

A photograph of a rural landscape with a green field, several trees, and a cloudy sky. A blue diagonal graphic element is overlaid on the bottom right of the image.

GLEN INNES BATTERY ENERGY STORAGE SYSTEM

Scoping Report
January 2024

Glen Innes BESS Scoping Report

Scoping Report

January 2024

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Acronyms and Abbreviations

Acronym	Definition
2022 ISP	2022 Integrated System Plan
ABN	Australian Business Number
ABS	Australian Bureau of Statistics
AC	Alternating current
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEMO	Australian Energy Market Operator
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
APZ	Asset Protection Zone
ARPNSA	Australian Radiation Protection and Nuclear Safety Agency
B&C SEPP	<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
CIA	Cumulative Impact Assessment
CLM Act	<i>Contaminated Land Management Act 1997</i>
CSP	Community strategic plan
DC	Direct current
DCP	Development control plan
DCCEEW	Department of Climate Change, Energy, Environment and Water (both NSW and Commonwealth)
DPE	Department of Planning and Environment (now DPHI)
DPI	Department of Primary Industries
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental impact statement
EMF	Electric and magnetic fields
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>

Acronym	Definition
EPL	Environmental Protection Licence
FCAS	Frequency control ancillary services
FM Act	<i>Fisheries Management Act 1994</i>
GDEs	Groundwater dependent ecosystems
HIA	Historic Impact Assessment
HVAC	Heating, ventilation and air conditioning
ICNG	Interim Construction Noise Guideline
ICNIRP	International Commission on Non-Ionizing Radiation Protection
LEP	Local Environmental Plan
LETS	Low Emissions Technology Statements
LGA	Local government area
LSBS	Large-scale battery storage
MNES	Matters of National Environmental Significance
MW	Megawatts
MWh	Megawatt hours
NEM	National Electricity Market
NPfl	<i>Noise Policy for Industry 2017</i>
OEH	Office of Environment and Heritage
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
PHA	Preliminary Hazard Analysis
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
R&H SEPP	<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>
REZ	Renewable energy zone
RF Act	<i>Rural Fires Act 1997</i>
RNP	Road Noise Policy
SB SEPP	<i>State Environmental Planning Policy (Sustainable Buildings) 2022</i>
SEARs	Secretary's Environmental Assessment Requirements
SEED	Sharing and Enabling Environmental Data (NSW)
SEPP	State Environmental Planning Policy

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1 Introduction

This chapter provides an overview of the Project, including the Project's location, local context and key features. The purpose and structure of this report are also provided.

1.1 Overview

Firm Power (the Proponent) is seeking to support Australia's renewable energy transition by providing "firmed" green energy to a large range of commercial and industrial customers in Australia.

The Proponent is seeking development consent for the construction, operation and maintenance of a standalone Battery Energy Storage System (BESS) of up to 200 Megawatts (MW) that would provide up to 800 Megawatt hours (MWh) of battery storage capacity.

The Project is considered to support the NSW Government's electricity strategy for a reliable, affordable and sustainable electricity future that supports a growing economy. BESS facilities, such as the Project, would assist with intermittency risks associated with renewable energy generation in NSW, and is considered a key element of the transformation of the NSW energy sector.

The Proponent is seeking State Significant Development (SSD) approval for the Project under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (refer to Chapter 4 for more information about the statutory context of the Project).

1.2 Project location

The Project is located at 464 Golf Links Road, Glen Innes NSW 2370 within the Glen Innes Severn Local Government Area (LGA). The Project is located around three kilometres northeast of the Glen Innes town centre and immediately south of the Glen Innes TransGrid 132/66 kV Transmission Substation (Glen Innes substation). The majority of the Project would be located in the northwest corner of Lot 2 DP1192826 with the development footprint anticipated to cover around four hectares (herein referred to as 'the site'). The proposed transmission line would transect land between the BESS and the Glen Innes substation.

The location of the Project is shown in Figure 1-1 and lots anticipated to be impacted by the Project are listed in Table 1-1. There is a potential that other properties may also be impacted, subject to outcomes from design development, consultation and detailed technical assessments. These would be identified within the Environmental Impact Statement (EIS).

Table 1-1 Lots impacted by the Project

Lot / DP	Address	Project component	Landowner
Lot 2 DP1192826	464 Golf Links Road, Glen Innes NSW 2370	<ul style="list-style-type: none"> BESS facility Ancillary elements Transmission infrastructure connecting the BESS and Glen Innes substation 	Firm Power and the landholder have entered into an option to lease
Lot 397 DP753282	Golf Links Road, Glen Innes NSW 2370	<ul style="list-style-type: none"> Transmission infrastructure connecting the BESS and Glen Innes substation Substation upgrade 	Land owned by TransGrid

Lot / DP	Address	Project component	Landowner
Lot 398 DP753282	Golf Links Road, Glen Innes NSW 2370	<ul style="list-style-type: none"> Transmission infrastructure connecting the BESS and Glen Innes substation Glen Innes substation upgrade 	Land owned by TransGrid
Road reserve	Golf Links Road, Glen Innes NSW 2370	<ul style="list-style-type: none"> Access point Access road 	Glen Innes Severn Shire Council
Not specified	Golf Links Road, Glen Innes NSW 2370	<ul style="list-style-type: none"> Transmission infrastructure connecting the BESS and Glen Innes substation 	Crown Land

1.3 Site context

The regional setting is presented in Figure 1-1. The Project is located within the New England Renewable Energy Zone (REZ). Proposed, approved, operational and construction phase developments within the New England REZ and in the vicinity of the Project are largely, but not entirely, renewable energy projects. Developments within 30 kilometres of the Project are shown in Figure 1-1.

Glen Innes is a rural region dominated by agricultural land uses, particularly the raising of beef cattle (Australian Bureau of Statistics (ABS), 2021). Consistent with the regional setting and its immediate surrounds, the site has been predominantly cleared with isolated vegetation throughout.

The site is mapped as Plant Community Type (PCT) 3361 Tenterfield Plateau Stringybark-Apple Forest which predominantly contains the eucalypt species *Eucalyptus caliginosa* as well as *Eucalyptus blakelyi*. The shrub layer is almost non-existent, while the ground layer is dominated by a crop of oats, and there is evidence of use of the site by livestock. Some native grasses occur where oats have not been sowed, along the fence lines and around small rock outcrops.

Two electricity transmission lines, a 66 kV and 132 kV transmission line, traverse through and run adjacent to the site. The site is predominantly flat, with the nearest mapped watercourse, Beardy Waters, located 1.7 kilometres east. New England Highway, located 2.6 kilometres west of the Project, is classified as a state road and is aligned in a north-south direction. It is a two-way road, with one traffic lane in each direction. An additional lane is available in each direction for vehicles turning onto Golf Links Road. The Project would be accessed from Golf Links Road.

The nearest residential zoned land is located around one kilometre west. Isolated receptors are present in nearby properties along Golf Links Road. Receptors located within two kilometres of the Project are shown in Figure 1-2 and listed in Appendix D.

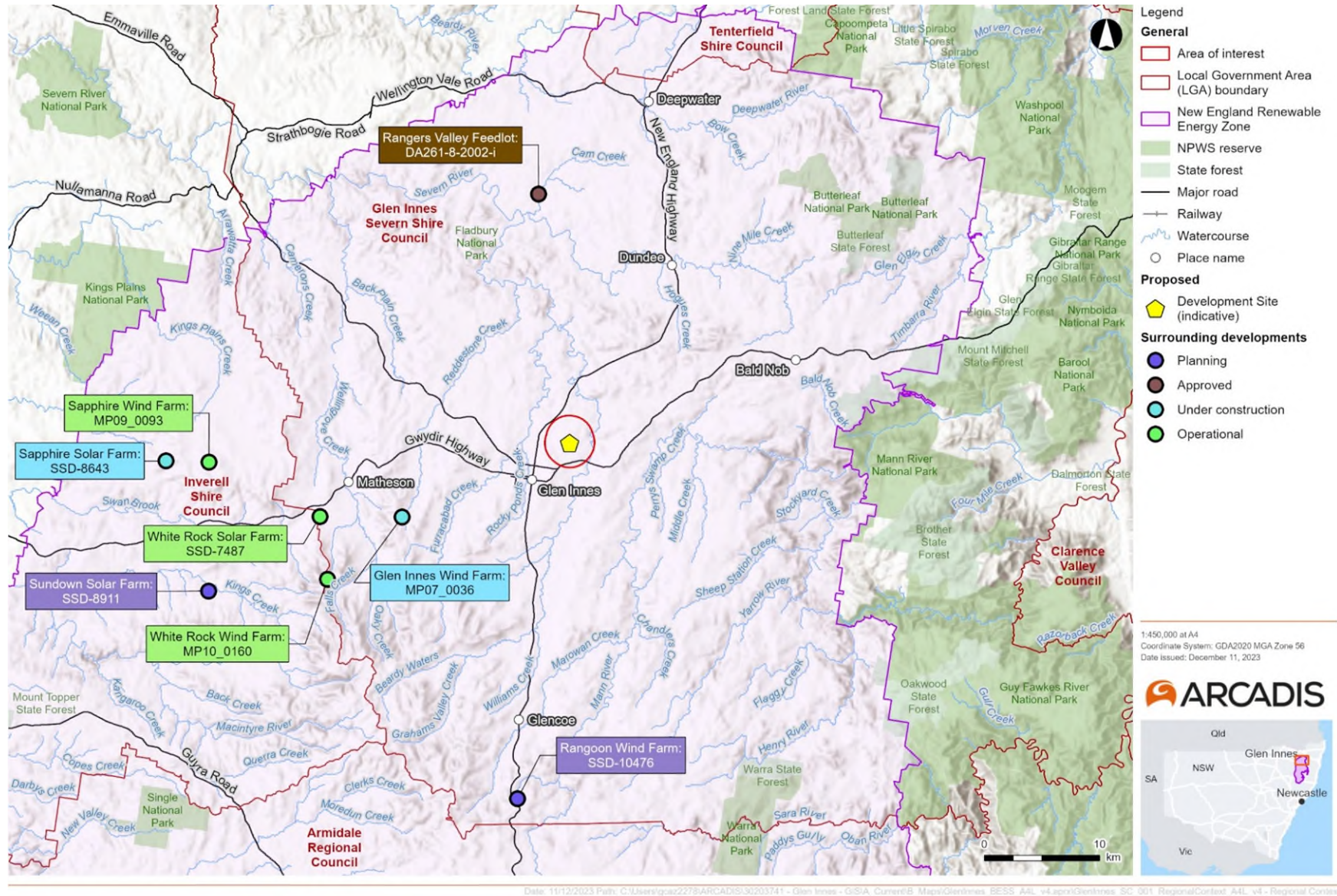


Figure 1-1 Regional context

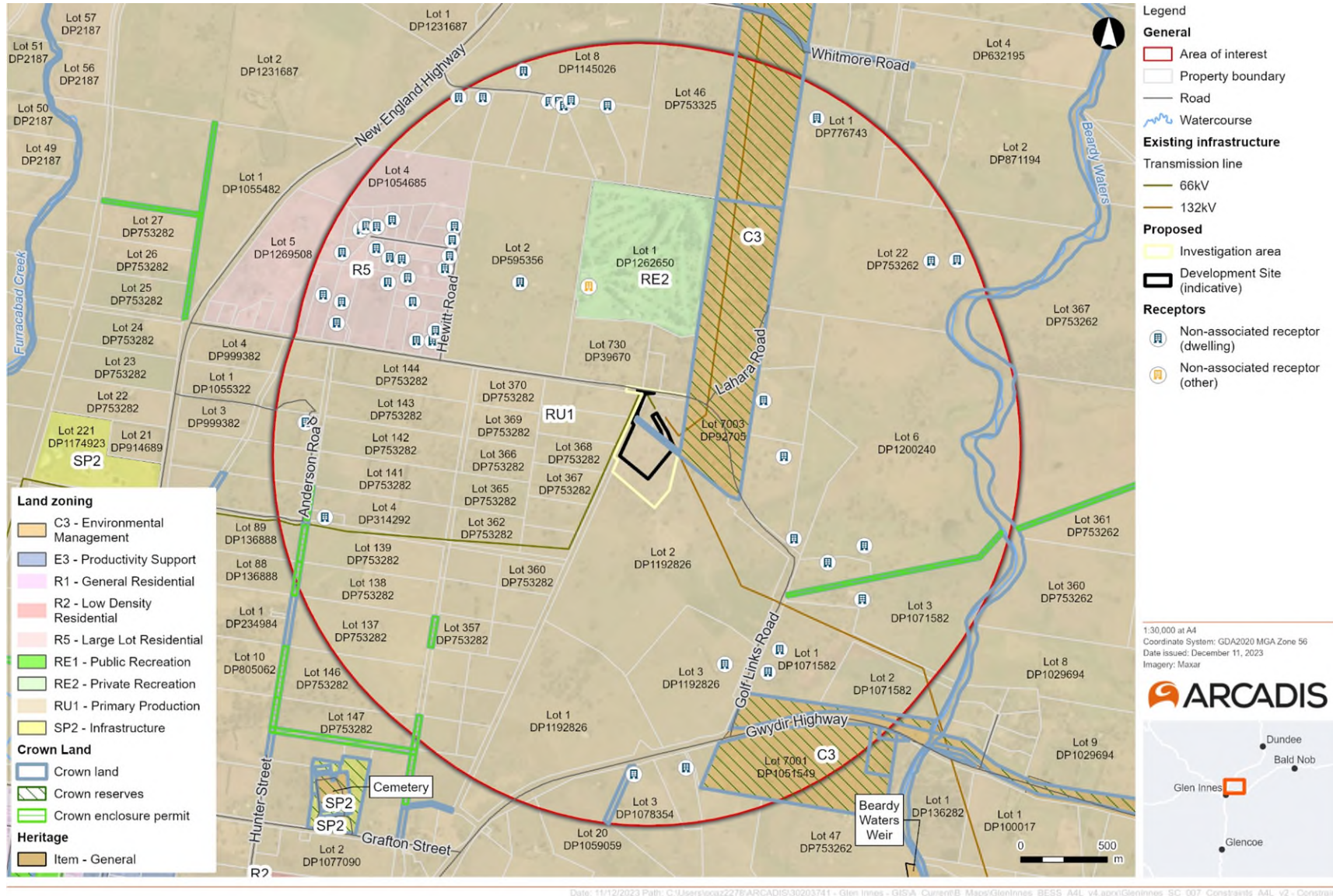


Figure 1-2 Local context

1.4 The Project

Firm Power is seeking development consent for the construction, operation and maintenance of a standalone BESS, of up to 200 MW that would provide up to 800 MWh of battery storage capacity.

This Project would include:

- BESS including battery enclosures, inverters, transformers, switchgear and control room
- BESS substation including transformer switch bays and switchgear housed in portable substation containers
- Underground or overhead 132 kV transmission lines to connect the BESS to the Glen Innes substation
- Glen Innes substation upgrade works to facilitate connection with the BESS
- Permanent office, operation and maintenance enclosure and staff amenities
- Site access to the BESS from Golf Links Road
- Internal site access road and parking
- Utilities including telecommunications, water and wastewater for amenity buildings
- Stormwater management infrastructure, lighting, fencing and security
- Landscaping and screening vegetation.

1.5 Purpose and structure of this Report

The purpose of this report is to support Firm Power’s application to the Minister for Planning for planning approval under Part 4, Division 4.7 of the EP&A Act, with the first step to obtain Secretary’s Environmental Assessment Requirements (SEARs) for the Environmental Impact Statements (EIS).

This scoping report has been prepared to:

- Describe the Project
- Identify feasible alternatives that will be investigated further during the preparation of the EIS with regard to the objective of the development
- Provide an early indication of community views and outline what engagement will be carried out during the preparation of the EIS
- Identify the key environmental matters requiring assessment in the EIS and the proposed approach to assessing each of these matters with regard to relevant government legislation, plans, policies and guidelines (refer Appendix A).

The structure and content of this report is outlined in Table 1-2.

Table 1-2 Structure and content of this report

Chapter		Description
Chapter 1	Introduction	Outlines the key elements of the Project and the purpose of this report.
Chapter 2	Strategic context	Provides an outline of the need and justification of the Project, as well as a description of the strategic alternatives and locations considered.
Chapter 3	The Project	Describes the Project, including general construction activities.
Chapter 4	Statutory context	Provides an outline of the statutory approvals framework, including applicable legislation and planning policies.

Chapter		Description
Chapter 5	Engagement	Outlines the stakeholder and community engagement carried out to date.
Chapter 6	Preliminary environmental assessment	Provides a preliminary consideration of the potential direct and indirect impacts associated with construction and operation of the Project.
Chapter 7	Summary of proposed environmental impact assessment scope	Summarises the proposed scope of further investigations for the Project during the preparation of the EIS, based on the potential direct and indirect impacts identified in this Scoping Report.
Chapter 8	Conclusion	Provides a conclusion to the report and identifies the next steps following the receipt of the SEARs.

1.6 The Proponent

Firm Power (ABN 18 631 500 519) is an Australian owned grid flexibility company dedicated to delivering solutions that provide stability to a clean energy driven power system.

Firm Power specialises in the development of large-scale, smart battery projects throughout Australia, aiming to support energy reliability across the country to accelerate the energy transition. Firm Power is committed to using advanced technology to ensure that energy supply and demand can be dynamically balanced, creating a more flexible electricity grid and allowing for continued renewable energy integration and power price reduction.

Firm Power collaborates with project investors and vigorously screens technology, integration, and delivery partners to ensure that the solutions provided are of the highest quality. Firm Power currently has numerous BESS projects under development with a total storage capacity of 3,600 MWh and capital investment value of over \$2.16 billion. The details of the Proponent are provided in Table 1-3 below.

Table 1-3 Proponent details

Proponent details	
Name	Firm Power Pty Ltd
Postal address	Level 7, 341 George Street, Sydney 2000
ABN	18 631 500 519
Nominated contact	Nick Rose
Contact details	nick@firmpower.com.au
Scoping Report	Prepared by Arcadis Australia Pty Ltd

2 Strategic context

This chapter provides an outline of the need and justification of the Project. A description of the strategic alternatives and locations has also been considered.

2.1 Strategic planning and policy context

2.1.1 Australia's Long Term Emissions Reduction Plan (National)

Australia's whole-of-economy Long-Term Emissions Reduction Plan is focussed on technology and sets out how Australia will achieve net zero emissions by 2050. One of the key principles of the plan is keeping energy prices down, while providing affordable and reliable power. The plan identifies low emissions technology solutions, including energy storage for firming, as a priority technology to achieving clean, cheap electricity.

The Technology Investment Roadmap is the cornerstone of the Long-Term Emissions Reduction Plan and sets a process to develop and deploy low emissions technologies. The Technology Investment Roadmap includes a requirement to prepare Low Emissions Technology Statements (LETS) which review, refine and evaluate the government's investments in low emission technologies. The current LETS (2021) include energy storage as an existing priority technology for government investment.

LETS 2021 indicates that broad deployment of electrical energy storage will facilitate further integration of low-cost solar and wind electricity in the grid. Energy storage will provide system security services and be a source of reliable, dispatchable electricity, and reduce pressure on electricity prices by meeting peaks in consumer demand.

The Project would be consistent with the high priority technologies outlined in the Long-Term Emissions Reduction Plan as it would provide increased transmission capacity and a reliable source of power at affordable prices for customers.

2.1.2 Integrated System Plan

The *2022 Integrated System Plan* (2022 ISP) (Australian Energy Market Operator (AEMO), 2022) provides a comprehensive roadmap for the National Electricity Market (NEM) by supporting a once-in-a-century transformation in the way electricity is generated and consumed in eastern and south-eastern Australia.

The 2022 ISP and its optimal development path support Australia's complex and rapid energy transformation towards net zero emissions, enabling low-cost firming renewable energy and essential transmission to provide consumers in the NEM with reliable, secure and affordable power.

Development opportunities for an optimal energy system identified in 2022 ISP acknowledges that to firm up the inherently variable nature of distributed and large-scale renewable energy generation, new flexible, dispatchable resources, including BESS (as proposed by the Proponent), will be needed.

New utility-scale battery and pumped hydro storage, located at appropriate parts of the network, will enable more effective dispatch of clean electricity on demand, increase resilience by shifting energy through time to manage weather variations, and provide critical system security services. The 2022 ISP also recognises the importance of REZs in improving grid reliability and security.

The draft *2024 Integrated System Plan* (2024 ISP) (AEMO), 2023) has recently been developed for consultation and is planned to be finalised and published in June 2024. The draft 2024 ISP is an update on

the 2022 ISP and identifies, among other aspects, that storage capacity (batteries, virtual power plants and pumped hydro) is required to increase significantly from 3 GW to 19 GW in 2030 and 57 GW in 2050.

As the Project would primarily involve the development of a BESS system within the New England REZ, which connects to existing power supply transmission networks, it is considered to align with, and support the intent of, the 2022 ISP and draft 2024 ISP.

2.1.3 NSW Transmission Infrastructure Strategy

The *NSW Transmission Infrastructure Strategy* (DPE, 2018) (the Transmission Infrastructure Strategy) acknowledges that NSW is undergoing an energy sector transformation which will change how energy is generated and used throughout the State.

The Transmission Infrastructure Strategy forms part of the NSW 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 customers.

By increasing transmission capacity and low-cost generation, the strategy aims to support an orderly transition of the energy sector over the next two decades.

As the Project would primarily involve the development of a large-scale BESS system that connects to existing power supply transmission networks, it is considered to complement the Transmission Infrastructure Strategy.

2.1.4 NSW Electricity Strategy

The Electricity Strategy (NSW Department of Planning, Industry and Environment, 2019) is the NSW Government's Plan for a reliable, affordable and sustainable electricity future. The Electricity Strategy acknowledges the challenges that exist in achieving the Government's objectives for the electricity system. This includes reliability risks from the retirement of some traditional coal-fired power stations combined with congestion within the existing transmission system. Both these risks reduce the attractiveness of investment in the new generation required to reduce electricity prices, improve reliability and protect the environment.

The Electricity Strategy sets out actions to address the specific needs of NSW while long-term national reforms are developed and implemented. Wind and solar generation are variable in their output and need to be complemented with firm and flexible technologies such as hydro, batteries, bioenergy, concentrated solar power, demand management and gas-fired generators. When variable generators are unable to satisfy demand, other technologies which can provide electricity on demand, i.e. firm generation (such as gas and battery storage) dispatch electricity into the grid. This energy generation and supply system is able to satisfy electrical demand so long as there is sufficient firm generation capacity to meet the system's electricity demand.

As noted in the Electricity Strategy, as at October 2019, there are 17,700 MW of large-scale renewable energy projects that have received planning approval or are progressing through the NSW planning system, representing about \$24 billion in investment. In addition to these renewable projects, there are 1,410 MW of large-scale non-renewable energy projects with planning approval, worth around \$1.5 billion. This includes 1,250 MW of gas projects, worth \$1.25 billion, and 160 MW of coal efficiency upgrades, worth \$209 million.

Batteries, as a form of electrical storage, also provide multiple grid services such as frequency regulation. The cost of batteries has fallen in recent years and is expected to continue to trend downwards making batteries a more feasible, commercial firming option for wind and solar farms. The principles guiding the development of the Electricity Strategy comprise four propositions. Principle 1: New generation, delivered by competitive markets should reduce electricity prices and protect the environment, notes that renewables, firmed by dispatchable technologies such as gas and storage, are the lowest cost form of new reliable electricity

generation. Accordingly, a good investment environment will deliver new generation, reduce electricity prices and ensure reliability while protecting the environment.

The Project is consistent with the goals of the Electricity Strategy, given the Project's ability to provide firm generation infrastructure able to support and complement future development of renewable energy projects.

2.1.5 NSW Electricity Infrastructure Roadmap

The Electricity Infrastructure Roadmap recognises that NSW has some of the best renewable energy resources in the world and as the global economy moves to reduce carbon emissions, NSW can attract investment in new, low carbon industries and can benefit from some of the lowest electricity prices in the Organisation for Economic Co-operation and Development. The Electricity Infrastructure Roadmap also acknowledges that to take advantage of these opportunities, substantial investment into modernising the existing electricity system, including by building transmission, generation and long duration storage and firming infrastructure is required.

The purpose of the NSW Electricity Infrastructure Roadmap is to deliver this infrastructure and secure NSW's future as an energy superpower. The Roadmap is expected to attract \$32 billion of timely and coordinated private sector investment in large-scale generation, storage and transmission by 2030 to maintain a reliable, secure and affordable supply.

The Electricity Roadmap notes that investment in large-scale storage and firming capacity, including battery storage (long and short duration) will be required to balance the supply of variable renewable energy.

2.1.6 NSW Climate Change Policy Framework

The aim of the NSW Climate Change Policy Framework (NSW Office of Environment and Heritage, 2016) is to maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and current and emerging international and national policy settings and actions to address climate change.

The long-term objective of the Climate Change Policy Framework is:

- To achieve net-zero emissions by 2050
- That NSW is more resilient to a changing climate.

As the Project would include the provision of a BESS facility that would assist in the development of a renewable energy power supply network for NSW that would increase capacity and resilience, the Project is considered to be complementary to the Climate Change Policy Framework.

2.1.7 Glen Innes Severn Community Strategic Plan 2022-2032

The Glen Innes Severn Community Strategic Plan (CSP) 2022-2032 is a 10 year plan which guides the delivery of services and projects for the community. The CSP endeavours to commit to a more sustainable future and create opportunities for employment by promoting climate resilient projects, including a REZ with a focus on wind and solar energy and battery storage.

The Project would include the provision of BESS facility, allowing for energy storage, thereby according with the Glen Innes Severn CSP 2022-2032.

2.1.8 New England North West Regional Plan 2041

The New England North West Regional Plan 2041 provides an overarching framework to guide more detailed land use plans, development proposals and infrastructure funding decisions. Objective 9 of the regional plan is to lead renewable energy and investment. Within this context, the plan identifies various renewable energy opportunities within the New England REZ including energy storage technologies.

The Project is therefore considered to be consistent with the New England North West Regional Plan 2041.

2.2 Project justification

As detailed in Section 2.1, NSW is undergoing an energy sector transformation which will change how energy is generated and used throughout the State. The need to increase the generation of renewable energy as many of the State's largest coal-fired power stations begin to close has been identified.

Wind and solar generation are variable in their output and need to be complemented with firm and flexible technologies such as hydro, batteries, bioenergy, concentrated solar power, demand management and gas-fired generators. When variable generators are unable to satisfy demand, other technologies which can provide electricity on demand i.e. firm generation (such as gas and battery storage) dispatch electricity into the grid. This energy generation and supply system is able to satisfy electrical demand so long as there is sufficient firm generation capacity to meet the system's electricity demand.

Without the development and operation of short and long-term dispatch infrastructure to support increasing investment, there is the potential for future deficit in capacity and reliability of the NSW power supply system. In a worst-case scenario, this can lead to load shedding or blackout events.

The Project would be for the development of a BESS. BESS facilities, such as that proposed by the Project would provide storage, frequency control ancillary services (FCAS) (to provide a fast injection of energy, to manage supply and demand) and help firm variable renewable energy generation.

2.2.1 How does a BESS work?

Batteries are an energy storage technology designed to absorb and release electrical energy on demand. Unlike many other forms of energy storage and generation, batteries are particularly valuable because they provide flexibility. They can respond faster than other energy storage or generation technologies and help maintain grid stability by providing the necessary response in fractions of a second. The battery technology type and layout for the Project would be refined during the detailed design process. An illustrative concept of a BESS is provided in Figure 2-1.



Figure 2-1 Example of a Battery Energy Storage System (Firm Power)

2.3 Project objectives

The key objectives of the Project include the following:

- Increase the potential for additional renewable energy assets to be built in NSW
- Improve the security, resilience and sustainability of NSW's electricity grid
- Help reduce the direct carbon emission of the NSW's electricity grid (by not relying on traditional fossil fuel firming assets)
- Minimise adverse impacts on the environment and community during construction and operation.

2.4 Strategic alternatives

This section describes the development options considered as part of this Scoping Report. These will be considered in greater detail in the EIS.

2.4.1 Do nothing

The do-nothing approach would not support the NSW Government's broader plans and strategies to make energy more affordable, secure investment in new power sources and network infrastructure and ensure new technologies deliver benefits for customers.

For these reasons, the 'do nothing' scenario is not the preferred, or considered a suitable option.

2.4.2 Alternative site

Following an assessment of electricity needs across NSW, relevant planning and policy considerations, and forecasted demands, Firm Power has identified the Glen Innes region, and more specifically land close to the Glen Innes substation, as a suitable location for the development of a BESS.

No alternative sites at this stage have been identified near the Glen Innes substation. The key limiting factors to an alternative site are the potential increased costs and environmental impacts associated with the:

- Acquisition of a suitable property; and
- Increased extent of connection infrastructure between the BESS and the Glen Innes substation.

The BESS is located around 100 metres from the Glen Innes substation. As such, the Project would be consistent with existing electricity infrastructure setting and limits impacts on the rural land character.

2.4.3 Alternative technology

The battery technology type and layout for the Project will be refined during the EIS. Battery chemistry and associated technology options are rapidly evolving and combined with decreasing costs, are increasingly being investigated and pursued.

Lithium-ion is the most common battery chemistry used to store electricity and when a large number of batteries are installed together (i.e. grid-scale or large-scale battery storage (LSBS)) they can act as large-scale power generators when connected into the electricity transmission system. A lithium-ion battery storage system would comprise modular units on pad mounted foundations, which are containerised. Each unit contains a number of battery pods strung together and connected to an inverter, which would convert the direct current (DC) from the batteries into alternating current (AC) and connect into the electricity grid. Lithium-ion BESS technology is established in the marketplace.

Flow batteries offer a low-cost and environmentally sustainable alternative to lithium-ion battery systems and are capable of long-duration discharge. Flow batteries produce energy by circulating two differently charged electrolyte solutions (e.g., from iron, salt, and water) through containers separated by a membrane with low permeability. As the liquids pass over the membrane, electrical current passes through conductive graphite plates in either container, leaving the electrolyte solution. During discharge, ions used to generate energy then dissolve back into the electrolyte solution. Flow batteries are capable of accommodating increased energy storage capacity and discharge duration by adding additional electrolytes to the system. The layout of a flow battery system would comprise flow energy centres in a housed enclosure and associated electrolyte storage tanks on pad mounted foundations. Each flow centre comprises a number of connected power trains connected to an inverter, which would convert the DC from the batteries into AC and connect into the electricity grid.

Battery chemistries subject to further investigation during preparation of the EIS are provided in Table 2-1.

Table 2-1 Battery chemistry overview

Battery chemistry	Overview
Lithium-ion	Lithium-ion chemistries are diverse. Nickel-Manganese-Cobalt and Iron Phosphate formulations are commonly used within BESS facilities
Lithium-ion polymer battery	An alternative being investigated as certain formulations are quoted to achieve greater safety (e.g., reduction or elimination of thermal runaway), increased energy density, material stability within a greater operating envelope, and an enhancement in overall performance.
Vanadium redox flow battery (flow battery)	An alternative capable of long-duration discharge. Quoted to achieve greater safety (e.g., reduction or elimination of thermal runaway), greater temperature operating envelope and longer operational design life.

Battery chemistry	Overview
Sodium-ion battery	An alternative option given its environmental abundance, non-flammable nature, and reduced susceptibility to temperature changes relative to Lithium-ion batteries

2.4.4 Build the Project at the site

The Project would leverage its strategic proximity to the Glen Innes substation to provide for future capacity and resilience of the NSW energy network through the delivery of a large-scale dispatchable energy storage system. It is considered that the Project’s location is advantageous for the construction and operation of a new BESS.

2.5 Site selection criteria

The Proponent conducted a review of constraints for the site, which included an assessment of strategic, environmental and other non-environmental constraints. Constraints were ranked as either low, moderate, high or red flag significance. The constraints examined for the Project included (but were not limited to):

- Land title and land use
- Strategic and community context
- Receptors
- Transport and access
- Constructability
- Competing interests
- Biodiversity
- Heritage
- Watercourses, flooding and groundwater
- Visual constraints
- Agriculture
- Noise
- Hazards.

2.5.1 Preferred option

The Project at 464 Golf Links Road, Glen Innes 2370 (Lot 2 DP1192826) was considered as the preferred location for the BESS facility as no red flags were identified. Factors underpinning the decision included the:

- The proximity of the BESS to the Glen Innes substation
- Compatibility of the Project with existing land use zoning and permissibility
- Existing electricity infrastructure setting.

The preferred location within Lot 2 DP1192826 was identified to be the northwest corner specifically as it would minimise the transmission connection distance to the Glen Innes substation and distance of the access road off Golf Links Road.

3 The Project

This chapter provides an overview of the Project, including its key elements and construction activities that would be undertaken.

3.1 Overview

The Project would involve construction and operation of a BESS at 464 Golf Links Road, Glen Innes 2370 (Lot 2 DP1192826). The Project is immediately south of the Glen Innes substation (refer to Chapter 1 (Introduction) of this report for additional information relating to site location and context).

The BESS would have a capacity of up to 200 MW and up to 800 MWh of storage capacity. The site is anticipated to cover around four hectares and would connect into the Glen Innes substation via a 132 kV underground or overhead transmission line.

The Proponent is still undertaking the formal connection process with TransGrid to determine the detailed electrical engineering requirements of connecting the BESS transmission line into the Glen Innes substation. A preferred transmission alignment on Lots 398 DP753282 and 397 DP753282 is proposed and would be refined through the EIS and design process.

The Project would include the following key built form features:

- BESS including battery enclosures, inverters, transformers, switchgear and control room
- BESS substation including transformer switch bays and switchgear housed in portable substation containers
- Underground or overhead 132 kV transmission lines to connect the BESS to the Glen Innes substation
- Glen Innes substation upgrade works to facilitate connection with the BESS
- Permanent office, operation and maintenance compound and staff amenities
- Site access to the BESS from Golf Links Road
- Internal site access road and parking
- Utilities including telecommunications, water and wastewater for amenity buildings
- Stormwater management infrastructure, lighting, fencing and security
- Asset protection zone and screening vegetation.

The extent and configuration of the final built form would be refined through the EIS and design process. There is a potential that other properties may also be impacted for connection to relevant utilities. These properties would be identified within the EIS and are subject to further investigation. An indicative overview of the Project is shown in Figure 3-1.

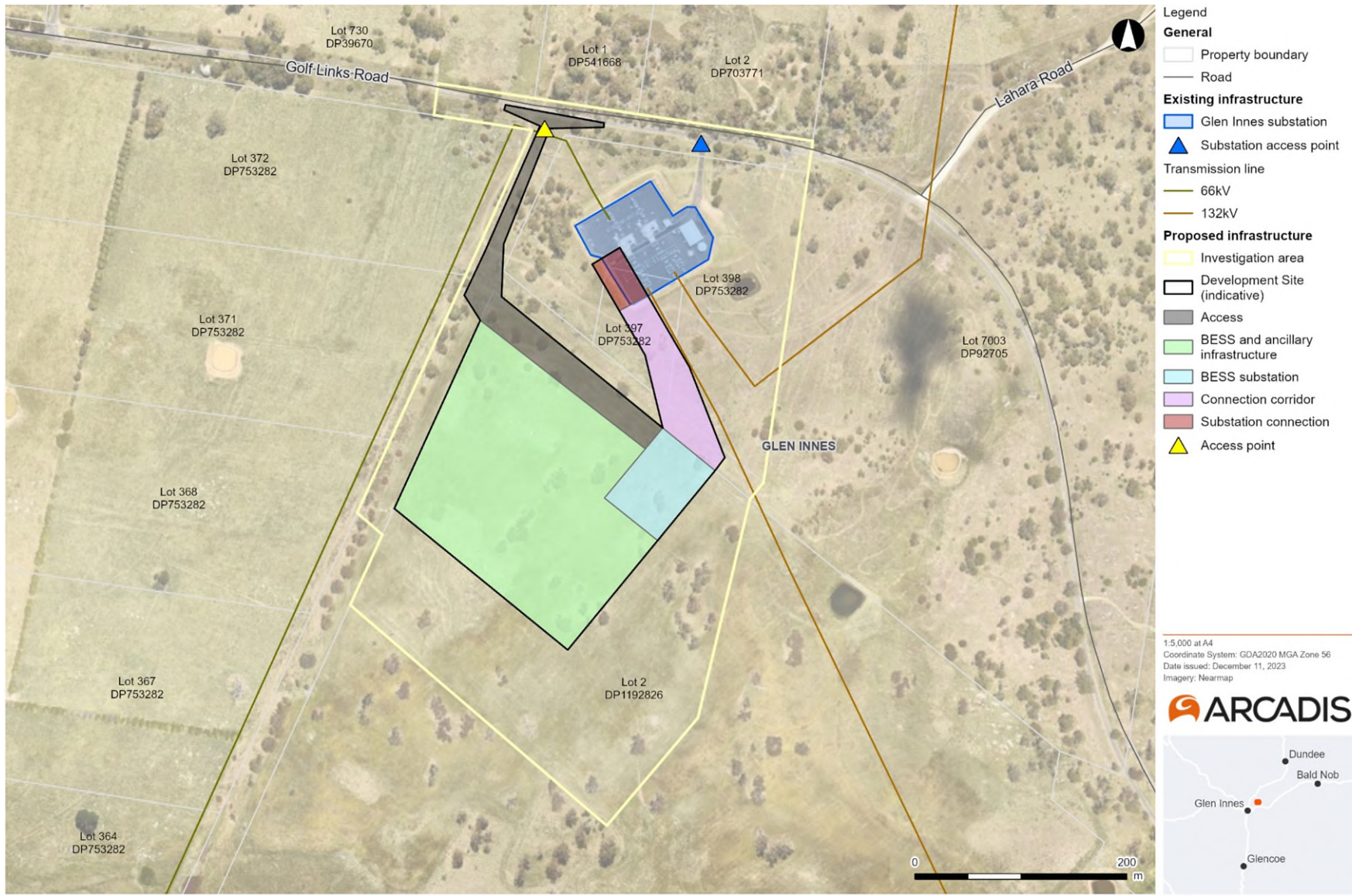


Figure 3-1 Indicative overview of the Project

3.2 Construction

3.2.1 Overview

Key construction activities are expected to include:

- Site enabling works including:
 - Establishment of temporary environmental controls
 - Establishment of site access points and construction of an internal access road and car-park
 - Vegetation clearance
 - Boundary fencing
 - Utility works
 - Establishment of temporary construction site office and laydown area
 - Environmental investigations or protection works (e.g., heritage, geotechnical and contamination investigations, where required).
- Earthworks, levelling, and other civil and ground preparation activities, including the removal of spoil from the site, as required
- Establishment of hardstand areas
- Delivery, installation and electrical fit-out for the Project, including the control equipment, battery enclosures, substation components and associated cabling and infrastructure
- Establishment of a transmission line between the BESS and the Glen Innes substation
- Permanent environmental management and pollution control measures
- Construction of a permanent office, operation and maintenance compound and staff amenities
- Finishing works
- Testing and commissioning
- Removal of construction equipment and rehabilitation of construction areas.

It is likely that the majority of BESS components and other elements would be prefabricated offsite and transported to the site via heavy vehicles, where they would then be installed. The batteries would be installed and electrically connected on prepared hardstands. Relevant hazardous substance management procedures and controls will be identified through further design development and implemented in accordance with the relevant guidelines and legislation.

3.2.2 Construction program

Construction of the Project would begin after all relevant approvals are obtained. Site enabling works are expected to commence in late 2026. The total duration of construction is expected to be around 10 months. The duration of the peak construction period, when the construction of the BESS, substation, transmission line, and operation and maintenance would overlap, is anticipated to be five months.

3.2.3 Workforce

Up to 75 personnel would be employed during the construction period. The construction workforce would include (but not be limited to) the following:

- Tradespeople and construction personnel
- Sub-contractor construction personnel

- Engineers
- Functional and administrative staff.

3.2.4 Construction hours

Construction of the Project would be undertaken during standard daytime construction hours, which would be:

- 7am to 6pm Monday to Friday
- 8am to 1pm Saturdays
- No work on Sundays or public holidays.

Activities that would be carried out outside of the standard daytime construction hours would include:

- Work determined to comply with the relevant noise and amenity management levels at the nearest sensitive receptor
- The delivery of materials outside approved hours as required by the NSW Police or other authorities for safety reasons
- Emergency situations where it is required to avoid the loss of lives and properties and/or to prevent environmental harm.

3.3 Operation

The BESS would operate (charge and/or discharge) based on network and market conditions. In this respect, the BESS would provide storage for energy arbitrage and frequency control ancillary services providing a fast injection or absorption of energy to manage supply and demand and help firm variable renewable energy generation for Firm Power's customers in NSW.

The Project would be operational 24 hours a day, seven days a week. The operation of the Project would require the employment of up to three personnel. The Project is anticipated to be operational in 2027 with a design life of around 20 years.

3.4 Decommissioning

At the end of its design life or agreed timetable, the batteries would either be disposed of and / or recycled at approved disposal and / or recycling facilities, or returned to the original equipment manufacturer for refurbishment and recycling (subject to confirmation). Opportunities to extend the design life would be reviewed subject to the replacement of components and market conditions.

Following decommissioning, the site would be rehabilitated to pre-development conditions as far as is reasonably practicable. If Firm Power is unable to secure the site, the land would be rehabilitated to a standard agreed with the landowner, which may include pre-development conditions or other arrangements.

4 Statutory context

This chapter provides an outline of the legislation and planning instruments governing the permissibility of the Project.

4.1 Commonwealth planning approvals

4.1.1 Environmental Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) establishes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of protected areas.

Under the EPBC Act, a referral to the Commonwealth Department of Climate Change, Energy, Environment and Water (DCCEEW) is required for proposed 'actions' that have the potential to significantly impact on any Matters of National Environmental Significance (MNES) or the environment of Commonwealth land (including leased land).

Current matters of MNES are:

- World heritage properties
- National heritage places
- Wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed)
- Nationally listed threatened species and ecological communities
- Listed migratory species
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mining)
- A water resource, in relation to coal seam gas development and large coal mining development.

The EPBC Act also requires Commonwealth approval for any activity that will, or is likely to have, a significant impact on Commonwealth land. Part of the Project (the transmission line) may be constructed on crown land (refer Figure 6-3).

A search of the EPBC Act Protected Matters Search Tool was undertaken on 20 November 2023. The search identified four threatened ecological communities (TECs), 54 threatened species and 11 migratory species with the potential to occur within 10 kilometres of the site. The results of the Protected Matters search are provided in Table 4-1.

The potential presence of listed threatened species and communities will be investigated further during the preparation of the EIS. Given the nature of the Project and preliminary biodiversity findings (refer to Section 6.4), it is relatively unlikely that it will have a significant impact on any matter protected by the EPBC Act.

Table 4-1 Matters of National Environmental Significance within 10 kilometres of the Project

MNES	MNES within 10 kilometres of the site
World Heritage Properties	None
National Heritage Place	None
Wetlands of International Importance	3
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	3
Listed Threatened Species	54
Listed Migratory Species	11

4.1.2 Native Title Act 1993

An objective of the *Commonwealth Native Title Act 1993* is to recognise and protect native title. Section 8 states that the *Native Title Act 1993* is not intended to affect the operation of any law of a State or a Territory that is capable of operating concurrently with the Act.

Searches of the registers maintained by the National Native Title Tribunal indicate there are no native title claims or any indigenous land use agreements registered with respect to land proposed for the Project.

4.2 NSW environmental planning approvals

The EP&A Act and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) are the primary pieces of legislation that regulate land use planning and development assessment in NSW. This legislation is supported by a range of environmental planning instruments, including State Environmental Planning Policies (SEPP) and Local Environmental Plans (LEP).

4.2.1 Permissibility

Division 4 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) applies to development for the purposes of electricity generating works or solar energy systems.

Electricity generating works are defined in Clause 2.35 as

'a building or place used for the following purposes, but does not include a solar energy system –

- (a) making or generating electricity,*
- (b) electricity storage'*

Development permitted with consent is defined in Clause 2.36(1) as

'development for the purpose of electricity generating works may be carried out by any person with consent on the following land –

(a) in the case of electricity generating works comprising a building or place used for the purpose of making or generating electricity using waves, tides or aquatic thermal as the relevant fuel source—on any land

(b) in any other case—any land in a prescribed rural, industrial or special use zone.’

The Project is located within the Glen Innes Severn LGA on land zoned as RU1 Primary Production (Figure 1-2). In accordance with Clause 2.36(1)(b), the Project is therefore permissible with development consent under the provisions of the T&I SEPP.

4.2.2 State significant development

Section 4.36 of the EP&A Act provides for the declaration of a project as SSD. The declaration of a project as SSD under Section 4.36 of the Act can be by meeting the requirements of a SEPP or by the Minister for Planning.

Clause 2.6 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP) states that development is declared to be SSD for the purposes of the EP&A Act 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.

As described in Section 4.2.1, the Project is not permissible without development consent.

Clause 20 of Schedule 1 of the Planning Systems SEPP declares 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) to be SSD if it either –

(a) Has a capital investment value of more than \$30 million, or

(b) Has a capital investment value of more than \$10 million and is located in an environmentally sensitive area of State significance.

The Project has a capital investment value of more than \$30 million.

The Project is considered to meet the definition of SSD under Clause 2.6 of the Planning Systems SEPP, as the Project would be for electricity generating works on land that is permitted with development consent under Clause 2.36(1)(b) of the T&I SEPP and would have a capital investment value greater than \$30 million.

Development consent for the Project is therefore being sought in accordance with Part 4, Division 4.7 of the EP&A Act.

4.2.3 Planning approval process under division 4.7 of the EP&A Act

The assessment and approval process for an SSD project is established under Part 4, Division 4.7 of the EP&A Act. A Project requiring an SSD application is to be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the regulations, in accordance with Section 4.12(8) of the EP&A Act.

The EIS for the Project will be informed by the SEARs. This Scoping Report supports an application made by Firm Power (the Proponent) and submitted to the Department of Planning, Housing and Infrastructure (DHPI) to seek the SEARs project, as required by Section 4.12(8) of the EP&A Act. The EIS will be prepared in accordance with the SEARs and the requirements of Schedule 2 of the EP&A Regulation.

The DHPI will place the EIS on public exhibition for a minimum of 28 days (as per Schedule 1, Division 2, clause 9 of the EP&A Act). During the exhibition period the community, stakeholders and government agencies will have an opportunity to review the EIS and provide a written submission to DHPI for consideration in its assessment of the Project.

At the completion of the public exhibition period, DHPI will provide the Proponent with a copy of all submissions received during the exhibition period. After reviewing the submissions, the Proponent will prepare a Submissions Report that responds to the relevant issues raised. If changes are required to the Project as a result of the issues raised or to minimise environmental impacts, the proponent would prepare a report to address these changes and submit this for review to DHPI, after which it would be made available to the public.

The Minister for Planning is the consent authority for SSD projects. The Minister for Planning has issued a general delegation of the consent authority function for SSD projects to the Independent Planning Commission in instances where more than 50 public objections are received on the application, the applicant has made a reportable political donations disclosure and/or Glenn Innes Severn Shire Council object to the Project.

4.2.4 NSW environmental planning instruments

The EIS will consider the provisions of SEPPs to the extent they are relevant to the Project. The environmental planning instruments that have been considered are summarised in Table 4-2.

Table 4-2 Environmental planning instruments

Environmental Planning Instrument	Discussion
<p><i>State Environmental Planning Policy (Planning Systems) 2021</i></p>	<p>The Planning SEPP identifies development that is SSD. As outlined in Section 4.2.2, the Project is SSD under Clause 2.6 of the Planning SEPP.</p>
<p><i>State Environmental Planning Policy (Resilience and Hazards) 2021 (R&H SEPP)</i></p>	<p>R&H SEPP applies to any projects that fall under the policy’s definition of ‘potentially hazardous industry’ or ‘potentially offensive industry’. Certain activities may involve handling, storing or processing a range of substances which in the absence of locational, technical or operational controls may create a risk or offence to people, property or the environment. Such activities would be defined as potentially hazardous or potentially offensive.</p> <p>The Project is not considered to be a ‘potentially hazardous industry’ or ‘potential offensive industry’ under the R&H SEPP. Nonetheless, the EIS for the Project would include an assessment of potential hazards and risks associated with the construction and operation of the Project. Refer to Section 6.7 for more information.</p>

Environmental Planning Instrument	Discussion
<p><i>State Environmental Planning Policy (Resilience and Hazards) 2021 Chapter 4 (Remediation of land)</i></p>	<p>R&H SEPP provides a state-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. In accordance with Chapter 4 (Remediation of land) of the R&H SEPP, a consent authority must not consent to the carrying out of development on any land unless:</p> <ul style="list-style-type: none"> • It has considered whether the land is contaminated. • If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or would be suitable, after remediation) for the purpose for which the development is proposed to be carried out. • If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied the land would be remediated before the land is used for that purpose. <p>A review of potential contamination issues for the Project will be carried out in accordance with the contaminated land planning guidelines to inform the design and EIS. Refer to Section 6.9 for more information.</p>
<p><i>State Environmental Planning Policy (Resilience and Hazards) 2021 Chapter 2 (Coastal Management)</i></p>	<p>The R&H SEPP provides an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the <i>Coastal Management Act 2016</i>. In accordance with Chapter 2 (Coastal Management) of the R&H SEPP, a consent authority must not consent to the carrying out of development on any land unless the consent authority is satisfied that development on coastal zones has been considered.</p> <p>The Project is not located on or near land mapped as coastal wetland and littoral rainforest area, proximity area for coastal wetland and littoral rainforest area, coastal vulnerability area, coastal environment area or coastal use area.</p>
<p><i>State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP)</i></p>	<p>T&I SEPP aims to facilitate the effective delivery of infrastructure across NSW.</p> <p>Division 4 of the T&I SEPP applies to the Project, as it is considered to be development for the purposes of electricity generating works or solar energy systems.</p>
<p><i>State Environmental Planning Policy (Biodiversity and Conservation) 2021 (B&C SEPP)</i></p>	<p>The B&C SEPP provides a framework for the regulation of the clearing of native vegetation in NSW.</p> <p>Further information is provided in Section 6.4</p>

4.2.5 Other NSW approvals

In accordance with Section 4.41 and 4.42 of the EP&A Act, some environmental planning legislation does not apply to SSD projects, or must be applied consistently with an approval for SSD.

Approvals or authorisations that are not required or cannot be refused

Environmental approvals that are not required for SSD, but which have been considered in the preparation of this Scoping Report are listed in Table 4-3.

Table 4-3 Relevant approvals considered but not required under Section 4.41 of the EP&A Act

Approval	Comment
A permit under section 201 of the <i>Fisheries Management Act 1994</i>	The Project would not involve dredging or reclamation works.
A permit under section 205 of the <i>Fisheries Management Act 1994</i>	No works are proposed in waterways. The Project would not impact on any marine vegetation that is protected under this section.
A permit under section 219 of the <i>Fisheries Management Act 1994</i>	No works are proposed in waterways. The Project would not result in the blockage of fish passage
An approval under Part 4, or an excavation permit under section 139, of the <i>Heritage Act 1977</i>	No non-Indigenous items have been identified at the site based on a review of the Glen Innes Severn LEP 2012 and NSW heritage register.
An Aboriginal heritage impact permit under section 90 of the <i>National Parks and Wildlife Act 1974</i>	A basic search of the Aboriginal Heritage Information Management System (AHIMS) register on 20 November 2023 identified no Aboriginal heritage sites with two kilometres of the site.
A bushfire safety authority under section 100B of the <i>Rural Fires Act 1997</i>	The site is located on land designated as Vegetation Category 3 and is therefore considered bushfire prone. The Project would be designed in accordance Planning For Bushfire Protection (NSW Rural Fire Service 2019).
A water use approval (section 89), a water management work approval (section 90) or an activity approval (other than an aquifer interference approval) (section 91)) of the <i>Water Management Act 2000</i>	Water use during project construction and operation is anticipated to be minimal. No impacts are anticipated on the availability of current surface or groundwater resources used by local landholders.

Section 4.42 of the EP&A Act identifies approvals or authorisations that cannot be refused if they are necessary for carrying out approved SSD and must be substantially consistent with the Part 4, Division 4.7 approval. The statutory approvals or authorisations of potential relevance to the Project include:

- A consent under Section 138 of the *Roads Act 1993*.

NSW legislation and regulations that may still be applicable to the Project

Environmental planning related legislation and regulations that may still be applicable to approved SSD projects, are identified in Table 4-4. The applicability of each of the below mentioned pieces of NSW legislation will be confirmed through the EIS development process.

Table 4-4 NSW legislation and regulations of potential relevance

Legislation	Requirement
<i>Biosecurity Act 2015</i>	<p>This Act aims to protect natural resources from the adverse impact of pests, disease, weeds and contaminants on agricultural land and parks and reserves (such as those near to the site). All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose.</p> <p>During construction of the Project, any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.</p>

Legislation	Requirement
<p><i>Biodiversity Conservation Act 2016 (BC Act)</i></p>	<p>The BC Act seeks to:</p> <ul style="list-style-type: none"> • Conserve biological diversity at the bioregional and State scale • Maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations • Assess the extinction risk of species and ecological communities and identify key threatening processes through an independent and rigorous scientific process • Establish a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity. <p>Based on the desktop review and preliminary site ecological inspection, it is unlikely that the Project would have a significant impact on biodiversity values protected under the BC Act.</p>
<p><i>Contaminated Land Management Act 1997 (CLM Act)</i></p>	<p>The CLM Act outlines the circumstances in which notification to the Environment Protection Authority is required in relation to the contamination of land. This may become relevant during construction of the Project if contamination is encountered. A public register of notifications under this Act is maintained.</p>
<p><i>Heritage Act 1977 (Section 146)</i></p>	<p>If a relic is discovered or located, the Heritage Council must be notified '<i>of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic</i>'.</p>
<p><i>Protection of the Environment Operations Act 1997 (POEO Act)</i></p>	<p>The POEO Act is the key piece of environment protection legislation administered by the Environment Protection Authority.</p> <ul style="list-style-type: none"> • Section 120 of the Act prohibits the pollution of waters • Air pollution-related Sections 124 to 126 (Chapter 5, Part 5.4, Division 1) of the Act require activities to be conducted in a proper and efficient manner, while Section 128 (Chapter 5, Part 5.4, Division 1) of the Act requires that all necessary practicable means are used to prevent or minimise air pollution • Pollution of land and waste is covered by Part 5.6 of the Act. It defines offences relating to waste and sets penalties and establishes the ability to set various waste management requirements via the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> • The activities listed in Schedule 1 to the Act (broadly, activities with potentially significant environmental impacts) require an Environmental Protection Licence (EPL). The operation of the BESS does not constitute any of the scheduled activities and therefore does not require an EPL.
<p><i>Rural Fires Act 1997 (RF Act)</i></p>	<p>Sections 63(1) and 63(2) of the RF Act require public authorities and owners/occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of bushfires on or from, that land.</p> <p>The site is located on land designated as Vegetation Category 3 and is therefore considered bushfire prone. The Project would be designed in accordance Planning For Bushfire Protection (NSW Rural Fire Service 2019),</p>

4.3 Local environmental planning instruments

4.3.1 Glen Innes Severn Local Environmental Plan

The Project is located within the Glen Innes Severn LGA and is subject to the provisions of the Glen Innes Severn LEP 2012. The Project is on land zoned as RU1 Primary Production and electricity generating works (which includes facilities for electricity storage) are permitted with consent within the RU1 zone.

The objectives of the RU1 Primary Production land use zone under the LEP are to:

- Encourage sustainable primary industry production by maintaining and enhancing the natural resource base
- Encourage diversity in primary industry enterprises and systems appropriate for the area
- Minimise the fragmentation and alienation of resource lands
- Minimise conflict between land uses within this zone and land uses within adjoining zones.

Local provisions contained in Glen Innes Severn LEP 2012 will be considered where relevant, as part of the EIS.

4.3.2 Glen Innes Severn Development Control Plan

The Glen Innes Severn Council Development Control Plan 2014 (DCP) contains the key criteria for specific types of development that commonly occur in the Glen Innes Severn LGA and for specific locations within the region. The primary aim of the DCP is to define “deemed to satisfy” standards which will streamline the approval process when these standards are met. Provisions within the DCP will be considered where relevant as part of the EIS.

5 Engagement

Firm Power has undertaken an initial stakeholder scoping exercise and identified a number of key interest groups. The key interest groups identified include:

- Government authorities:
 - DPHI
 - Glen Innes Severn Shire Council
 - NSW Environmental Protection Authority (EPA)
 - Transport for NSW (TfNSW)
 - Crown Lands NSW
 - Heritage NSW
 - Biodiversity, Conservation and Science (BCS)
 - DPHI Water
 - DPHI Hazard
 - Fire and Rescue
 - NSW Rural Fire Service (RFS)
 - Department of Primary Industries (DPI) Agriculture.
- Elected Representatives:
 - Hon. Adam Marshall MP (Member for Northern Tablelands)
 - Hon. Barnaby Joyce MP (Member for New England)
 - Mayor Rob Banham (Glen Innes Severn Shire Council)
- First Nations:
 - Glen Innes Local Aboriginal Land Council
 - Registered Aboriginal Parties (RAPs)
- Community and business groups:
 - Adjacent landowners
 - Wider community
 - Glen Innes Golf Club
 - Glen Innes business chamber
 - Aboriginal employment solution
 - NSW farmers federation
- Energy industry bodies and infrastructure service providers.

5.1 Consultation objectives

Firm Power is committed to undertaking community and stakeholder consultation for the Project. The communication and engagement objectives for the Project are to:

- Inform interested and potential impacted businesses, communities and stakeholders about the design, development and potential impacts of the Project
- Build and develop community and key stakeholder relationships
- Encourage stakeholder participation
- Obtain government, community and stakeholder input for consideration in development of the Project
- Provide information about the planning approval process
- Understand community and stakeholder priorities and concerns so they can be considered in the ongoing development and delivery of the Project.

5.2 Community and stakeholder engagement

Community and stakeholder engagement for the Project has commenced and is being undertaken in accordance with the *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022).

Community and stakeholder engagement activities regarding the Project commenced in Q4 of 2024. This targeted engagement has focused primarily on notifying neighbouring residences and government agencies of Firm Power's intention to lodge the Scoping Report for the Project and enable stakeholders to:

- Take up any early engagement opportunities to understand the Project
- Provide feedback about aspects of the Project which they support, do not support, or wish to be adjusted
- Provide clear reasons for any concerns and possible alternative approaches
- Identify any matters they feel have not been considered.

An overview of the consultation undertaken to date is provided in Table 5-1. The community information sheet (newsletter) provided to nearby receptors is included in Appendix C.

Table 5-1 Engagement summary

Stakeholder	Method of consultation	Feedback	Action taken
Government authorities			
DPHI	<ul style="list-style-type: none"> Briefing letter and emails Virtual pre-scoping meeting on 6 December 2023 	<ul style="list-style-type: none"> Clarification sought around the lots immediately west of the Project and whether dwelling entitlements were present Requested that information be provided of specific consultation undertaken with adjacent landowners Suggested providing a bigger investigation area to enable flexibility and reduce potential for project modifications Noted that there was no standard benefit sharing agreement for BESS Projects and this would be subject to standard Council rates and contributions based on land use zoning and any relevant impacts on local infrastructure and services (in consultation with Council) General discussion regarding key investigation considerations for technical studies including but not limited to biodiversity, heritage, noise, traffic, contamination, socio-economic, water and cumulative impacts. 	<ul style="list-style-type: none"> Confirmation received from Council that dwelling entitlements are not present west of the site Adjacent community consultation log provided with Scoping Report Investigation area enlarged (refer Figure 3-1) Benefit sharing agreement discussed with council and to continue throughout development of the EIS
Glen Innes Severn Shire Council	<ul style="list-style-type: none"> Briefing letter and emails Virtual meeting on 6 December 2023 	<ul style="list-style-type: none"> Discussion around benefit-sharing scheme Council made reference to recently completed Centennial Parklands Skywalk and other general tourist points which should be considered in the visual assessment Council noted general community fear regarding BESS fires Discussion around workforce numbers and likely need for Oversize Overmass vehicles Council noted a community group for land care/primary producers Council confirmed that dwelling entitlements are not presents on the west of the site 	<ul style="list-style-type: none"> Benefit-sharing scheme discussions to continue as Project develops Visual scope to include key tourist visual points in assessment Ongoing community engagement (such as Fact Sheet) to continue as Project develops

Stakeholder	Method of consultation	Feedback	Action taken
Transport for NSW and Crown Lands NSW	<ul style="list-style-type: none"> Briefing letter and email 	<ul style="list-style-type: none"> No feedback received at this time 	<ul style="list-style-type: none"> Consultation with government authorities to occur upon receipt of pre-SEARs advice, SEARs and throughout EIS preparation
First Nations			
Glen Innes Local Aboriginal Land Council (LALC) Registered Aboriginal Parties (RAPs)	<ul style="list-style-type: none"> Letters outlining the development proposal and the need to carry out an Aboriginal Cultural Heritage Assessment (ACHA) were sent to the Glen Innes LALC and various statutory authorities An advertisement has been placed in the Glen Innes Examiner seeking registrations of interest from Aboriginal people and organisations 	<ul style="list-style-type: none"> Stage 1 Aboriginal Cultural Heritage Consultation Requirements Proponents 2010 (ACHCRP) notification period is ongoing. 	<ul style="list-style-type: none"> Consultation to continue in accordance ACHCRP RAP groups to be provided specific Project information during EIS

Stakeholder	Method of consultation	Feedback	Action taken
Community and business groups?			
Nearby receptors within two kilometres of the Project	<ul style="list-style-type: none"> • Newsletter to provide high level overview of the Project, Firm Power's intention to lodge the Scoping Report and to enable initial feedback • Face to face meetings with select adjoining landowners 	<p>Receptors within two kilometres of the Project were largely agreeable to or neutral about the project, with many requesting to be kept up to date. Common questions included:</p> <ul style="list-style-type: none"> • Where would the batteries come from? • Who owns Firm Power? • Would there be vegetation screening? • Would there be generation on site? • Why was a two kilometre radius selected for consultation? • What impacts would the Project have on them? • What is the risk of fire? • Where is the energy coming from and going to? • Will the Project reduce electricity costs? 	<ul style="list-style-type: none"> • Consultation to continue throughout the Scoping and EIS phases • Firm Power to email or mail out updates to those residents who asked to be kept up to date
Energy industry bodies and infrastructure service providers			
TransGrid	<ul style="list-style-type: none"> • Initial concept enquiry issued to TransGrid in August 08 2023 	<ul style="list-style-type: none"> • No concerns from TransGrid about 100 MW, however a connection enquiry for 155 MW could be submitted then scaled back if needed at application stage • Wait until the new year to lodge connection enquiry due to the holidays • TransGrid asked if Firm Power had discussed the Project with EnergyCo. 	<ul style="list-style-type: none"> • Firm Power lodged connection enquiry Jan 08 2024 • Firm Power to continue discussions with EnergyCo

5.3 Consultation proposed during preparation of the EIS

Firm Power will inform stakeholders of the lodgement of this Scoping Report and continue to consult with the community and stakeholders during the preparation of the EIS. Feedback and participation from consultation and engagement activities would be used to further inform investigations being carried out for the environmental assessment of the Project.

Future planned consultation activities with the community and local community groups could include, but not be limited to, distribution of community newsletters at key project milestones, continued consultation with nearby residents and businesses either via letterbox drop, phone calls and face-to-face consultation, and broader community information sessions. Consultation will be undertaken with regards to the key issues identified in Chapter 6.

Key elements of this consultation would include community contact and information channels in place throughout the planning approval process.

5.4 Public exhibition of the EIS

Public exhibition of the EIS will be for a minimum of 28 days as stated in the EP&A Act. Advertisements will be placed in newspapers to advise of the public exhibition and where the EIS can be viewed, and details of proposed community consultation activities and information sessions.

Consultation activities during public exhibition of the EIS may include:

- Community information sessions
- Newsletter letterbox drop and emails
- Information on project webpage
- Information available at local council offices
- Stakeholder meetings
- Local business engagement
- Government stakeholder engagement.

The extent and form of this consultation would be determined prior to the exhibition of the EIS.

5.5 Consultation during construction / operation

Should the Project be approved, consultation would continue with the community and key stakeholders during construction and operation. In general, this consultation would involve:

- Pre-commencement “job-fairs” to source local labour, suppliers and subcontractors and maximise local content
- Consultation in accordance with statutory requirements
- Ongoing consultation with key stakeholders, local council and other government agencies
- Provision of regular updates to nearby businesses and the community.

6 Proposed assessment of impacts

6.1 Introduction

The identification of issues to be addressed in the EIS has been undertaken through a risk-based approach in accordance with the *State significant development guidelines – preparing a scoping report* (DPE, 2022) (SSD guidelines). Scoping of potential impacts has been undertaken for the Project as described in Chapter 3.

This process involved reviewing previous reports, undertaking desktop searches of environmental databases to identify key issues and sensitive areas. The SSD guidelines provide guidance on key factors to consider during scoping, including:

- Scale of the impact (severity, geographical extent and duration)
- Nature of the impact (direct, indirect, cumulative and perceived)
- Sensitivity of the receiving environment (existing regulations and guidelines, value to society and vulnerability to change).

A summary of the key environmental matters identified during the risk assessment is provided in Section 6.2 to Section 6.11. Other matters for consideration are identified in Section 6.12. In accordance with the SSD guidelines, the scoping summary table has been completed for the Project and is included in Appendix A.

6.2 Traffic, transport and access

6.2.1 Existing environment

An overview of the surrounding road network is shown in Figure 1-1 and Figure 1-2. The Project would be accessed via Golf Links Road (via the New England Highway). The access road from Golf Links Road to the BESS would be around 150 metres, subject to design development and consultation.

New England Highway, located 2.6 kilometres west of the site, is classified as a state road and B-double approved route. It is a two-way highway, with one traffic lane in each direction. An additional lane is available in each direction for vehicles turning onto Golf Links Road.

TfNSW is currently carrying out improvements on the New England Highway, with fourteen completed, current or proposed improvements (TfNSW, 2023). These improvements are supporting the vision for the New England Highway to:

- Be an efficient corridor that caters for increasing growth
- Support rural industries by providing greater access for heavy vehicles
- Feature a sustainable maintenance program with heavy duty pavement to support transport needs
- Provide a reliable transport corridor which provides intra-regional, inter-regional and interstate links
- Enhance safety for all road users
- Provide a safe and efficient corridor through urban environments, while maintaining town amenity and safety for vulnerable road user

Golf Links Road is classified as a local road. It is a sealed two-way road, with one traffic lane in each direction, with minimal through traffic. It is used primarily to access the Golf Club, agricultural landholdings, scattered rural residences, and Glen Innes substation. The Glen Innes substation is currently accessible via an unsealed road. There are no bus stops, formal walking or cycling facilities within one kilometre of the Project.

6.2.2 Summary of potential environmental impacts

Construction

Heavy vehicles would be required for the delivery of equipment and battery components, and for the removal of waste material resulting from construction activities. Oversized and / or overmass (OSOM) vehicles may be required for the delivery of BESS components during construction. OSOM vehicles would use designated routes approved by TfNSW for both inbound and outbound journeys. Together, the heavy vehicles and light vehicles used by construction staff would temporarily increase the traffic on the local network. This would be limited to the construction period only.

A new site access point and access road off Golf Links Road into the site will be required to accommodate Project vehicles. Road upgrades to the intersection of Golf Links Road and New England Highway are not anticipated given the presence of dedicated turn lanes in each direction. The extent and locations of road upgrades would be finalised during the development of the EIS.

Operation

During operation, vehicle movements would be smaller in size and frequency, and would generally be associated with maintenance of the BESS.

6.2.3 Proposed investigation and assessment

A Traffic Impact Assessment will be undertaken as part of the EIS and outline the proposed size of the construction workforce and traffic volumes. The EIS will include an assessment of the potential traffic impacts associated with the Project's construction and operation, including consideration of the following aspects:

- Access to the site
- The current and future capability of local and regional road infrastructure
- Details surrounding construction vehicle routes and movements
- Potential construction traffic impacts of the Project
- Details of the internal road layout network, access and egress, pedestrian movements, and parking in accordance with Australian Standards.

6.3 Noise and vibration

6.3.1 Existing environment

There are around 48 receptors within two kilometres of the Project, mostly located to the northwest (refer Figure 1-2). The majority of these receptors are dwellings, with the exception of the Glen Innes Golf Course which is located around 500 metres north of the Project.

Given the Project's rural setting, the ambient noise environment is likely to be low and characterised by surrounding agricultural activities, the Glen Innes substation and road traffic along Golf Links Road and the New England Highway.

6.3.2 Potential impacts

Construction

Noise impacts are likely to relate to construction traffic and the operation of plant and equipment, including construction vehicles, cranes, and hand tools. The extent of impact would vary according to the proximity of the construction works to the receptor, and the nature of construction work at various stages of the construction process. However, any potential impacts would be temporary in nature.

Construction of the Project would be undertaken during standard construction hours:

- Monday to Friday from 7am to 6pm
- Saturday from 8am to 1pm
- No work will occur on Sundays or public holidays.

Certain activities may be required outside of the standard construction hours. Key stakeholders would be informed prior to out of hours activities. These activities potentially include:

- Delivery of plant and equipment for safety reasons (e.g., OSOM vehicles)
- Commissioning and testing activities that must align with demands on the grid
- Emergency work to avoid damage to persons or property and/or to prevent environmental harm
- Construction works where it can be demonstrated and justified that these works are required to be undertaken outside of standard construction hours.

Operation

The Project would be capable of operating 24 hours per day, seven days per week. Operational noise would be associated with the inverters, transformers and the operation of the heating, ventilation and air conditioning (HVAC) installed on the BESS. Operational noise impacts would be assessed as part of the EIS to determine potential impacts and noise mitigation

6.3.3 Proposed investigation and assessment

A Noise and Vibration Impact Assessment will be undertaken as part of the EIS to assess the potential noise and vibration impacts during construction and operation. The assessment will:

- Establish existing background noise levels at the closest receptor locations
- Identify sound power levels for each piece of equipment or process during construction
- Assess construction noise impacts in accordance with the NSW Government *Interim Construction Noise Guideline* (ICNG)
- Assess operational noise impacts in accordance with the EPA's *Noise Policy for Industry 2017* (NPfI)
- Assess traffic noise consistent with the EPA's *Road Noise Policy* (RNP)
- Assess vibration in accordance with *Assessing vibration: A technical guideline* (Department of Environment, Climate Change and Water, 2006)
- Identify feasible and reasonable noise mitigation measures to address noise exceedances at receptors.

6.4 Biodiversity

6.4.1 Existing environment

Preliminary desktop searches were undertaken for the Project to identify potential biodiversity values of the area. The following databases were reviewed:

- BioNet Atlas of NSW Wildlife, managed by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- Protected Matters Search Tool managed by the DCCEEW
- NSW State Vegetation Type Map – Version C1.1.M1.1 managed by the Department of Planning and Environment.

The database searches identified:

- Nineteen threatened flora species and 63 threatened fauna species listed under the BC Act within 10 kilometres of the site
- Records for a total of 11 migratory species, three threatened ecological communities and 54 threatened species listed under the EPBC Act within 10 kilometres of the site
- State Vegetation Type Mapping (DPE, 2022) identified Tenterfield Plateau Stringybark-Apple Forest within the site. The following plant community types were identified within one kilometre of the site:
 - PCT 3339 – Guyra Basalt Snow Gum Woodland
 - PCT 3351 - Armidale Creekflat Snow Gum Woodland-Scrub
 - PCT 3352 - Armidale Quartz Hills Stringybark Forest
 - PCT 3353 – Guyra Silvertop Stringybark Moist Forest
 - PCT 3359 – New England Hills Stringybark-Box Woodland
 - PCT 3361 – Tenterfield Plateau Stringybark-Apple Forest
 - PCT 3344 – New England Ribbon Gum Grassy Forest
 - PCT 3855 – Western New England Rocky Granite Low Woodland.

A site inspection was undertaken by an Arcadis Ecologist on 19 and 20 November 2023. The inspection confirmed the presence of low condition PCT 3361 at the site. The ground layer was dominated by a crop of oats, whereas the shrub layer was almost non-existent. There was also evidence of use of the site for cattle grazing. Some native grasses were identified where oats had not been sowed, along fence lines and around small rock outcrops. The site appears to contain minimal fauna habitat apart from a few trees which may provide nesting habitat and one hollow-bearing tree.

An overview of preliminary mapped ecological constraints is shown in Figure 6-1.

6.4.2 Potential impacts

Construction

Some vegetation removal may be required to accommodate the Project. Potential construction impacts to biodiversity may include:

- Clearance of mature vegetation, grassland and nature pasture (native and exotic)
- Introduction and spread of noxious weeds and other invasive species
- Injury or mortality of fauna species during clearing and making contact with construction equipment.

Operation

Once the Project is operational, there is unlikely to be any further impacts to biodiversity. There is a low possibility of fauna mortalities or injuries resulting from collisions with Project infrastructure and staff light vehicles during maintenance.

6.4.3 Proposed investigation and assessment

Section 7.9 of the BC Act requires that all applications for SSD be supported by a Biodiversity Development Assessment Report (BDAR), prepared in accordance with the Biodiversity Assessment Method (2020) (the BAM). The BC Act requires that the BDAR is prepared by an Accredited Person and meets the minimum requirements outlined in the BAM.

The BDAR would be prepared by a BAM Accredited Assessor and would address all statutory requirements, as outlined in Table 13, Appendix C of the BAM 2020, “steps to assess a small area”.

Government guidelines would be considered for the preparation of the BDAR including:

- Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (Commonwealth Department of the Environment, 2013)
- Commonwealth Department of the Environment and Energy – Survey Guidelines for Nationally Threatened Species (various)
- Biodiversity Assessment Method (DPIE Environment, Energy and Science, 2020)
- NSW Biodiversity Offsets Scheme (Office of Environment and Heritage, 2017)
- Threatened species survey and assessment guidelines at <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/about-threatened-species/surveys-and-assessments> (various)
- Determining native vegetation land categorisation for application in the Biodiversity Offsets Scheme (DPE, 2023)

Due to the minimum lot size that applies to the property, a streamlined BDAR, supporting the EIS for the Project is recommended. For a streamlined BDAR, species or communities with a risk of Serious and Irreversible Impacts (SAIL) as defined under the BAM must be assessed. It is not anticipated that there will be any SAIL entities present, and field work would be confined to updated mapping and detailed vegetation plots.

The BDAR would be based on a desktop review of database searches, regional biodiversity mapping and any relevant existing site-specific reports, as well as site inspections, as required.

The biodiversity assessment will include the following:

- Investigations for design to avoid impacts on any threatened species (or their habitat), as far as practicable
- Identification and description of the flora and fauna species, habitat, populations and ecological communities that occur, or are likely to occur
- An assessment of any direct and indirect impacts of the Project on flora and fauna species, populations, ecological communities and their habitats, and Groundwater Dependent Ecosystems (GDEs)
- Assessment of the significance of the impacts of the Project on species, ecological communities and populations, and GDEs listed under the EPBC Act, the BC Act and the FM Act
- An assessment of SAIL thresholds for any relevant threatened species or communities should any be recorded on site
- Identification of mitigation and offset measures, determined in accordance with the BAM and the EPBC Act Environmental Offsets Policy if needed.

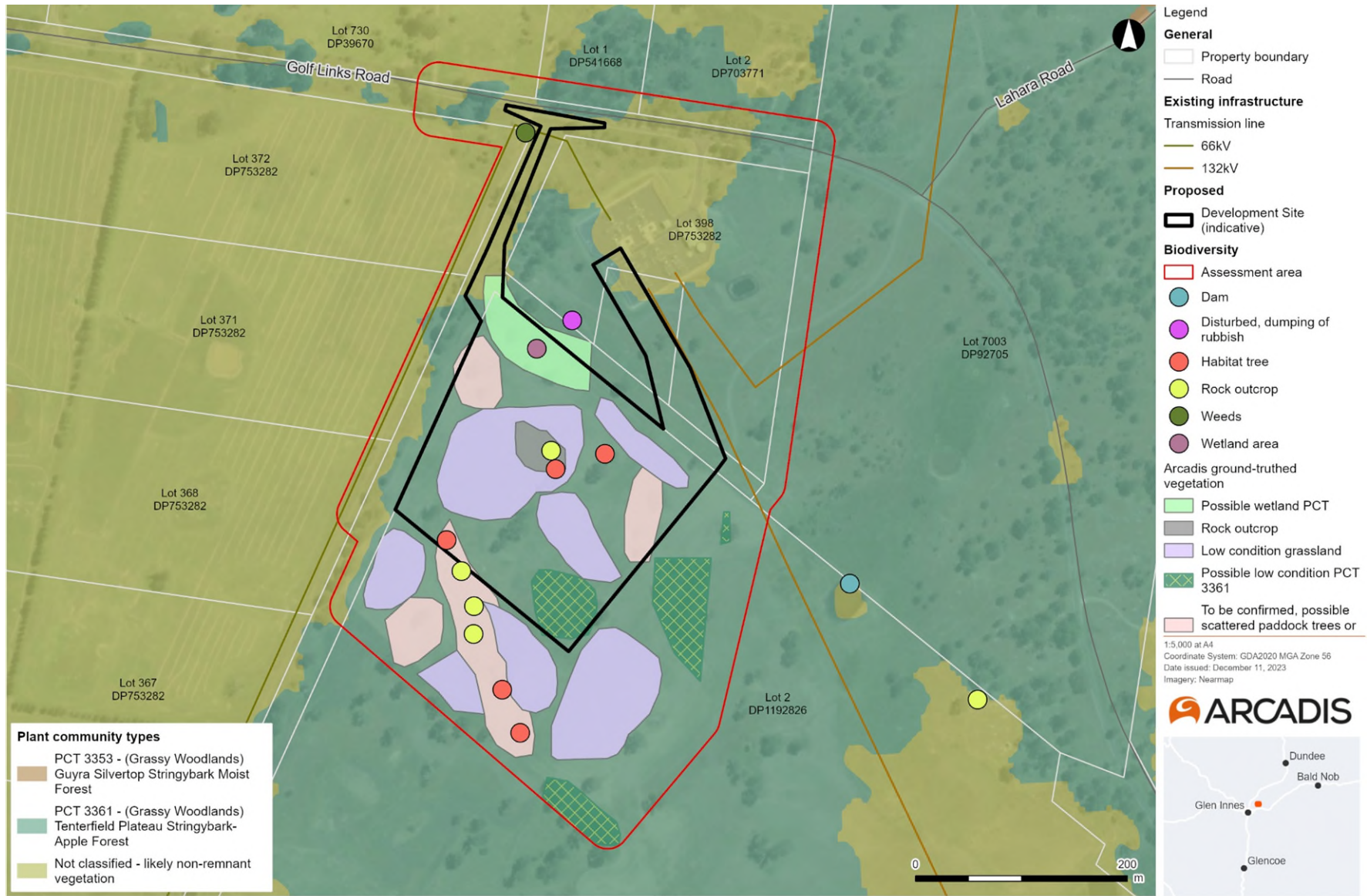


Figure 6-1 Preliminary mapping of vegetation in the site and PCTs listed under the BC Act

6.5 Aboriginal heritage

6.5.1 Existing environment

There are a range of landscape features that have higher potential to contain Aboriginal archaeological sites. Landforms with increased Aboriginal heritage potential include:

- Areas within 200 metres of water
- Areas located within a sand dune system
- Areas located on a ridge top, ridge line or headland
- Areas located within 200 metres below or above a cliff face
- Areas within 20 metres of a cave, rock shelter or cave mouth.

A search of the DPE Aboriginal Heritage Information Management System (AHIMS) database was undertaken on 20 November 2023 to identify known areas of Aboriginal significance in proximity to the Project. The search identified two known Aboriginal archaeological sites within five kilometres of Project, with the nearest known Aboriginal archaeological site located around 2.5 kilometres north of the Project.

A search of the NSW Native Title Vision database indicated that the Project is not subject to any Native Title determination or application. The land is not governed any Indigenous Land Use Agreement.

6.5.2 Potential impacts

Construction

The potential to impact Aboriginal archaeological sites will be verified during the EIS through site walkovers and consultation with Registered Aboriginal Parties.

Operation

Following construction, ongoing impacts to Aboriginal heritage are unlikely as ground disturbance would be restricted to the construction phases of the Project.

6.5.3 Proposed investigation and assessment

An Aboriginal Cultural Heritage Assessment Report (ACHAR) will be prepared for the EIS in accordance with the following guidelines:

- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change and Water, 2010)
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, Department of Premier and Cabinet, 2011)
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water, 2010).

6.6 Non-Aboriginal heritage

6.6.1 Existing environment

A search of the available historic heritage inventories was carried out including:

- NSW State Heritage Inventory
- Glen Innes Severn LEP 2011
- DCCEEW Australian Heritage Database
- TfNSW and Sydney Water's Section 170 Heritage and Conservation Registers.

There are no National, State or Local listed heritage items identified within two kilometres of the Project. The nearest heritage item is a locally listed cemetery (Item no. I077 on Glen Innes Severn LEP 2011) on Grafton Street, around 2.3 kilometres southwest from the Project.

6.6.2 Potential impacts

Construction

Impacts to listed non-Aboriginal heritage sites are not anticipated. There is a low likelihood that items of archaeological potential will be impacted during the construction phases of the Project, however this will be verified during the EIS through further investigation and consultation.

Operation

Following construction, ongoing impacts to non-Aboriginal heritage are unlikely as ground disturbance would be restricted to the construction phases of the Project.

6.6.3 Proposed investigation and assessment

An Historic Heritage Impact Assessment (HHIA) of the Project will be completed as part of the EIS. The assessment will include:

- Identification of listed items and areas of heritage significance near the Project
- Assessment of potential direct and indirect impacts to listed heritage items
- Field surveys and preliminary heritage assessments of items with potential heritage significance
- Identification of appropriate measures to avoid, minimise and/or mitigate potential impacts to non-Aboriginal heritage.

6.7 Hazards and risk

6.7.1 Existing environment

The Project is located within a rural area, near to existing electrical infrastructure. The Project is on land mapped as bushfire prone land Vegetation Category 3 as per publicly available mapping created by the NSW RFS. Vegetation Category 3 land consists of grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands, and presents a lower risk of bushfire than Vegetation Categories 1 and 2. The nearest Vegetation Category 1 bushfire prone land to the Project is located around 800 metres to the west, as shown in Figure 6-2.

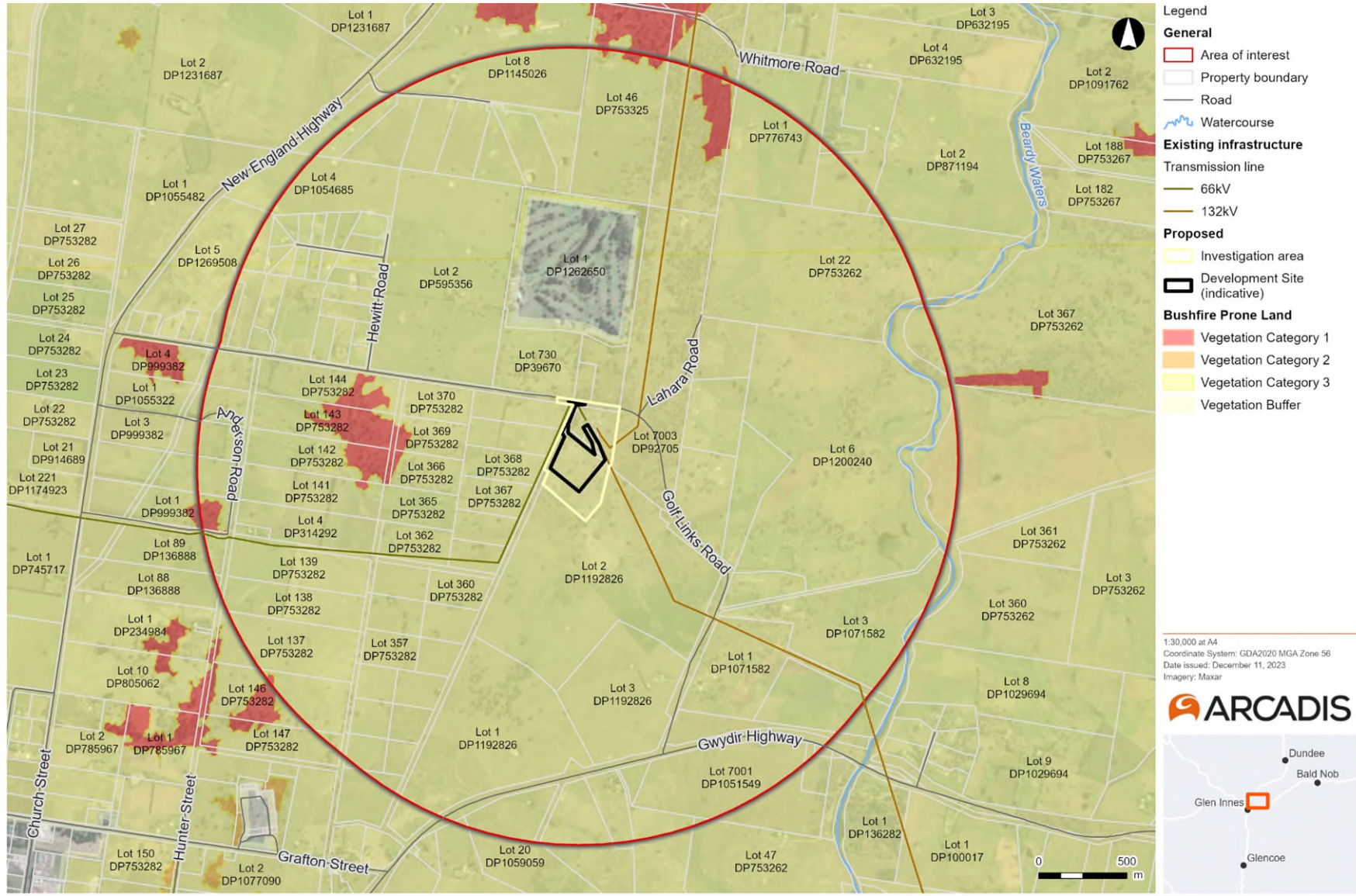


Figure 6-2 Bushfire prone land within and surrounding the site

6.7.2 Potential impacts

Construction

The following construction hazards and risks have the potential to occur during construction of the Project:

- Accidental release of chemicals, fuels and materials associated with their onsite storage, use and transport, and the resultant impacts on construction workers and the environment. To manage this risk, all hazardous substances that may be required would be stored and managed in accordance with the Work Health and Safety Act 2011 and the *Storage and Handling of Dangerous Goods Code of Practice* (WorkCover NSW, 2005)
- Disturbance of contaminated soil and existing structures containing contaminated materials (such as asbestos)
- Bushfire impacting on the construction plant, equipment and infrastructure.

Operation

While rare, the installation, commissioning and operation of a BESS can present increased hazards and risks associated with overheating, fire, hazardous chemicals and gas emissions.

The design and installation of the battery system would be undertaken in accordance with relevant Australian standards and guidelines and would be operated in accordance with the manufacturers requirements.

Appropriate fire suppression apparatus and installations would be incorporated into the design, as well as a dedicated Asset Protection Zone between the BESS infrastructure and the closest vegetation, in case of fire emanating from or threatening the BESS.

The BESS infrastructure involves electricity powerlines, substations, transformers and other electrical sources such as common electrical appliances and wiring, all emit electric and magnetic fields (EMF). The Australian Radiation Protection and Nuclear Safety Agency (ARPNSA) considers that for substations and transformers, the magnetic fields at distances of 5-10 metres away are generally indistinguishable from typical background levels in the home.

Overhead or underground transmission line connections from the Project to the Glen Innes substation would generate EMF which would be verified during the EIS.

The occurrence of a bushfire on nearby land has the potential to impact on the site infrastructure during operation. There is a low risk of fire propagating from the Project. Risk of fire propagation would be mitigated through design of the BESS and management of an Asset Protection Zone (APZ).

6.7.3 Proposed investigation and assessment

The Department of Planning (2011) guideline *Applying SEPP 33* provides a risk screening procedure to facilitate determination of whether a proposed development is applicable under the SEPP. In accordance with the guideline, if SEPP 33 is triggered under this screening test, Clause 3.11 of the *State Environmental Planning Policy (Resilience and Hazards) 2021* (R&H SEPP) requires that any Project to carry out a potentially hazardous development must be supported by a Preliminary Hazard Analysis (PHA).

Lithium-ion batteries (a Class 9 dangerous good), if selected as the preferred battery type for the Project, would be stored on-site. There is no threshold quantity for the storage of Class 9 Dangerous Goods in the *Applying SEPP 33* guideline and as such, a PHA would not be required for the Project under the guidelines. However, DPHI now requires that assessments of large-scale BESS projects are supported by a PHA, consistent with the *Multilevel Risk Assessment Guideline* (DPI, 2011), the *Hazardous Industry Planning Advisory Paper No.6 – Hazard Analysis* (DPIE, 2011) and an assessment of the risks associated with EMF

against the *International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*.

If flow batteries are selected, electrolyte storage tanks containing Class 8 corrosive liquids would be stored on site. The threshold inventory for Class 8 Packing Group II DGs is 25 tonnes in the *Applying SEPP 33* guideline.

The EIS for the Project will include the preparation of a PHA which qualitatively discusses the potential operational risks of the Project with particular regard to the potential risk to people, property and the biophysical environment that may occur as a result of the accidental release of potential hazardous material (for both Lithium-ion and Flow batteries) and energy.

6.8 Landscape and visual

6.8.1 Existing environment

Glen Innes can be characterised as an agricultural township with historic heritage value. Thus, the existing landscape character of the Project is predominantly rural in nature. The Glen Innes substation is located immediately north of the proposed BESS and land zoned for environmental management is located east of the Project. The surrounding area is predominantly cleared farmland, and includes patches of vegetation and creek lines. The landscape has been heavily modified through historical vegetation clearing.

Patches of vegetation at the site provide visual screening of the Project from some receptors and road users. The proposed BESS would be located relatively near to the existing Glen Innes substation.

The Centennial Parklands Skywalk is located around 3.8 kilometres south of the Project and is part of a master concept plan designed to improve utilisation and attraction of the parklands and showcase Celtic and Ngoorabul connections and culture. During a site visit in December 2023, Firm Power noted the Skywalk's vista does not extend in the direction of the BESS.

6.8.2 Potential impacts

Construction

Visual amenity impacts are expected to be most significant during construction of the Project. Impacts may relate to site establishment works, construction vehicle movements and related traffic impacts, and the presence and use of construction equipment. However, these impacts would be temporary and minor in nature.

Impacts would be greatest for those residing near to the site with unobstructed views, in particular, those receptors located to the east of the site. Road users of Golf Links Road would also experience visual impacts, but these would be expected to be temporary and minor as they would be mainly impacted as they drive past the site.

Operation

The Project would represent a minor change in the agricultural landscape character and visual amenity of the area. Given the existing electricity infrastructure in area, including the Glen Innes substation and 66 kV and 132 kV overhead transmission lines and distance to neighbouring properties, operational visual impacts are considered manageable. Landscaping and screening vegetation would be identified to soften potential impacts and would be considered during the development of the EIS.

6.8.3 Proposed investigation and assessment

A Landscape Character and Visual Assessment will be prepared as part of the EIS in accordance with the *Technical Supplement for Landscape and Visual Impact Assessment* (DPE, 2022), *Large-Scale Solar Energy Guidelines* (DPE, 2022), and *Guideline for Landscape Character and Visual Impact Assessment, Environmental impact assessment practice note EIA-N04* (TfNSW 2023), as appropriate.

6.9 Land

6.9.1 Existing environment

Land Use

The Project is located on land zoned as RU1 Primary Production (Figure 4-1) under the Glen Innes Severn LEP. The main existing land use activities within and adjacent to the Project, include:

- Electricity substation and overhead transmission line
- Golf Links Road (local road)
- Agricultural purposes (including oat crops and cattle grazing)
- Crown land / Travelling stock reserve (R22252) which is managed by Local Land Services for the purpose of environmental conservation.

The Project area is relatively flat with elevations between 1,090 metres and 1,100 metres Australian Height Datum (AHD), and a gradient sloping downwards from north to south. There are no significant water bodies within the investigation area.

The soil is expected to be highly disturbed in nature given the rural land use of the region, however, appears to be generally stable due to the existing grass ground cover. Land and soil capability mapping from DPHI's eSPADE database indicates that the site is predominantly Class 4 (moderate to severe limitations for some land uses that need to be consciously managed to prevent soil and land degradation) (Figure 6-2). There are no mapped acid sulfate soils or salinity restrictions in and around the Project. Biophysical Strategic Agricultural Land is mapped around the Project, most notably 330 metres south of the Project.

Contamination

A search of the NSW EPA contaminated land records on 21 November 2023 identified no contaminated sites within two kilometres of the Project. Contaminated sites within five kilometres of the Project and their distance from the Project are listed below:

- Caltex Service Station at the corner of Taylor Street and Church Street, Glen Innes (3.9 kilometres southwest)
- Caltex Glen Innes Service Station at the corner of Meade Street and Church Street, Glen Innes (4.4 kilometres southwest)
- Ambulance Station at 106 Bourke Street, Glen Innes (4.9 kilometres southwest).

Given the distance between the above locations and the Project, impacts from these contaminated sites are considered highly unlikely. Although no contaminated sites are mapped in or near to the Project, agricultural practices such as the use of pesticides in pest plant spraying and cattle dips, and chemical and fuel storage may have affected soils. Additionally, Glen Innes was previously a mining town, which could have resulted in contamination impacts to the Project.

Mining

No mining or exploration titles currently apply to the site. The site has been subject to three historic titles, which expired in 1972 (Title EL208), 1994 (Title EL3001) and 2011 (Title PSPAUTH34).

6.9.2 Potential impacts

Construction

Construction would result in exposure of the natural ground surface and subsurface through the removal of vegetation and earthworks which may increase the likelihood for soil erosion to occur. During excavation there is a possibility of unearthing contaminated material. This risk would be verified during the EIS with recommended management measures to minimise contamination risks.

Operation

There is limited potential for impacts to soils during operation of the Project, as there would be no ongoing ground disturbance. Operation of the Project has the potential for spills and leaks from operating machinery resulting in contamination of soil and groundwater if not contained. However, the potential for this to occur is likely to be limited and can be managed with the implementation of standard mitigation measures and appropriate design measures.

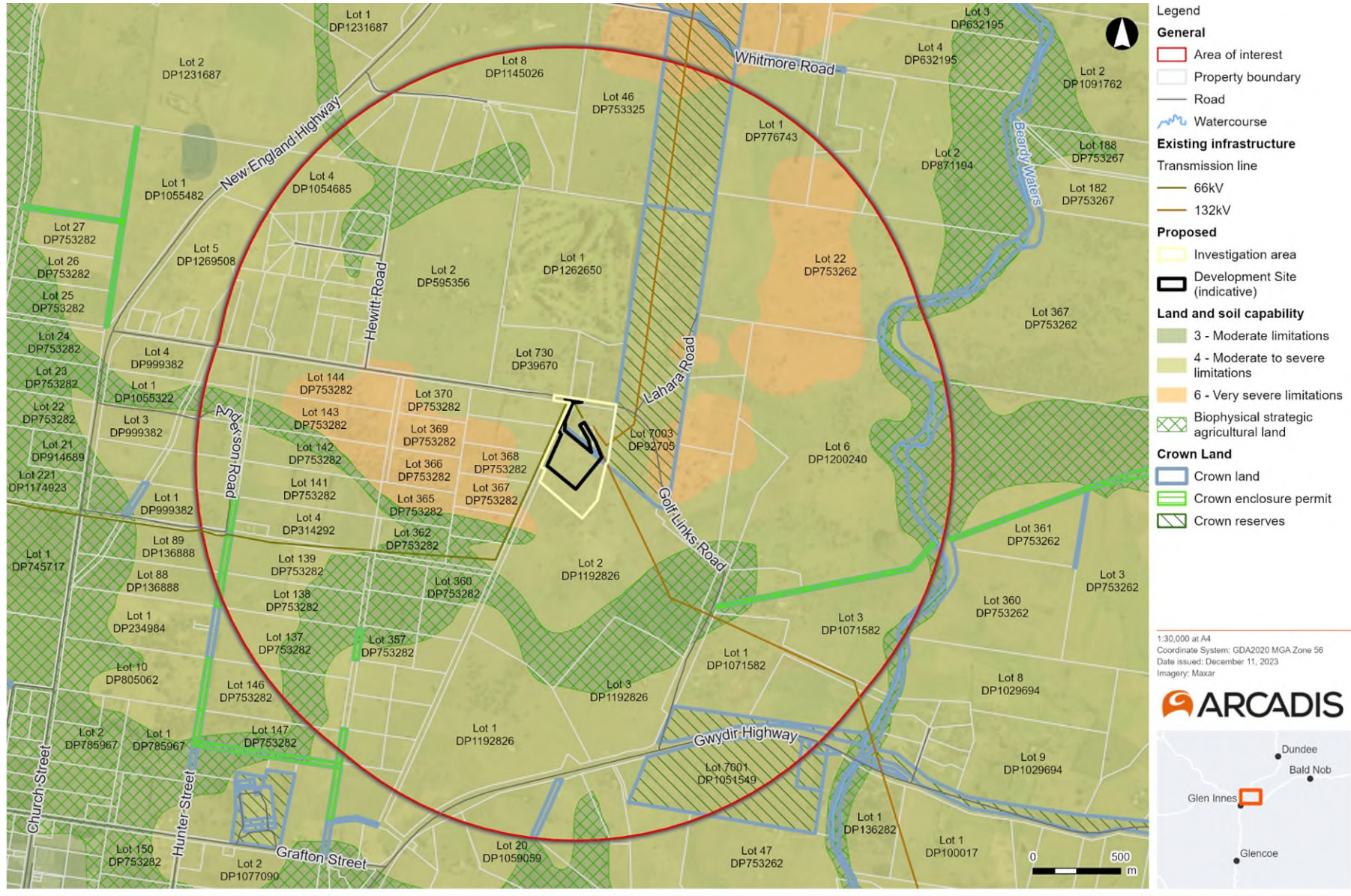


Figure 6-3 Land and soil capability mapping of the site.

6.9.3 Proposed investigation and assessment

The EIS will consider the impact of the Project on the agricultural resources and production of the land and its surrounds. The EIS will consider the compatibility of the Project with the surrounding land uses and will include a Land Use Conflict Risk Assessment in accordance with the Department of Primary Industries *Land Use Conflict Risk Assessment Guide*. The land is currently utilised for agricultural production however, the capability of the land is considered Class 4 moderate to severe limitations.

The EIS will include consideration of potential contamination impacts with regard to the following guidelines, as necessary:

- *Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning and Environment Protection Authority, 1998)
- *National Environment Protection (Assessment of Site Contamination) Measure* (National Environment Protection Council, 2013)
- *Guidelines on the duty to Report Contamination under the Contaminated Land Management Act 1997* (Environment Protection Authority, 2015)

The preliminary site investigation will include:

- A desktop review of available data and existing reports relating to potential contamination of the site
- Description of the Project conditions, as they relate to contamination
- Identification of the potential of the Project to encounter contamination during construction and operation, and the activities associated with the Project that have the potential to generate contamination
- An assessment of potential contamination impacts to sensitive receivers, which could include environmental and human health receptors
- Identification of mitigation measures, including whether any additional site investigations are required.

6.10 Social and economic

6.10.1 Existing environment

The Project is located in the centre of the Glen Innes Statistical Area Level 2 as defined by the ABS. This statistical area follows the boundaries of the Glen Innes Severn LGA (Figure 1-1). According to 2021 Census data (ABS, 2021), the Glen Innes statistical area had a population of 8,931 people, with a median age of 50. The major industries of employment were beef cattle farming (specialised), aged care residential services, and supermarket and grocery stores. A Social Impact Assessment Scoping Worksheet has been prepared in accordance with the Social Impact Assessment Guideline and is included in Appendix B.

6.10.2 Potential impacts

Construction

Potential socio-economic impacts would be most significant during construction of the Project. This may have positive benefits including local employment opportunities, and economic benefits for businesses stemming from increased population from incoming temporary workforce. Negative impacts could include temporary traffic impacts to users of the local road network, dust and noise for local receptors, visual impacts relating to changes in the rural landscape, and pressure on accommodation providers and resource strain depending on the availability of a local workforce.

Receptors within two kilometres of the Project have been identified and shown in Figure 1-2. Receptors are predominantly dwellings, with the exception of the Glen Innes Golf Course, located around 500 metres to the north of the Project.

Operation

Once operational, the Project is not expected to generate significant, direct socio-economic impacts as the BESS would be operated remotely with only minimal staff required for intermittent maintenance work.

6.10.3 Proposed investigation and assessment

An assessment of the potential socio-economic impacts as a result of the Project will be carried out as part of the EIS.

The socio-economic impact assessment will include:

- Description of the existing socio-economic profile for the communities and businesses surrounding the Project, including:
 - Social characteristics such as population and demography, families and housing, travel behaviour, and socio-economic indicators
 - Economic characteristics such as labour force, income and employment, and business and industry
- Assessment of the potential impacts of the Project on the socio-economic values of the study area
- Identification of appropriate management and mitigation measures including measures to enhance the Project’s benefits and to avoid, manage or mitigate its potential impacts.

Consideration of a voluntary planning agreement, community benefit sharing scheme or negotiated agreement with landowners and / or the Glen Innes Severn Council will be undertaken through preparation of the EIS.

6.11 Cumulative

6.11.1 Existing environment

Cumulative impacts result from incremental, sustained or combined effects of an activity or project when added to other current, planned, or reasonably anticipated future impacts (DPE, 2022). The extent to which another development or activity could interact with the construction or operation of the Project would depend on its scale, location and timing.

The DPHI Major Projects Portal was reviewed for state significant applications within 30 kilometres of the Development Site. Projects with the potential to result in cumulative impacts alongside the Project are provided in Table 6-1 and shown in Figure 1-1. As noted in Section 6.2, TfNSW is carrying out improvements on the New England Highway with various improvements ongoing or proposed.

Table 6-1 Surrounding developments

Project name	Distance from the Project (km)	Development phase and Major Projects Portal Status	Indicative project construction timing
Glen Innes Wind Farm (MP07_0036)	14	Approved	Construction.
Rangers Valley Feedlot (DA261-8-2002-i)	15	Approved	Operational.

Project name	Distance from the Project (km)	Development phase and Major Projects Portal Status	Indicative project construction timing
White Rock Wind Farm (MP10_0160)	21	Approved	Operational.
White Rock Solar Farm (SSD-7487)	22	Approved	Operational.
Sapphire Wind Farm (MP09_0093)	30	Approved	Operational.
Rangoon Wind Farm (SSD-10476)	30	Prepare EIS	Construction anticipated to last 18 months. Operational life anticipated to be 30 years.
Sundown Solar Farm (SSD-8911)	31	Response to submissions	Construction anticipated to commence in early 2024, lasting 21 months. The operational life is expected to be 35 years starting in late 2025.
Sapphire Solar Farm (SSD-8643)	31	Approved	Construction is projected to commence in late 2023 to early 2024, lasting 18 months. The operational life is expected to be 53 years.

6.11.2 Potential impacts

Construction

Construction of the Project is expected to commence in late 2026. Construction would take approximately 10 months to complete.

The construction program of the Project may potentially overlap with Rangoon Wind Farm. Assessment of potential cumulative impacts with nearby proposals including those listed above (and any other proposal that is submitted during the preparation of the EIS) will be undertaken within the EIS in relation to scale, location and/or timing of construction

Operation

Operation of the Project may generate cumulative impacts with the projects listed in Table 6-1, particularly in regard to social and economic impacts. Considering the distance of these projects to the Project, negative cumulative impacts are not expected to be significant.

6.11.3 Proposed investigation and assessment

A cumulative impact assessment will be undertaken as part of the EIS for the Project in accordance with the *Cumulative Impact Assessment (CIA) Guidelines for State Significant Projects 2022* (DPE, 2022). The assessment will include:

- Identification of surrounding developments and major projects with the potential to interact with the construction of the Project through a review of relevant local environmental plans, the DPE’s Major Projects database and local council development application

- Identification of potential cumulative impacts arising from the interaction of these projects with the Project and where this is the case, assessment of the cumulative impacts
- Measures to minimise or mitigate identified construction and operational cumulative impacts will also be developed as part of the assessment, where appropriate.

6.12 Other impacts

This section provides an overview of other environmental matters for those environmental aspects that, based on existing information and description of the Project, will require limited or no further assessment in the EIS. These aspects are summarised in Table 6-2.

Table 6-2 Other impacts

Environmental aspect	Existing environment	Potential impacts	Proposed investigation and assessment
Water quality, hydrology and flooding	<p>The nearest mapped watercourse is Beardy Waters, located around 1.7 kilometres east of the site.</p> <p>The site has not been mapped as flood-prone land (DPE, 2021).</p> <p>A drinking water catchment is located around 1.2 kilometres south of the site.</p>	<p>Given the topography of the site and distance from flood-prone land and waterways, impacts from flooding are not anticipated.</p> <p>Earthworks for the construction of the BESS are expected to be minimal given the topography of the site. Thus, potential impacts to groundwater and hydrology are not anticipated.</p>	<p>The EIS will include an assessment of the potential impacts of the Project on water quality, hydrology and flooding during construction and operation to determine the most appropriate controls required.</p> <p>The guidelines detailed in Appendix A will be considered, where required, as part of the EIS assessment.</p> <p>The EIS will also consider water use during construction and operation.</p>
Air quality	<p>The nearest air quality monitoring station is located in Armidale, around 89 kilometres south of the site.</p> <p>The surrounding agricultural practices and road network emissions are likely to be the dominant source of air pollution in the region.</p>	<p>Construction activities may act as a source of dust locally due to movement of construction vehicles and equipment on unsealed surfaces, vegetation clearing, and ground disturbance through excavations and earthworks. However, dust impacts are considered minor and temporary in nature and therefore unlikely to be significant given the current local ambient air quality.</p> <p>Operation of the Project is not expected to impact air quality.</p>	<p>A qualitative desktop assessment of air quality impacts will be undertaken as part of the EIS.</p> <p>The identification of feasible and reasonable measures to mitigate impacts will be included.</p>

Environmental aspect	Existing environment	Potential impacts	Proposed investigation and assessment
Waste management	N/A	<p>The following waste streams could potentially be generated by construction of the Project:</p> <ul style="list-style-type: none"> • Spoil material from general earthworks and excavation activities • Sediment laden and/or potentially contaminated wastewater, sewage and greywater from dust suppression, washdown activities and staff amenities • General construction waste (including concrete, scrap metal, plasterboard, cable and packaging materials) from general construction activities • Adhesives, lubricants, waste fuel and oil, engine coolant, batteries, hoses and tyres from the maintenance of construction plant, vehicles and equipment • Putrescibles, paper, cardboard, plastics, glass and printer cartridges from activities at construction compounds and site office(s) • Green waste from vegetation clearance and grubbing. <p>Quantities of waste generated by construction of the BESS will be investigated as part of the design development of the Project.</p> <p>Waste production during operation of the Project is expected to be minimal and associated with ongoing maintenance of the BESS.</p> <p>Waste impacts will be adequately managed with the introduction of standard management measures and preparation of a Waste Management Plan.</p>	<p>A waste management and resource use assessment that considers the relevant government guidelines will be carried out as part of the EIS. The assessment will include:</p> <ul style="list-style-type: none"> • Identification of the waste streams likely to be generated during construction and operation of the Project • Identification of the expected resources required for construction and operation • Strategies for minimising the export of excavated materials off-site, maximising reuse opportunities and minimising the volume of excavated material disposal to landfill • Strategies for reducing waste such as the use of recycled materials, bulk delivery of goods to minimise packaging and arrangements with suppliers to return any unused construction materials.

7 Conclusion

Firm Power is seeking development consent for the construction, operation and maintenance of a standalone BESS of up to 200 MW that would provide up to 800 MWh of battery storage capacity at 464 Golf Links Road, Glen Innes 2370 (Lot 2 DP1192826). The Project is considered to support the NSW Government's electricity strategy for a reliable, affordable and sustainable electricity future that supports a growing economy.

The key environmental issues identified for the Project include:

- Traffic, transport and access
- Noise and vibration
- Biodiversity
- Heritage
- Hazards and risk (including bushfire)
- Landscape and visual
- Land
- Social and economic impacts
- Cumulative impacts.

The EIS would include the following in accordance with Schedule 1 of the EP&A Regulations:

- A detailed description of the Project including its components, construction activities and potential staging
- A comprehensive assessment of the potential impacts on the key issues including a description of the existing environment, assessment of potential direct and indirect impacts of construction, operation and staging
- Description of measures to be implemented to avoid, minimise, manage, mitigate, offset and/or monitor the potential impacts
- Identify and address issues raised by stakeholders.

The Proponent is seeking SSD approval for the Project under Part 4, Division 4.7 of the EP&A Act. The SEARs are required to enable this assessment.

8 References

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APPENDIX ASCOPING WORKSHEET

As required by the DPE *State significant development guidelines – preparing a scoping report* (DPE, 2022), a scoping summary table for the Project is include as Table A - 1. The table groups the matters requiring further assessment in the EIS by the level of assessment required.

Definitions for levels of assessment are summarised below:

- **Detailed:** The Project may result in significant impacts on the matter, including cumulative impacts. The assessment of the impacts of the Project on the matter will require detailed studies and investigations to be carried out by technical specialists.
- **Standard:** The Project is unlikely to result in significant impacts on the matter, including cumulative impacts. While the assessment of the impacts of the project on the matter will involve technical specialists, these impacts are likely to be well understood, relatively easy to predict using standard methods and capable of being mitigated to comply with relevant standards or performance measures.
- **Matters requiring no further assessment in the EIS:** The project will have no impact on the matter, or the impacts of the project on the matter will be so small that they are not worth considering.

Table A - 1: Scoping summary table

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Traffic, transport and access	Yes	Specific – Glen Innes Severn Council and TfNSW	<ul style="list-style-type: none"> • Guide to Traffic Management (Austroads, 2020) 	Section 6.2
Detailed	Noise and vibration	Yes	General	<ul style="list-style-type: none"> • Noise Policy for Industry (Environment Protection Authority, 2017) • Interim Construction Noise Guideline (Department of Environment, Climate Change and Water, 2009) • NSW Road Noise Policy Guideline (Department of Environment, Climate Change and Water, 2011) • Assessing vibration: A technical guideline (Department of Environment, Climate Change and Water, 2006) 	Section 6.3
Standard	Biodiversity	No	General	<ul style="list-style-type: none"> • Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (Commonwealth Department of the Environment, 2013) • Commonwealth Department of the Environment and Energy – Nationally Threatened Ecological Communities and Threatened Species Guidelines (various) • Commonwealth Department of the Environment and Energy – Survey Guidelines for Nationally Threatened Species (various) • Biodiversity Assessment Method (DPIE Environment, Energy and Science, 2020) • NSW Biodiversity Offsets Scheme (Office of Environment and Heritage, 2017) • Threatened species survey and assessment guidelines at https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/about-threatened-species/surveys-and-assessments (various) • Determining native vegetation land categorisation for application in the Biodiversity Offsets Scheme (DPE, 2023) 	Section 6.4

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Aboriginal heritage	No	Specific – Glen Innes LALC and RAPs	<ul style="list-style-type: none"> Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (Department of Environment, Climate Change and Water, 2010) Guide to Investigating, Assessing, and Reporting on Aboriginal Cultural Heritage in New South Wales (Office of Environment and Heritage 2011) Aboriginal Cultural Heritage Consultation Requirements for Proponents (Department of Environment, Climate Change and Water 2010) 	Section 6.5
Standard	Non-Aboriginal heritage	No	Specific – Heritage NSW	<ul style="list-style-type: none"> Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999 - Matters of National Environmental Significance (Commonwealth of Australia, 2013) Guidelines for Preparing a Statement of Heritage Impact (DPE, 2023) NSW Heritage Manual (NSW Heritage Office and Department of Urban Affairs and Planning, 1996) Assessing Significance for Historical Archaeological Sites and Relics (NSW Heritage Branch, Department of Planning, 2009) Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977 (NSW Heritage Office, 1998) 	Section 6.6
Standard	Hazard and risk	No	General	<ul style="list-style-type: none"> Multi-Level Risk Assessment (Department of Planning and Infrastructure, 2011) Hazardous and Offensive Development Application Guidelines: Applying SEPP 33 (DoP, 2011) Hazardous Industry Planning Advisory Paper No.6 – Hazard Analysis (DPI, 2011) Commission on Non-Ionizing Radiation Protection Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (1998) Planning for Bushfire Protection 2019 (NSW Rural Fire Service, 2019) 	Section 6.7

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Landscape and visual	Yes	General	<ul style="list-style-type: none"> Large-Scale Solar Energy Guidelines (DPE, 2022) Technical Supplement - Landscape and Visual Impact Assessment, Large-Scale Solar Energy Guideline (DPE, 2022) Guideline for Landscape Character and Visual Impact Assessment, Environmental impact assessment practice note EIA-N04 (TfNSW 2020) 	Section 6.8
Standard	Land	No	General	<ul style="list-style-type: none"> Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning and Environment Protection Authority, 1998) National Environment Protection (Assessment of Site contamination) Measure (National Environment Protection Council, 2013) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (Environment Protection Authority, 2015) Land Use Conflict Risk Assessment Guide (DPI 2011) 	Section 6.9
Standard	Social and economic	Yes	Specific – surrounding community	<ul style="list-style-type: none"> Social Impact Assessment Guideline (NSW Department of Planning, Industry and Environment, 2021) International principles for Social Impact Assessment (International Association for Impact Assessment, 2003) 	Section 6.10
Standard	Cumulative impacts	Yes	General	<ul style="list-style-type: none"> Cumulative Impact Assessment (CIA) Guidelines for State Significant Projects 2022 (DPE, 2022) 	Section 6.11
Standard	Water quality, hydrology and flooding	No	General	<ul style="list-style-type: none"> Managing Urban Stormwater: Soils and Construction – Volume 1 (Landcom, 2004) Australian and New Zealand guidelines for fresh and marine water quality (ANZECC & ARMCANZ, 2000) Guidelines for Groundwater Protection in Australia (Commonwealth of Australia, 2013) 	Section 6.12

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Air quality	No	General	<ul style="list-style-type: none"> Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA, 2016) 	Section 6.12
Standard	Waste	No	General	<ul style="list-style-type: none"> Waste Classification Guidelines (NSW EPA, 2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (NSW EPA, 2014) 	Section 6.12

APPENDIX B SIA WORKSHEET

Social Impact Assessment (SIA) Worksheet

Project name: Glen Innes BESS

Date: 19/12/23

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE	PREVIOUS INVESTIGATION OF IMPACT	CUMULATIVE IMPACTS	ELEMENTS OF IMPACTS - Based on preliminary investigation							ASSESSMENT LEVEL FOR EACH IMPACT	PROJECT REFINEMENT		MITIGATION / ENHANCEMENT MEASURES		
				What methods and data sources will be used to investigate this impact?	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?											
What social impact categories could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be positive or negative	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics					Level of assessment for each social impact	Primary Data - Consultation	Primary Data - Research	What mitigation / enhancement measures are being considered?	
						extent i.e. number of people potentially affected?	duration of expected impacts? (i.e. construction vs operational phase)	intensity of expected impacts i.e. scale or degree of change?	sensitivity or vulnerability of people potentially affected?	level of concern/interest of people potentially affected?						
way of life	Impact to the communities routines caused by construction, namely noise, increased traffic movements and visual changes	Negative	No		Yes	Rangoon Wind Farm	No	No	No	No	Yes	Minor Assessment	Community consultation - targeted at receptors within the vicinity of the project	Technical studies i.e. TIA and targeted research	Assessment and management of construction impacts will be provided in the EIS and associated reports, i.e. Traffic and Transport Impact Report	Construction hours, dust suppression, CEMP, vegetation screening
access	Impact to the residents and members of the community who use Golf Links Road due to potential road works causing obstruction or delay	Negative	No		No		No	No	No	No	Yes	Minor Assessment	Community consultation - targeted at receptors within the vicinity of the project	Technical studies i.e. TIA and targeted research	Assessment and management of construction impacts will be provided in the EIS and associated reports, i.e. Traffic and Transport Impact Report	Construction hours
surroundings	Impact to members of the Golf Club, cyclists and users of the traveling stock reserve (TSR) due to noise, obstruction or delay	Negative	No		No		No	No	No	Yes	Yes	Minor Assessment	Community consultation - targeted at receptors within the vicinity of the project	Technical studies i.e. TIA and targeted research	Assessment and management of construction impacts will be provided in the EIS and associated reports, i.e. Traffic and Transport Impact Report, Noise and Vibration Assessment	Construction hours, dust suppression, CEMP, vegetation screening
surroundings	Potential impacts to biodiversity values on site, however the site was historically mostly cleared and is subject to agricultural land uses so new impacts will be minimal	Negative	No		No		No	No	No	No	No	Standard Assessment	Community consultation, agency engagement	Technical studies i.e. BDAR and targeted ecological research	No - preliminary ecology survey suggests siting of project infrastructure aligns with least impact to biodiversity values	Vegetation screening / native vegetation planting
culture	Potential for impact to Aboriginal heritage values if an artefact is found or disturbed during construction	Negative	No		No		No	No	No	Yes	Unknown	Standard Assessment	Targeted consultation	Technical studies i.e. Aboriginal Cultural Heritage Survey and Assessment, and targeted research	Assessment and management of construction impacts will be provided in the EIS and associated reports, Aboriginal Heritage and Historic Heritage Impact Assessments	Use of unexpected finds protocol
livelihoods	Job and contract opportunities for local workers and businesses during construction	Positive	N/A		Yes	Rangoon Wind Farm	Unknown	No	No	No	No	Not Relevant	N/A	N/A	No - N/A	N/A
livelihoods	Net gain to local businesses (i.e. cafes, restaurants, motels) from increased construction personnel during construction	Positive	N/A		Yes	Rangoon Wind Farm	No	No	No	No	No	Not Relevant	N/A	N/A	No - N/A	N/A
decision-making systems	Agency and community consultation has commenced as part of pre-scoping activities, impact to stakeholders with interest in the Project	Positive	N/A		N/A		Yes	Yes	No	No	Yes	Standard Assessment	Broad consultation	Technical study - SIA	Not as yet - will be considered as the Project and consultation progress	Comprehensive community and stakeholder engagement to empower stakeholders to communicate on their views and demonstrate Firm Power's commitment to effective and collaborative communication
community	Impact to visual amenity and acoustic environment of immediate area	Negative	No		No		No	No	No	No	Yes	Standard Assessment	Community consultation	Technical studies i.e. Noise and Visual Impact Assessments	Assessment and management of noise and visual impacts will be provided in the EIS and associated reports	Vegetation screening
health and wellbeing	Risk of hazardous accidents or fire from operational BESS	Negative	Yes - other project	Level of risk was adequately mitigated	No		Unknown	No	No	Yes	Yes	Standard Assessment	Community, agency and rescue service consultation	Technical studies i.e. PHA and ongoing research into BESS technologies	Assessment and management of hazards and fire risk will be provided in the EIS and associated reports	Asset protection zone, preliminary hazard assessment and associated recommended actions, pre-operational site tour for Fire and Rescue and the RFS
way of life	Likely to impact small number (1-3) of locals who are employed to conduct ongoing maintenance of BESS	Positive	N/A		N/A		No	Yes	Yes	No	Yes	Not Relevant	N/A	N/A	No - N/A	N/A

APPENDIX C COMMUNITY NEWSLETTER

29 November 2023

Dear Resident,

A BATTERY ENERGY STORAGE SYSTEM PROPOSAL FOR GLEN INNES

We are reaching out to inform you about an upcoming proposal for a Battery Energy Storage System (BESS) in your vicinity, which is currently in development by Firm Power.

Firm Power is an Australian-owned energy company dedicated to developing high-quality energy projects that accelerate the energy transition. The company has been in operation since early 2019, launching as the first project development firm in Australia to be 100% focused on large-scale BESS before expanding into other energy transition solutions. Firm Power has over 3GWh of BESS projects in various stages of development in strategic locations across Australia and we continue to rapidly expand this portfolio in-line with the needs of the electricity grid. At Firm Power, we are dedicated to ensuring that our projects benefit the community, the environment, and the economy.

Our proposal entails the construction of a Battery Energy Storage System (BESS) in Glenn Innes, occupying an approximate 4-hectare plot of land situated at 464 Golf Links Road, Glen Innes adjacent to the existing Transgrid Glen Innes Substation. The BESS System we are planning includes a 100-megawatt (MW) stand-alone battery designed to store and provide power to the local energy grid.

Over the next few months, Firm Power will be focused on preparing the necessary documentation to obtain the Secretary's Environmental Assessment Requirements from the Department of Planning and Environment, along with engaging with the Network Service Provider to progress the connection to the electrical grid.

It is important to note that this proposal is still in its early stages, and we are eager to work closely with the community as we progress with this significant project. We request any comments, concerns, or feedback you may have throughout the development lifecycle. Throughout each phase of the local and state government approval processes, we will provide you with more comprehensive project information and extend an invitation for your questions and feedback.

Firm Power considers community consultation to be essential at all stages of the BESS lifecycle and invites all members of the community to contact us. We will be conducting door-knocking in the week beginning 11th December provide further information and seek feedback. In the meantime, please feel free to reach out to us at 1800 906 654, via email at info@firmpower.com.au, or visit our website at firmpower.com.au/glen-innes-bess/ for any inquiries or additional information.

We understand the significance of keeping the local community informed, and we eagerly anticipate the opportunity to share more about this exciting project with you.

Sincerely,



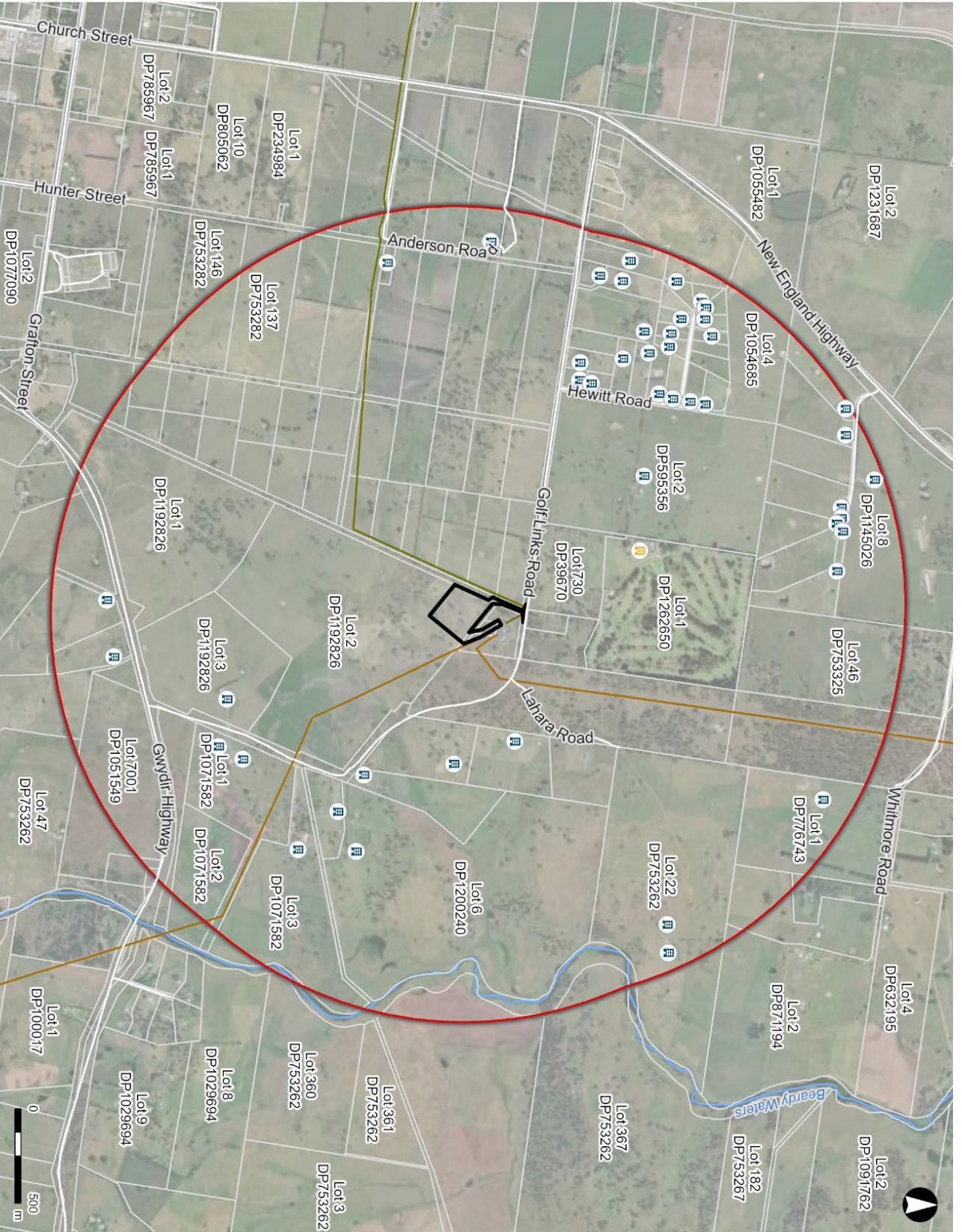
Greg Tischljar
DEVELOPMENT MANAGER

Level 7, 341 George Street, Sydney NSW 2000

W www.firmpower.com.au

E info@firmpower.com.au

P 1800 906 654



Date: 16/11/2023 Print: C:\Users\gpcz2278\ArcADIS\0180771 - Tamworth BESS - 04 GIS\A_CurrentIB_Maps\GlenInnes\GlenInnes_BESS_A4L_v1.aprx;GlenInnes_SG_002_LocalContext_A4L_v1 - Local context

Legend

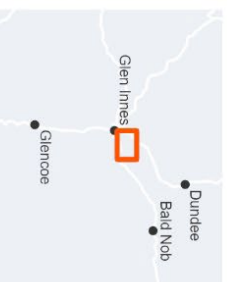
- General**
- Area of interest
- Property boundary
- ~~~~~ Watercourse
- Existing infrastructure**
- Transmission line
- 66kV
- 132kV
- Proposed**
- Project Site
- Receptors**
- Non-associated receptor (dwelling)
- Non-associated receptor (other)

1:30,000 at A4

Coordinate System: GDA2020 MGA Zone 56

Date issued: November '16, 2023

Imagery: Maxar



APPENDIX D RECEPTOR LIST

Type	Lot number	Plan	Address
Dwelling	1	DP1145026	20 Glen Elm Drive Yarrowford
Dwelling	4	DP1145026	62 Glen Elm Drive Yarrowford
Dwelling	5	DP1145026	74 Glen Elm Drive Yarrowford
Dwelling	5	DP1145026	74 Glen Elm Drive Yarrowford
Dwelling	6	DP1145026	76 Glen Elm Drive Yarrowford
Dwelling	7	DP1145026	77 Glen Elm Drive Yarrowford
Dwelling	1	DP776743	268 Whitmore Road Yarrowford
Dwelling	22	DP753262	70 Lahara Road Glen Innes
Dwelling	22	DP753262	70 Lahara Road Glen Innes
Dwelling	3	DP1200240	359 Golf Links Road Glen Innes
Dwelling	2	DP1200240	32 Lahara Road Glen Innes
Dwelling	4	DP1200240	409 Golf Links Road Glen Innes
Dwelling	5	DP1200240	413 Golf Links Road Glen Innes
Dwelling	6	DP1200240	Grahams Valley Road Glencoe
Dwelling	3	DP1071582	435 Golf Links Road Glen Innes
Dwelling	3	DP1192826	476 Golf Links Road Glen Innes
Dwelling	1	DP1071582	475 Golf Links Road Glen Innes
Dwelling	1	DP1071582	475 Golf Links Road Glen Innes
Dwelling	2	DP1078354	15405 Gwydir Highway Glen Innes
Dwelling	3	DP1078354	15405 Gwydir Highway Glen Innes
Dwelling	5	DP314292	84 Anderson Road Glen Innes
Dwelling	3	DP999382	139 Anderson Road Glen Innes
Dwelling	7	DP1096760	91 Golf Links Road Glen Innes
Dwelling	2	DP1067005	131 Golf Links Road Glen Innes
Dwelling	2	DP1166471	12 Hewitt Road Glen Innes
Dwelling	1	DP1166471	20 Hewitt Road Glen Innes
Dwelling	5	DP1096760	63 Golf Links Road Glen Innes
Dwelling	23	DP1123901	77 Golf Links Road Glen Innes
Dwelling	22	DP1123901	93 Golf Links Road Glen Innes
Dwelling	21	DP1123901	95 Golf Links Road Glen Innes
Dwelling	4	DP1087037	28 Hewitt Road Glen Innes
Dwelling	5	DP1087037	36 Hewitt Road Glen Innes

Type	Lot number	Plan	Address
Dwelling	16	DP1103028	51 Galloway Place Glen Innes
Dwelling	15	DP1103028	52 Galloway Place Glen Innes
Dwelling	14	DP1103028	50 Galloway Place Glen Innes
Dwelling	13	DP1103028	48 Galloway Place Glen Innes
Dwelling	18	DP1103028	45 Galloway Place Glen Innes
Dwelling	12	DP1103028	40 Galloway Place Glen Innes
Dwelling	19	DP1103028	37 Galloway Place Glen Innes
Dwelling	9	DP1087037	70 Hewitt Road Glen Innes
Dwelling	2	DP595356	217 Golf Links Road Glen Innes
Dwelling	6	DP1087037	52 Hewitt Road Glen Innes
Other (Glen Innes Golf Club)	1	DP1262650	219 Golf Links Road Glen Innes
Dwelling	7	DP1087037	58 Hewitt Road Glen Innes
Dwelling	8	DP1087037	68 Hewitt Road Glen Innes
Dwelling	20	DP1103028	29 Galloway Place Glen Innes
Dwelling	2	DP1145026	36 Glen Elm Drive Yarrowford
Dwelling	8	DP1145026	Whitmore Road Yarrowford

