RFS Bushfire Prone Land mapping confirms that the Project Boundary contains land recognised as being bushfire prone as shown in **Figure 6-11**. Of this land, approximately 988 ha (or 10.25% of the total Project Boundary) is recognised as Category 1 bushfire prone land (refer to the NSW RFS *Guide for Bush Fire Prone Land Mapping*, version 5b 2015).

The EIS will include a Bushfire Risk Assessment and will aim to identify potential hazards and risks associated with bushfires / use of bushfire prone land. The assessment will aim to demonstrate that the proposed windfarm can be designed, constructed and operated to minimise ignition risks and provide for asset protection consistent with the NSW Rural Fire Service Guidelines – 'Planning for Bushfire Protection' (NSW Rural Fire Service, 2019).

The Bushfire Risk Assessment and mitigation strategies will be guided by the following factors that contribute to bushfire risk:

- Fuels, weather, topography, predicted fire behaviour and local bushfire history;
- Suppression resources, access (roads, tracks) and water supply; and
- Values and assets.

Mitigation will be a combination of complementary strategies, all of which are required to provide the best possible protection outcome for the Project and the community.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Project Boundary
Narromine South Switching Station
Turbines
Met Masts
Access Tracks
Public Road - Proposed Upgrade
Carpark
Hardstands
Batching Plant
Compound
Laydown
Borrow Pit
O & M
BESS
Substations
Transmission Line
Transmission Corridor
Bushfire Prone Area - Category
Vegetation Category 1
Vegetation Category 2
Vegetation Buffer
Source:
Layout: Client Provided (October 22)
Basedata: NSW DCDB/ DTDB 2022
Imagery: ESRI World Imagery July 2021
0
1
2km
N
Bushfire Prone Land
F6-11
Drawing No: 0599824m_WCWF_SR_G024_R6.mxd
Date: 29/11/2022
Drawing Size: A3
Drawn By: MB
Reviewed By: DM
Coordinate System: GDA 1994 MGA Zone 55
Wallaby Creek Wind Farm
Scoping Report
Client: Acciona
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

6.13.3. Blade Throw

Blade throw refers to the risk of wind turbine blades breaking during operation, which may result in human injury or potential damage to infrastructure. Blade throw is generally considered to be a low risk during the operation phase of the Project, which will utilise wind turbine technology that has been proven to be both safe and reliable. Further, the nearest non-associated dwelling (Dwelling ID102) is located over 1.8 km from the turbine (WTG 24).

A Blade Throw Risk Assessment will be prepared as part of the EIS, which will describe the potential impacts associated with blade throw to nearby residential receptors during operation of the Project. The assessment will be undertaken having consideration of applicable international standards concerning the design of wind turbine components.

The Blade Throw Risk Assessment will likely include the following scope of works:

- Assessment of the likelihood of occurrence for a blade throw event;
- Assessment of theoretical distance radii for a blade throw event;
- Review of distances between turbines and nearby dwellings;
- Review of historical blade throw occurrences in Australian wind farms; and
- Provision of relevant mitigation measures for Project implementation.

6.13.4. Electromagnetic Field

EMF is potentially associated with all electrical wiring and equipment. Electrical fields are caused by the voltage of the equipment, while magnetic fields are caused by the current flowing (amperage). Electric fields and magnetic fields are independent of one another and, in combination, cause energy to be transferred along electric wires.

The Project will involve the generation of EMFs during operation from the proposed transmission lines and substations. Over the past 50 years, concerns have been expressed that the EMFs associated with electrical equipment might have adverse health effects. There are known health effects from very high levels of EMFs and health standards have been established to protect against these effects. However, the WHO (WHO, 2020) recognise that no adverse health effects from long-term exposure to Extremely Low Frequency (ELF) EMF have been confirmed.

An EMF assessment will be prepared as a component of the EIS, which will assess the potential impacts and risks to human health associated with the EMF generated by the WTGs and associated electrical infrastructure. While adverse health effects from exposure to ELF EMFs have not been established, the possibility remains that such effects may exist, and it remains a risk during the construction and operational phases of the Project.

6.14. Air Quality and Greenhouse Gas

6.14.1. Background

Land uses in the areas surrounding the Project Boundary are predominantly agricultural, and this is likely to influence the local air quality. Air quality in the region is generally expected to be of good quality and typical of what is expected in a rural setting, due to factors including low population density and low traffic volumes.

Existing sources of air pollution are likely sourced from dust, vehicle, and machinery from agricultural production, and vehicle exhaust emissions from traffic along the Newell Highway and the Mitchell Highway.

The nearest air quality monitoring station is located at Dubbo as part of the Rural NSW air quality monitoring network (DPE, 2021a) which lies at an elevation of 282 m Australian Height Datum (AHD). The following air pollutants are measured at this station:

- Total Suspended Particles (TSP);
- Fine particles as PM2.5; and
- Fine particles as PM10.

Data from the site is reported as hourly updated particle concentrations.

The nearest climate station to the Project Site is the Dubbo Airport Station (Station ID: 065070) which lies at an elevation of 284 m AHD.

A review of the Australian Bureau of Meteorology (BOM) climatic records from 1993-2022 indicate a mean summer maximum temperature of 33.6°C in January, and a mean winter minimum temperature of 3.0°C in July. Additionally, rainfall records from this same station indicate a mean annual rainfall of 569.6mm, with the highest monthly maximum occurring in March (68.0 mm) and the lowest monthly maximum occurring in August (34.3 mm).

6.14.2. Preliminary Assessment

The Project is not expected to have significant impacts on air quality in the region.

Emissions to the atmosphere from the Project are predominantly associated with construction phase activities which will be temporary and limited to:

- Localised dust emissions generated by land disturbance; and
- Exhaust emissions of civil construction and vehicle, plant and machinery.

During the temporary construction phase, dust particles and other air quality emissions could potentially be released from activities including:

- Construction of new / upgraded access tracks and roads;
- Vegetation clearing and creation of open exposed areas;
- Excavation works and stockpile management;
- Mobile concrete batching plants;
- Rock crushing;
- Transport of material and equipment;
- Processing and handling of material;
- Construction activities and associated earthmoving and construction equipment;
- Transfer points;
- Loading and unloading of material; and
- Haulage activities along unsealed roads.

During the operation phase, the Project will generate electricity without directly emitting air pollutants that are known to affect the climate and human health. The Project will contribute the improvement of air quality through the displacement of emissions that would otherwise be generated through the burning of fossil fuels used to generate electricity from traditional coal fired power stations.

6.14.3. EIS Assessment Approach

The EIS will qualitatively consider the potential impacts to air quality and stipulated appropriate management and mitigation measures during the construction and operational phases of the Project. Air quality and dust management will generally be assessed in accordance with relevant guidelines and policies including:

- 'National Greenhouse Accounts Factors' (Australian Government, 2021); and
- 'NSW Climate Change Policy Framework' (Office of Environment and Heritage, 2016).

6.15. Waste Management

The EIS will quantify and classify the likely waste streams to be generated during construction and operation and describe and describe measures to management, reuse, recycle and dispose of this waste in accordance with 'Waste Classification Guidelines' (NSW EPA, 2014).

6.16. Cumulative Impacts

The Cumulative Impact Guideline (DPIE, 2021c) provides a framework for assessing and managing project-level cumulative impacts. The cumulative impact assessment will be considered within each applicable area of assessment above.

Table 2-1 lists the proposed, approved or operational renewable energy projects located in proximity to the Project Boundary. The location of the Central-West Orana REZ and nearby renewable energy projects is also displayed in **Figure 1-1**.

The Central-West Orana REZ will create a number of benefits to regional communities, including $5 billion of new investment in the region, and over 3,900 jobs during construction (Energy Corporation of NSW, 2022).

Consideration of cumulative impact is provided in the Scoping Summary Table at **Appendix A**.

7. ACRONYMS AND ABBREVIATIONS

Name	Description
ABN	Australian Business Number
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACMA	Australian Communication and Media Authority
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
ALA	Aircraft landing area
ASC	Australian Soil Classification
ASL	Above sea level
AWA	Australian Wind Alliance
BAM	Biodiversity Assessment Method
BDAR	Biodiversity Development Assessment Report
BC Act	*Biodiversity Conservation Act 2016*
BESS	Battery Energy Storage System
BOM	Australian Bureau of Meteorology
BOSET	Biodiversity Offsets Scheme Entry Threshold
BSAL	Biophysical Strategic Agricultural Land
CASA	Civil Aviation Safety Authority
CEF	Community Enhancement Fund
CH	Chromosols
CHMP	Cultural Heritage Management Plan
CWORP	Central West and Orana Regional Plan 2036
DA	Development Application
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DPE	Department of Planning and Environment (formerly Department of Planning, Industry and Environment, DPIE)
DPIE	Department of Planning, Industry and Environment (now Department of Planning and Environment, DPE)
DRP	Darling Riverine Plains Bioregion
DTM	Digital Terrain Model

Name	Description
Due Diligence Code of Practice	Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales
EIS	Environmental Impact Statement
ELF	Extremely low frequency
EMF	Electromagnetic Field
EMI	Electromagnetic Interference
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
EP&A Act	*Environmental Planning & Assessment Act 1979*
EPL	Environment Protection Licence
ERM	Environmental Resources Management Australia Pty Ltd
GHG	Greenhouse gas
GW	Gigawatt
GWh	Gigawatt hours
Ha	Hectares
ISP	Integrated System Plan
KA	Kandosols
LEP	Local Environmental Plan
LGA	Local Government Area
LGC	Large-scale Generation Certificate
LoO	Likelihood of Occurrence
LSC	Land and soil capability
LRET	Large-scale Renewable Energy Target
MNES	Matters of National Environmental Significance
MW	Megawatt
NEM	National Electricity Market
NIA	Noise Impact Assessment
NSPS	Narromine Shire Local Strategic Planning Statement 2020
NSS	NSW Southern Western Slopes Bioregion
NSSS	Essential Energy's Narromine South Switching Station
NSW	New South Wales
OSOM	Oversize and overmass
PHA	Preliminary Hazard Assessment

Name	Description
Applicant	Acciona Energy Australia Global Pty Ltd
PLVIA	Preliminary Landscape Values Impact Assessment
PVIA	Preliminary Visual Impact Assessment
REZ	Renewable Energy Zone
RSA	Rotor Swept Area
SA1	Statistical Area Level 1
SDGs	Sustainable Development Goals
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SEPP	State Environmental Planning Policy
SHI	State Heritage Inventory
SIA	Social Impact Assessment
SO	Sodosols
SoHI	Statement of Heritage Impact
SSD	State Significant Development
STE	State and Territory
STET	Serrated Trailing Edge Technology
TE	Tenosols
TEC	Threatened Ecological Community
TSP	Total Suspended Particles
TTIA	Traffic and Transport Impact Assessment
UCLs	Urban Centres and Localities
WTG	Wind turbine generator
ZVI	Zone of Visual Influence

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APPENDIX A SCOPING SUMMARY TABLE

Level of Assessment	Matter	Scale of Impact [4]	Nature of Impact [5]	Sensitivity of receiving environment[6]	Mitigation Measures Required	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping Report Ref
Detailed	Amenity – Visual and Lighting	High	Direct Cumulative Perceived	Sensitive (receptors, townships, communities)	Likely	Yes	Specific	NSW Wind Energy: Visual Assessment Bulletin (DPE, 2016)	Section 6.2
Detailed	Amenity – Noise and Vibration	High	Direct Cumulative Perceived	Sensitive (receptors)	Likely	Yes	General	NSW Wind Energy: Noise Assessment Bulletin (EPA/DPE, 2016) NSW Noise Policy for Industry (EPA, 2017) Interim Construction Noise Guidelines (DECC, 2009) NSW Road Noise Policy (DECCW, 2011) Assessing Vibration: A Technical Guideline (DECC, 2006)	Section 6.3
Detailed	Biodiversity	High	Direct Indirect Cumulative	Sensitive (high ecological values of species / biodiversity present)	Likely	Yes	General	Biodiversity Conservation Act 2016 (NSW) Fisheries Management Act 1994 Biodiversity Assessment Method (BAM) (DPIE, 2020) Commonwealth EPBC 1.1 Significant Impact Guidelines	Section 6.4

[4] Scale of Impacts – based on the severity of the impact, the geographical location and the duration of the impact as detailed in Appendix C of State Significant Development Guidelines – Preparing a Scoping Report (DPIE, 2021).

[5] Nature of Impact - type of impact, ie direct, indirect, cumulative, perceived, as detailed in Appendix C of State Significant Development Guidelines – Preparing a Scoping Report (DPIE, 2021).

[6] Sensitivity of the receiving environment – expressed in legislation, societal values, or vulnerability to change, as detailed in Appendix C of State Significant Development Guidelines – Preparing a Scoping Report (DPIE, 2021).

Level of Assessment	Matter	Scale of Impact [4]	Nature of Impact [5]	Sensitivity of receiving environment[6]	Mitigation Measures Required	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping Report Ref
								– Matters of National Environmental Significance (Commonwealth of Australia, 2013) Commonwealth Department of the Environment – Survey Guidelines for Nationally Threatened Species (various)	
Detailed	Heritage - Aboriginal Cultural	Moderate	Direct Indirect Cumulative Perceived	Sensitive (cultural values, archaeological resources)	Likely	Yes	Specific	Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011) Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010) Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010) NSW Heritage Manual – Assessing Heritage Significance (NSW Heritage Office, 2001)	Section 6.5
Standard	Heritage – Historic	Low	Direct Indirect	Sensitive (heritage values)	Likely	No	Specific	Historical Archaeology Code of Practice (Heritage Council, 2006)	Section 6.6
Detailed	Traffic and Transport	Moderate	Direct Indirect	Sensitive	Likely	Yes	Specific	Guide to Traffic Generating Developments (RTA, 2002)	Section 6.7

Level of Assessment	Matter	Scale of Impact [4]	Nature of Impact [5]	Sensitivity of receiving environment[6]	Mitigation Measures Required	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping Report Ref
			Cumulative	(disturbance to other road users)				Austroads Guide to Road Design Austroads Guide to Traffic Management	
Detailed	Aviation	High	Direct	Sensitive (impacts to aviation and agricultural activities)	Likely	No	Specific	The Civil Aviation Regulation 1988 The Civil Aviation Safety Regulations 1998 National Airports Safeguarding Framework Guideline D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation (DITRDC, 2019)	Section 6.8
Detailed	Telecommunications (Electromagnetic interference)	Moderate	Direct	Sensitive (safety)	Likely	No	General	NSW Wind Energy Guideline for State Significant Wind Development (DPIE, 2016) Australian Radio and Communications Act *1992* The Clean Energy Council Best Practice Guidelines (CEC, 2018)	Section 6.9
Standard	Water Resources (flooding and hydrology)	Low	Direct Indirect	Sensitive (local hydrology and water quality)	Likely	No	General	Guidelines for Controlled Activities on Waterfront Land (DPI Water, 2018) Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (DPI, 2003)	Section 6.10

Level of Assessment	Matter	Scale of Impact [4]	Nature of Impact [5]	Sensitivity of receiving environment[6]	Mitigation Measures Required	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping Report Ref
								Policy & Guidelines for Fish Habitat Conservation & Management (DPI, 2013) Managing Urban Stormwater: Soils and Construction (Landcom, 2004) Approved Methods and Guidelines for the Modelling and Assessment of Air Pollutants in New South Wales (DECC, 2005) Relevant Water Sharing Plans (DPI Water) Floodplain Risk Management Guidelines (Department of Environment and Climate Change, 2016) Floodplain Development Manual: The management of flood liable land (NSW Government, 2005)	
Standard	Land Resources (agriculture and soils)	Low	Direct Indirect	Sensitive (agricultural land use)	Likely	No	General	Land Use Conflict Risk Assessment Guide Soil and Landscape Issues in Environmental Impact Assessment (OEH, 2000) Landslide Risk Management Guidelines (AGS, No Date) Site Investigations for Urban Salinity (OEH, 2002)	Section 6.11

Level of Assessment	Matter	Scale of Impact [4]	Nature of Impact [5]	Sensitivity of receiving environment[6]	Mitigation Measures Required	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping Report Ref
								Revised Large Scale Solar Guidelines (DPE, 2022)	
Standard	Social and Economic	Moderate	Direct Indirect Cumulative Perceived	Sensitive (social, environmental and economic values)	Likely	Yes	Specific	Social Impact Assessment Guideline for State Significant Projects (DPIE, 2021b) Technical Supplement: Social Impact Assessment Guideline for State Significant Projects (Technical Supplement) (DPIE, 2021e)	Section 6.12
Standard	Hazards and Risks – Resilience and Hazards SEPP / Preliminary Hazard Analysis (BESS)	Moderate	Direct Indirect Perceived	Sensitive (safety)	Likely	No	General	State Environmental Planning Policy (Resilience and Hazards) 2021 Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis' and Multi-level Risk Assessment (DoP, 2011) Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011) Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (DoP, 2011)	Section 6.13.1
Standard	Hazards and Risks – Bushfire	Low	Direct Indirect	Sensitive (safety)	Likely	No	General	Planning for Bushfire Protection 2019 – NSW Rural Fire Service (RFS, 2019)	Section 6.13.2

Level of Assessment	Matter	Scale of Impact [4]	Nature of Impact [5]	Sensitivity of receiving environment[6]	Mitigation Measures Required	Cumulative Impact Assessment	Engagement	Relevant government plans, policies and guidelines	Scoping Report Ref
Standard	Hazards and Risks – Blade Throw	Low	Direct	Sensitive (safety)	Likely	No	General	Relevant international studies and standards for design of wind turbine components and blade throw risk	Section 6.13.3
Standard	Hazards and Risks – Health - Electromagnetic Field	Low	Direct Perceived	Sensitive (safety)	Likely	No	General	International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines - for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (ICNIRP, 1998) National Health and Medical Research Council advice	Section 6.13.4
Standard	Air Quality and Greenhouse Gas	Low	Direct Indirect	Sensitive (local air quality)	Likely	No	General	National Greenhouse Accounts Factors (Australian Government, 2021); and NSW Climate Change Policy Framework (Office of Environment and Heritage, 2016).	Section 6.14
Standard	Waste Management	Low	Direct Indirect	Sensitive (environmental values, safety)	Likely	No	General	Waste Classification Guidelines (DECCW, 2009)	Section 6.15

APPENDIX B PRELIMINARY VISUAL IMPACT ASSESSMENT

Note: Provided as separate file

APPENDIX C PRELIMINARY BIODIVERSITY ASSESSMENT

Note: Provided as separate file

APPENDIX D AHIMS SEARCH RESULTS

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 0599824

Client Service ID : 623972

Environmental Resources Management - Melbourne

Level 6 99 King Street

Melbourne Victoria 3000

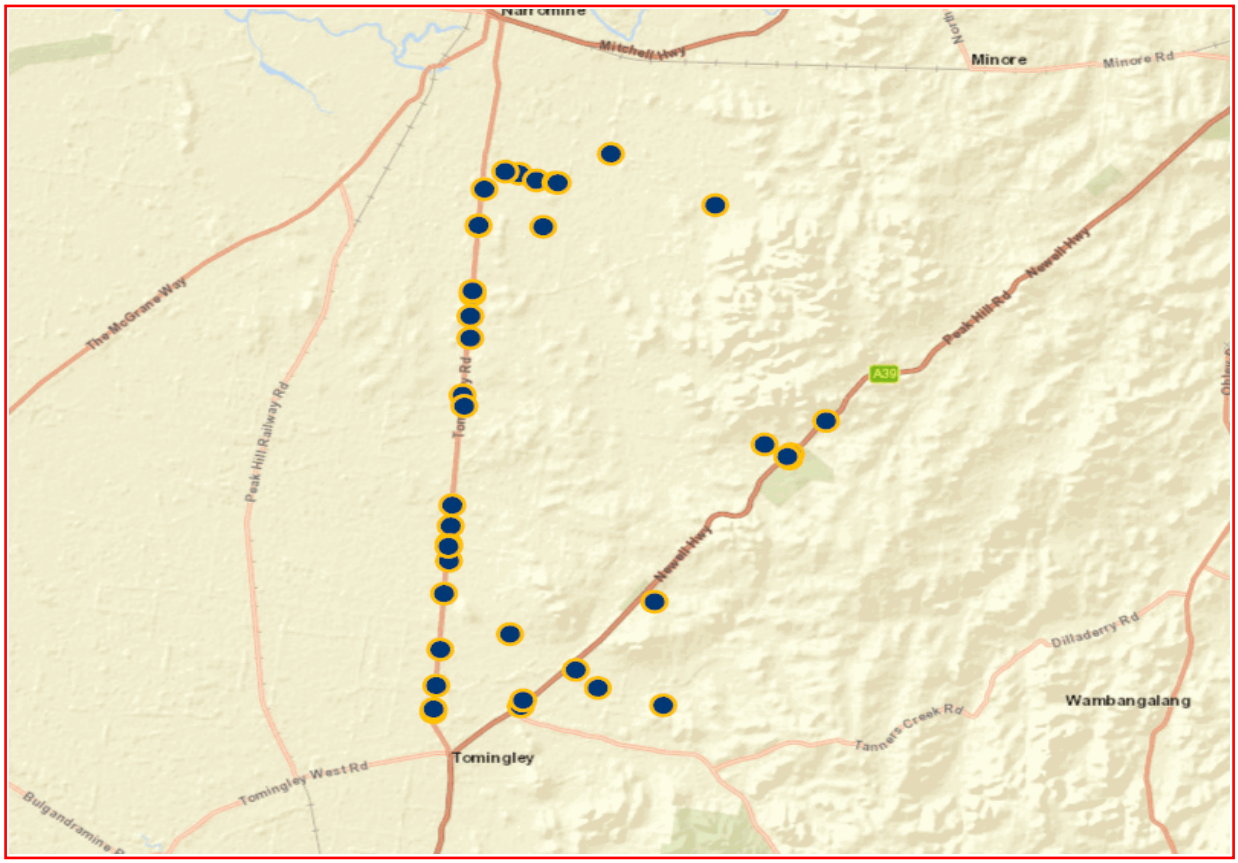
Attention: Alyce Haast

Date: 21 September 2021

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters, conducted by Alyce Haast on 21 September 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

43	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0599824

Client Service ID : 623972

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
35-6-0168	TNWP-ST2	AGD	55	613903	6398250	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0166	TNWP-ST7	AGD	55	614420	6404107	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0183	TNWP-ST27	AGD	55	617840	6424831	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0182	TNWP-ST26	AGD	55	618563	6424489	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-6-0006	Tomingley;Meroo;	AGD	55	623617	6398479	Open site	Valid	Modified Tree (Carved or Scarred) : -	Carved Tree	65
	Contact	**Recorders**	Liz Edmondson					**Permits**		
35-6-0171	TNWP-ST5	AGD	55	614039	6399566	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-6-0172	TNWP-ST6	AGD	55	614230	6401347	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0165	TNWP-ACD1	AGD	55	614649	6406572	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0161	TNWP-ST12	AGD	55	614819	6408470	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-6-0169	TNWP-ST3	AGD	55	613915	6398413	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		

Report generated by AHIMS Web Service on 21/09/2021 for Alyce Haast for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 43

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0599824

Client Service ID : 623972

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
35-3-0168	TNWP-ST9	AGD	55	614649	6405720	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0013	Wallaby Ranges;	AGD	55	616084	6422257	Open site	Valid	Modified Tree (Carved or Scarred) : -, Burial : -	Burial/s,Carved Tree	65
	Contact	**Recorders**	David Bell					**Permits**		
35-3-0059	Obley Turnoff 2	AGD	55	617600	6398500	Open site	Valid	Modified Tree (Carved or Scarred) : 1	Scarred Tree	
	Contact	**Recorders**	Warren Bluff					**Permits**		
35-3-0179	TNWP-ST23	AGD	55	621737	6425766	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0016	Kaloombi;	AGD	55	626126	6423173	Open site	Valid	Modified Tree (Carved or Scarred) : -	Carved Tree	65
	Contact	**Recorders**	David Bell					**Permits**		
35-3-0160	TNWP-ST11	AGD	55	614740	6407444	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0189	TNWP-ST33	AGD	55	615795	6418948	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0141	UC-OS-1	AGD	55	629110	6410600	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Central West Archaeological and Heritage Services Pty Ltd					**Permits**		
35-6-0125	UC-IF-01	AGD	55	629170	6410820	Open site	Valid	Artefact : -, Modified Tree (Carved or Scarred) : -	Open Camp Site,Scarred Tree	
	Contact	**Recorders**	Lloyd Nolan					**Permits**		
35-6-0170	TNWP-ST4	AGD	55	613915	6398412	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0190	TNWP-ST34	AGD	55	615792	6418921	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		

Report generated by AHIMS Web Service on 21/09/2021 for Alyce Haast for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 43

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0599824

Client Service ID : 623972

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
35-3-0185	TNWP-ST29	AGD	55	616091	6422297	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0186	TNWP-ST30	AGD	55	616357	6424080	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-6-0021	Fiddlers Creek;	AGD	55	617187	6402073	Open site	Valid	Modified Tree (Carved or Scarred) : -	Carved Tree	
	Contact	**Recorders**	David Bell					**Permits**		
35-3-0181	TNWP-ST25	AGD	55	619386	6424375	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-6-0012	Tomingley Creek;	AGD	55	620867	6399367	Open site	Valid	Modified Tree (Carved or Scarred) : -	Carved Tree	65
	Contact	**Recorders**	David Bell					**Permits**		
35-3-0162	TNWP-ST13	AGD	55	615316	6413898	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0170	TNWP-ST14	AGD	55	615383	6413359	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0164	TNWP-ST36	AGD	55	615676	6416721	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0142	UE-OS-2	AGD	55	629020	6410700	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Central West Archaeological and Heritage Services Pty Ltd					**Permits**		
35-3-0120	Hillview;	AGD	55	630680	6412440	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
35-3-0169	TNWP-ST10	AGD	55	614673	6406480	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		

Report generated by AHIMS Web Service on 21/09/2021 for Alyce Haast for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 43

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0599824

Client Service ID : 623972

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
35-3-0058	Obley Turnoff	AGD	55	617700	6398800	Open site	Valid	Modified Tree (Carved or Scarred) : 1	Scarred Tree	
	Contact	**Recorders**	Warren Bluff					**Permits**		
35-6-0013	Tomingley Creek;	AGD	55	619945	6400272	Open site	Valid	Modified Tree (Carved or Scarred) : -	Carved Tree	65
	Contact	**Recorders**	David Bell					**Permits**		
35-3-0148	Momo Road	AGD	55	623316	6403598	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Rosemary Stapleton					**Permits**		
35-3-0001	Bundara Creek;Ugumijil;	AGD	55	628065	6411313	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Unknown Author					**Permits**		
35-3-0167	TNWP-ST8	AGD	55	614632	6406434	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0187	TNWP-ST31	AGD	55	615692	6417807	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0163	TNWP-ST35	AGD	55	615793	6418866	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0188	TNWP-ST32	AGD	55	615799	6419055	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0184	TNWP-ST28	AGD	55	617250	6424944	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		
35-3-0012	Wallaby Creek	AGD	55	618826	6422191	Open site	Valid	Modified Tree (Carved or Scarred) : -, Burial : -	Burial/s,Carved Tree	65
	Contact	**Recorders**	David Bell,R Etheridge					**Permits**		
35-3-0180	TNWP-ST24	AGD	55	619467	6424356	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Doctor.Jodie Benton					**Permits**		

Report generated by AHIMS Web Service on 21/09/2021 for Alyce Haast for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 43

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0599824

Client Service ID : 623972

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 21/09/2021 for Alyce Haast for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 43

AHIMS Web Services (AWS)

Updated AHIMS Search

Note: This Excel report shows the sites found in AHIMS on the 20/06/2022. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report wil always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
35-6-0168	TNWP-ST2	AGD	55	613903	6398250	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.21	-32.55
35-3-0166	TNWP-ST7	AGD	55	614420	6404107	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.49
35-3-0183	TNWP-ST27	AGD	55	617840	6424831	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.25	-32.31
35-3-0182	TNWP-ST26	AGD	55	618563	6424489	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.26	-32.31
35-6-0006	Tomingley;Meroo;	AGD	55	623617	6398479	Open site	Valid		Modified Tree (Carved ‹	Carved Tree	Liz Edmondson	65		148.32	-32.54
35-6-0171	TNWP-ST5	AGD	55	614039	6399566	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.53
35-6-0172	TNWP-ST6	AGD	55	614230	6401347	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.52
35-3-0296	Narromine South IF5	GDA	55	614735	6425373	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.22	-32.30
35-3-0165	TNWP-ACD1	AGD	55	614649	6406572	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.47
35-3-0161	TNWP-ST12	AGD	55	614819	6408470	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.45
35-6-0169	TNWP-ST3	AGD	55	613915	6398413	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.21	-32.54
35-3-0168	TNWP-ST9	AGD	55	614649	6405720	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.48
35-3-0059	Obley Turnoff 2	AGD	55	617600	6398500	Open site	Valid		Modified Tree (Carved ‹	Scarred Tree	Warren Bluff			148.25	-32.54
35-3-0013	Wallaby Ranges;	AGD	55	616084	6422257	Open site	Valid		Modified Tree (Carved ‹	Burial/s,Carved Tree	David Bell	65		148.23	-32.33
35-3-0016	Kaloombi;	AGD	55	626126	6423173	Open site	Valid		Modified Tree (Carved ‹	Carved Tree	David Bell	65		148.34	-32.32
35-3-0179	TNWP-ST23	AGD	55	621737	6425766	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.29	-32.30
35-3-0141	UC-OS-1	AGD	55	629110	6410600	Open site	Valid		Artefact : -		Central West Archaeological and Heritage Services Pty			148.37	-32.43
35-6-0125	UC-IF-01	AGD	55	629170	6410820	Open site	Valid		Artefact : -, Modified Tre	Open Camp Site,Scarre	Lloyd Nolan			148.38	-32.43
35-3-0160	TNWP-ST11	AGD	55	614740	6407444	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.46
35-3-0189	TNWP-ST33	AGD	55	615795	6418948	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.36
35-6-0170	TNWP-ST4	AGD	55	613915	6398412	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.21	-32.54
35-3-0298	Narromine South AS7	GDA	55	615441	6425184	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.23	-32.30
35-3-0186	TNWP-ST30	AGD	55	616357	6424080	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.24	-32.31
35-6-0021	Fiddlers Creek;	AGD	55	617187	6402073	Open site	Valid		Modified Tree (Carved ‹	Carved Tree	David Bell			148.25	-32.51
35-3-0181	TNWP-ST25	AGD	55	619386	6424375	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.27	-32.31
35-3-0294	Narromine South IF1	GDA	55	614230	6425544	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.21	-32.30
35-3-0190	TNWP-ST34	AGD	55	615792	6418921	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.36
35-3-0185	TNWP-ST29	AGD	55	616091	6422297	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.33
35-6-0012	Tomingley Creek;	AGD	55	620867	6399367	Open site	Valid		Modified Tree (Carved ‹	Carved Tree	David Bell	65		148.29	-32.53
35-3-0142	UE-OS-2	AGD	55	629020	6410700	Open site	Valid		Artefact : -		Central West Archaeological and Heritage Services Pty			148.37	-32.43
35-3-0120	Hillview;	AGD	55	630680	6412440	Open site	Valid		Modified Tree (Carved ‹	Scarred Tree	Warren Bluff	1333		148.39	-32.42
35-3-0297	Narromine South AS6	GDA	55	615449	6425224	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.23	-32.30
35-3-0162	TNWP-ST13	AGD	55	615316	6413898	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.40
35-3-0170	TNWP-ST14	AGD	55	615383	6413359	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.41
35-3-0164	TNWP-ST36	AGD	55	615676	6416721	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.38
35-3-0295	Narromine South IF4	GDA	55	614614	6425327	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.22	-32.30
35-3-0169	TNWP-ST10	AGD	55	614673	6406480	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.47
35-3-0058	Obley Turnoff	AGD	55	617700	6398800	Open site	Valid		Modified Tree (Carved ‹	Scarred Tree	Warren Bluff			148.25	-32.54
35-6-0013	Tomingley Creek;	AGD	55	619945	6400272	Open site	Valid		Modified Tree (Carved ‹	Carved Tree	David Bell	65		148.28	-32.53
35-3-0001	Bundara Creek;Ugumij	AGD	55	628065	6411313	Open site	Valid		Artefact : -	Open Camp Site	Unknown Author			148.36	-32.43
35-3-0148	Momo Road	AGD	55	623316	6403598	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Rosemary Stapleton			148.31	-32.50
35-3-0293	Narromine South IF2	GDA	55	614394	6425347	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.22	-32.30
35-3-0292	Narromine South IF3	GDA	55	614586	6425332	Open site	Valid		Artefact : -		Jacobs Group (Australia) Pty Ltd - Newcastle,Ms.Alison			148.22	-32.30
35-3-0167	TNWP-ST8	AGD	55	614632	6406434	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.22	-32.47
35-3-0184	TNWP-ST28	AGD	55	617250	6424944	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.25	-32.30
35-3-0180	TNWP-ST24	AGD	55	619467	6424356	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.27	-32.31
35-3-0187	TNWP-ST31	AGD	55	615692	6417807	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.37
35-3-0163	TNWP-ST35	AGD	55	615793	6418866	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.36
35-3-0188	TNWP-ST32	AGD	55	615799	6419055	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Doctor.Jodie Benton			148.23	-32.36
35-3-0012	Wallaby Creek	AGD	55	618826	6422191	Open site	Valid		Modified Tree (Carved ‹	Burial/s,Carved Tree	David Bell,R Etheridge	65		148.26	-32.33

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 0599824

Client Service ID : 780192

Environmental Resources Management - Sydney

309 Kent Street

Sydney New South Wales 2000

Attention: Catherine Timbrell

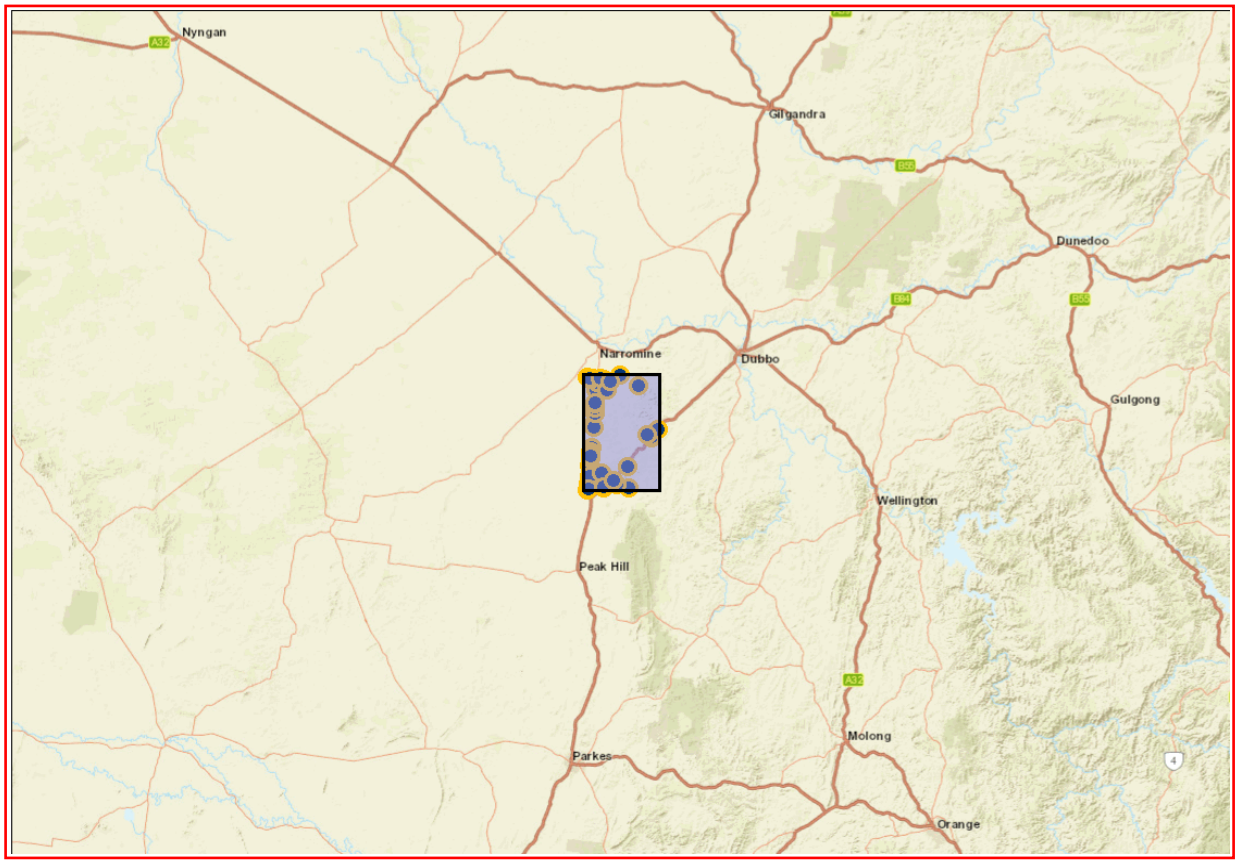
Email: catherine.timbrell@erm.com

Date: 09 May 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 55, Eastings : 613101.0 - 630971.0, Northings : 6398293.0 - 6426135.0 with a Buffer of 0 meters, conducted by Catherine Timbrell on 09 May 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

50	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

APPENDIX E PRELIMINARY SOCIAL ASSESSMENT SUPPORTING INFORMATION

Table E-1 Key Indicators for all ABS Datasets (2016) across the Project's Social Locality

Population	Median Age	Indigenous Pop. (%)	Pop. over 65 Years of Age	Median Weekly Household Income	Unemployment (%)	SEIFA (percentile in NSW)	Dwelling count (occupied/ unoccupied/ (%))	Dwelling tenure (owned outright + mortgaged / rented, %)	Household composition (families/ singles/ group, %)
Narromine LGA 15850 (LGA)									
6,444	42	19.9%	1,359	$1,078	7.4%	22	2,311 / 319 (12.1%)	67.6% / 27.9%	69.7% / 28.2% / 2.1%
SA1 (South-East of Narromine LGA) 1110515 (SA1)									
665	42	7.1%	98	$1,554	3.4%	75	208 / 43 (17.1%)	82% / 14.6%	83.3% / 14.8% / 1.4%
SA1 (South-East of Narromine LGA) 1110516 (SA1)									
306	45	6.2%	65	$1,158	3.7%	41	105 / 14 (11.8%)	78.5% / 17.6%	77.1% / 20% / 2.9%
Narromine 115105 (UCL)									
3,528	40	24.4%	774	$970	9.9%	-	1,284 / 151 (10.5%)	64.9% / 31.2%	67.9% / 29.7% / 2.4%
Western Plains Regional LGA 18230 (LGA)									
50,077	37	15.5%	8,322	$1,272	5.9%	48	17,471 / 2,114 (10.8%)	65.2% / 30.7%	70.6% / 26.4% / 3.1%
SA1 (North-East of Project Boundary) 1110317 (SA1)									
458	47	8.3%	94	$1,463	4.3%	52	161 / 13 (7.5%)	90.6% / 7.5%	81.4% / 16.8% / 1.9%
SA1 (East of Project Boundary) 1110306 (SA1)									
305	40	5.5%	27	$2,021	2.9%	77	93 / 11 (10.6%)	86.9% / 8.7%	83.5% / 16.5% / 0%
Dubbo 112007 (UCL)									
34,339	35	15.8%	5,455	$1,294	5.9%	-	12,355 / 1,447 (10.5%)	60.1% / 35.6%	69.1% / 27.4% / 3.5%
NSW Code 1 (STE)									
7,480,228	38	2.9%	16.2%	$1,486	6.3%	-	2,604,320 / 284,741 (10%)	64.5% / 31.8%	72% / 23.8% / 4.2%

Table E-2 Key Industries for Select ABS Statistical Areas (2016 Census data)

Location	Key Occupations and Industries
Narromine LGA 15850 (LGA)	The most common occupations in the Narromine LGA include Managers (23.1%), Technicians and Trade Workers (13.1%), Professionals (12.7%), Labourers (11.2%), Community and Personal Service Workers (10.5%), Machinery Operators and Drivers (10.4%), Clerical and Administrative Workers (10.3%) and Sales Workers (7%). Of the employed people in the Narromine LGA, 7.5% worked in the category of Other Grain Growing. Other major industries of employment were Grain-Sheep or Grain-Beef Cattle Farming (3.6%), Primary Education (3.6%), Hospitals (except Psychiatric Hospitals) (3.5%) and Sheep Farming (Specialised) (3.3%).
SA1 (in Narromine LGA) 1110515 (SA1)	Of the 665 residents in this SA1, 354 reported being in the workforce (including 12 unemployed persons). The occupations reported were Managers (45%), Professionals (15%), Clerical and Administrative Workers (10.1%), Machinery Operators and Drivers (8%), Labourers (7%), Sales Workers (4.6%) and Community and Personal Service Workers (3.4%). Of the employed people in this SA1, 15.5% worked in the category of Other Grain Growing. Other major industries of employment included Grain-Sheep or Grain-Beef Cattle Farming (10%), Beef Cattle Farming (Specialised) (4.8%), Primary Education (4.8%) and Other Agriculture and Fishing Support Services (4.5%).
SA1 (in Narromine LGA) 1110516 (SA1)	Of the 306 residents in this SA1, 136 reported being in the workforce (including five unemployed persons). The occupations reported were Managers (38.5%), Professionals (13.1%), Machinery Operators and Drivers (13.1%), Clerical and Administrative Workers (10%), and Technicians and Trades Workers (7.7%). Of the employed people in this SA1, 17.6% worked in Grain-Sheep or Grain-Beef Cattle Farming. Other major industries of employment included Sheep Farming (Specialised) (14.3%), Gold Ore Mining (8.8%), Other Grain Growing (7.7%) and Beef Cattle Farming (Specialised) (6.6%).
Western Plains Regional LGA 18230 (LGA)	The most common occupations in Western Plains Regional LGA included Professionals (17.5%), Technicians and Trades Workers (14.3%), Clerical and Administrative Workers (13%), Managers (13%), and Community and Personal Service Workers (12.7%). Of the employed people in Western Plains Regional LGA, 4.5% worked in Hospitals (except Psychiatric Hospitals). Other major industries of employment included Primary Education (2.8%), Other Social Assistance Services (2.5%), Takeaway Food Services (2.4%), and Supermarket and Grocery Stores (2.3%).
SA1 (North-East of Project Boundary) 1110317 (SA1)	Of the 458 residents in this SA1, 253 reported being in the workforce (including 11 unemployed persons). The most common occupations included Technicians and Trades Workers (19.5%), Managers (14.7%), Professionals (13.1%), Clerical and Administrative Workers (12.0%), and Sales Workers (11.2%). Of the employed people in this SA1, 7.4% worked in Hospitals (except Psychiatric Hospitals). Other major industries of employment included Road Freight Transport (6.4%), Supermarket and Grocery Stores (4.3%), Secondary Education (4.3%) and Meat Processing (3.7%).

Location	Key Occupations and Industries
SA1 (East of Project Boundary) 1110306 (SA1)	Of the 305 residents in this SA1, 171 reported being in the workforce (including five unemployed persons). The most common occupations included Managers (21.0%), Technicians and Trades Workers (19.3%), Professionals (14.9%), Clerical and Administrative Workers (14.9%), and Community and Personal Service Workers (8.3%). Of the employed people in this SA1, 7.9% worked in Beef Cattle Farming (Specialised). Other major industries of employment included Local Government Administration (6.1%), Sheep-Beef Cattle Farming (5.3%), Painting and Decorating Services (4.4%) and Hospitals (except Psychiatric Hospitals) (4.4%).
NSW Code 1 (STE)	The most common occupations in NSW included Professionals (23.6%), Clerical and Administrative Workers (13.8%), Managers (13.5%), Technicians and Trades Workers (12.7%), and Community and Personal Service Workers (10.4%). Of the employed people in New South Wales, 3.5% worked in Hospitals (except Psychiatric Hospitals). Other major industries of employment included Cafes and Restaurants (2.4%), Supermarket and Grocery Stores (2.2%), Aged Care Residential Services (2.0%) and Primary Education (1.9%).

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