



Scoping Report

Texas Solar Farm and Battery Energy
Storage System

Prepared for
FRV Services Australia Pty Ltd

Client representative
Thomas Sheridan

Date
22 March 2024

Rev02



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Acronyms

Abbreviation	Full Form
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEP	Annual exceedance probability
AER	Australian Energy Regulator
AHIMS	Aboriginal Heritage Information Management System
ANZG	Australian and New Zealand Guidelines
AQC	Air Quality Category
ASC	Australian Soil Classification
ASRIS	Australian Soil Resource Information System
ASS	Acid sulfate soils
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BC SEPP	<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
BESS	Battery energy storage system
BOM	Bureau of Meteorology
BSAL	Biophysical Strategic Agricultural Land
Cth	Commonwealth
DCCEEW	Department of Climate Change, Energy, the Environment and Water
CEC	Clean Energy Council
CIA	Cumulative Impact Assessment
CLM Act	<i>Contaminated Land Management Act 1997 (NSW)</i>
CO ₂ e	Carbon dioxide equivalent
CPP	Community Participation Plan
DA	Development Application
NSW DCCEEW	Department of Climate Change, Energy, the Environment and Water (NSW)
DCP	Development control plan
DEC	Department of Environment and Conservation (NSW) (former)
DECC	Department of Environment and Climate Change (NSW) (former)
DECCW	Department of Environment, Climate Change and Water (Cth) (former)
DESI	Department of Environment, Science and Innovation (QLD)
DLWC	Department of Land and Water Conservation (NSW) (former)
DoP	Department of Planning (NSW) (former)
DP	Deposited plan

Abbreviation	Full Form
DPE	Department of Planning and Environment (NSW) (former)
DPI	Department of Primary Industries (NSW)
DPIE	Department of Planning, Industry and Environment (NSW) (former)
DSDI	Department of State Development and Infrastructure (QLD)
DTMR	Department of Transport and Main Roads (QLD)
EHC Act	<i>Environmentally Hazardous Chemicals Act 1985</i> (NSW)
EIS	Environmental Impact Statement
EMF	Electromagnetic fields
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPI	Environmental planning instrument
EPL	Environment protection licence
ESC	Erosion and sediment control
FM Act	<i>Fisheries Management Act 1994</i> (NSW)
FTE	Full time equivalent
FOV	Field of View
FRV	Fotowatio Renewable Ventures Services Australia Pty Ltd
GDE	Groundwater dependent ecosystems
GHG	Greenhouse gases
GHz	Gigahertz
GRC	Goondiwindi Regional Council
GW	Gigawatt
GWh	Gigawatt hour
ha	Hectare
HBDP	Heritage Branch Department of Planning (NSW) (former)
HCNSW	Heritage Council of NSW (NSW)
HEVAE	High Ecological Value Aquatic Ecosystem
HIPAP	Hazardous Industry Planning Advisory Paper
Hz	Hertz
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ICOMOS	International Council on Monuments and Sites
IECA	International Erosion Control Association
ISC	Inverell Shire Council
KFH	Key Fish Habitat
kHz	Kilohertz

Abbreviation	Full Form
km	Kilometre
kV	Kilovolt
LGA	Local Government Area
LSC	Land soil capability
LSSE	Large-Scale Solar Energy
LVIA	Landscape and Visual Impact Assessment
m	Metres
µm	Micrometres
MNES	Matters of national environmental significance
MW	Megawatt
MWh	Megawatt hour
NENWRP	'New England North West Regional Plan 2041' (DPE, 2022h)
NHVR	National Heavy Vehicle Regulator
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NPWS	National Parks and Wildlife Service (NSW)
NSW	New South Wales
NTC	National Transport Commission
NVI	Noise and vibration impacts
NVIA	Noise and Vibration Impact Assessment
OEH	Office of Environment and Heritage (NSW) (former)
OSOM	Oversize and over-mass
PAT	Preliminary Assessment Tool
PCT	Plant community type
PCU	Power conversion units
PHA	Preliminary Hazard Analysis
PM _{2.5}	Particulate matter with diameter of ≤2.5 µm
PM ₁₀	Particulate matter with diameter of ≤10 µm
PMST	Protected Matter Search Tool
PV	Photovoltaic
QLD	Queensland
QFMP	QLD Flood Mapping Program
RET	Renewable Energy Target
REZ	Renewable Energy Zone
RF Act	<i>Rural Fires Act 1997 (NSW)</i>
RFS	Rural Fire Service
RH SEPP	<i>State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW)</i>

Abbreviation	Full Form
RTA	Roads and Traffic Authority (NSW) (former)
SCP	Spatial Collaboration Portal
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
SKM	Sinclair Knight Merz
SSD	State Significant Development
SVTM	State Vegetation Type Map
t	Tonne
TEC	Threatened Ecological Communities
TI SEPP	<i>State Environmental Planning Policy (Transport and Infrastructure) 2021 (NSW)</i>
TIA	Traffic Impact Assessment

1. Introduction

1.1 Development overview

FRV Services Australia Proprietary Limited (Pty Ltd) (FRV) propose to develop a solar farm and battery energy storage system (BESS) at Texas, New South Wales (NSW) (the development) approximately 4 kilometres (km) south west of Texas, Queensland (QLD) and approximately 250 km north west of Coffs Harbour, NSW (Figure 1). The site of the proposed development is 13738 Bruxner Way, Texas and comprises rural land adjacent to Bruxner Way in the Inverell Shire Council Local Government Area (Inverell LGA).

The solar farm is proposed to have a capacity up to 400 megawatt (MW) and the BESS is proposed to have a capacity up to 200 MW/ 800 megawatt hour (MWh). Associated infrastructure will include:

- Switching station and substation
- Electrical/power conversion systems
- Control building
- Cabling and collector units
- Storage and maintenance area
- Internal access tracks
- On-site parking
- Security fencing; and
- Lighting.

The development will connect to the energy grid via the existing 330 kV transmission line that traverses the Site.

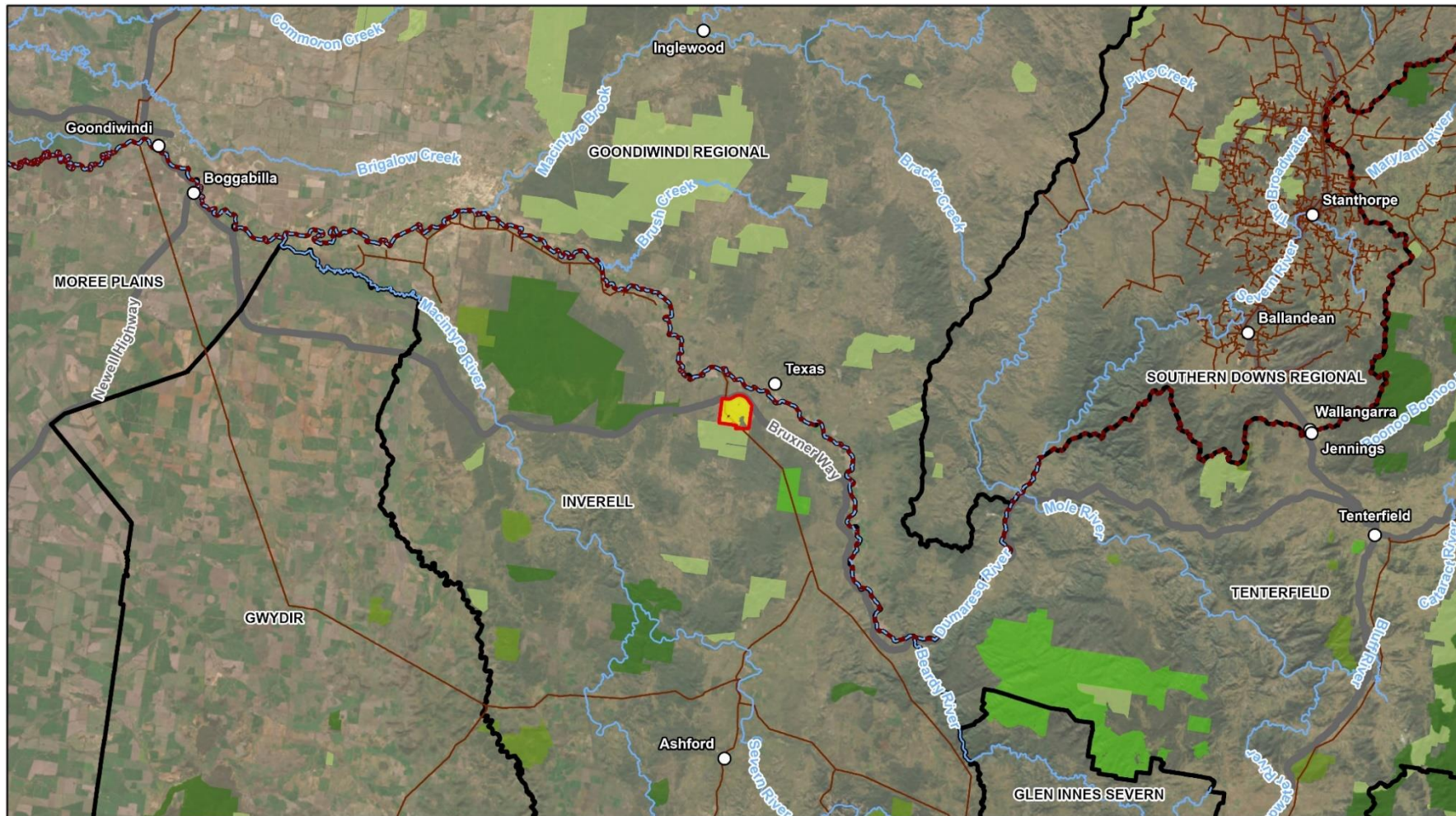
The Site is approximately 1,600 hectares (ha) and comprises Lots 15, 16, 17, 18 and 20 in deposited plan (DP) 750122 and Lot 2 DP1124783 along Bruxner Way, Texas. These lots are part of a much larger land holding. Within the Site some land would be developed while other land would be protected and preserved for reasons such as unsuitable aspect, environmental sensitivity or other reasons. The concept layout would be determined and refined through the environmental assessment process. At this stage, the solar farm may be approximately 950 ha in area, the BESS may be 8 ha in area and associated infrastructure such as the switching station and substation may be 3 ha in area.

The Site is zoned RU1 – Primary Production under the Inverell Local Environmental Plan 2012 (Inverell LEP). The surrounding land is rural and state forest. The Site is bordered by Bruxner Way (north), rural land (west), Bebo State Forest (south) and Goat Rock Road (east) (Figure 2).

The development would have a capital investment value >\$30 million and triggers State Significant Development (SSD) under *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

The development objectives are to:

- Design, construct, and operate a utility scale solar farm and BESS while minimising environmental, social, and cultural impacts upon the Site and adjoining land
- Generate and store electricity on the Site from renewable sources to reduce the amount of greenhouse gasses generated by the NSW power generation sector
- Encourage and enable community and stakeholder engagement and participation during the approval process; and
- Provide local and regional employment opportunities and other social benefits during construction and operation of the development and contribute to the local and regional economies.



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REGIONAL SETTING
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LEGEND

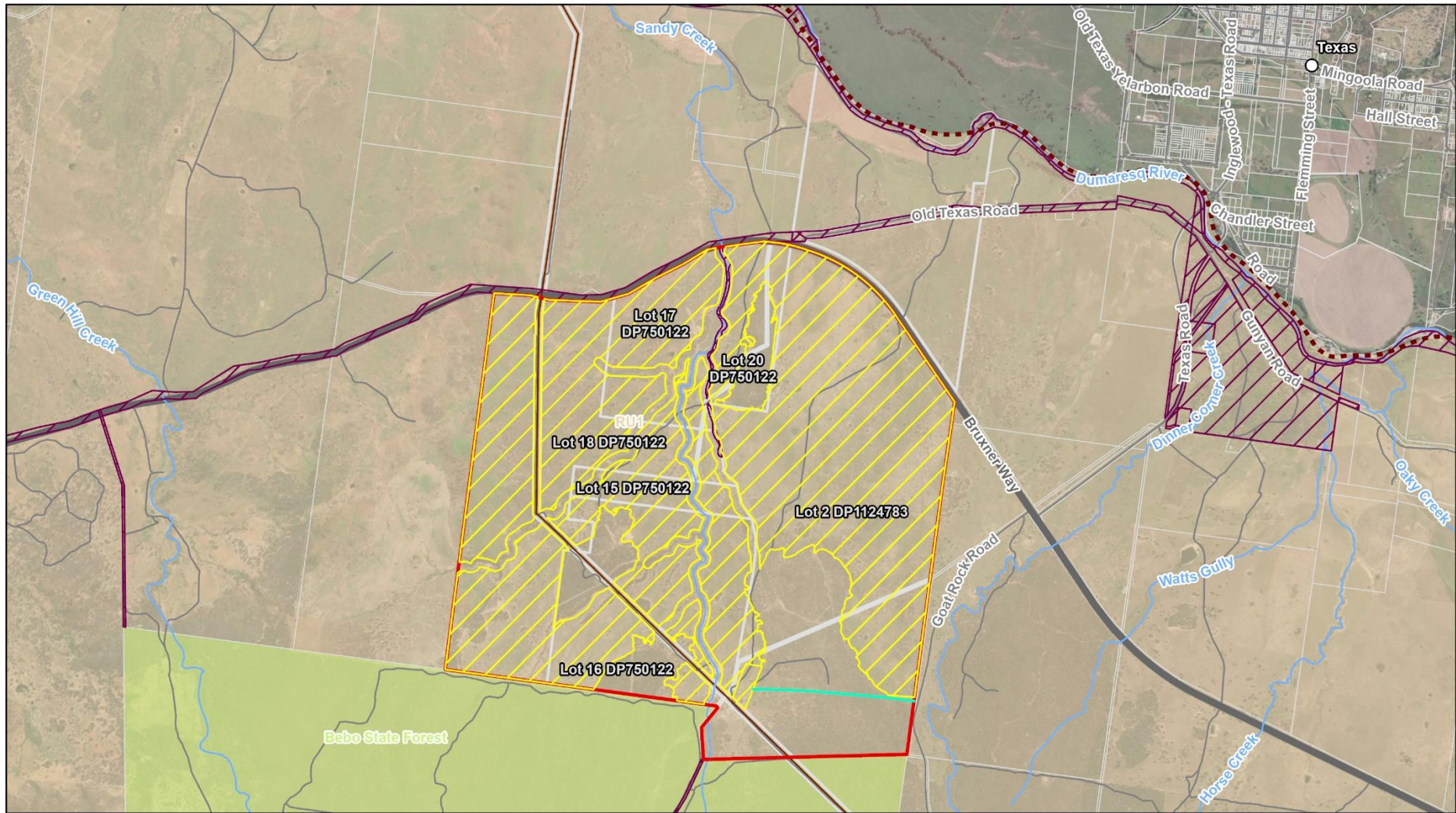
- Site
- Population Centre
- Major Watercourse
- Electricity Transmission Line
- Major Road
- NSW/QLD Border
- Proposed Development Footprint
- Local Government Area
- State Forest
- NPWS Reserve
- National Park
- Nature Reserve
- State Conservation Area

MAP REF: P.23.1318
AUTHOR: VLY
REV: B
DATE: 25/01/2024
DATA SOURCES: Aerial imagery from ESRI, Data from Spatial Collaboration Portal, QSpatial, Project Specific Data

Scale: 1:700,000 @A4
Coordinate System: GDA 1994 MGA Zone 56



Figure 1 Regional setting of the site



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LOCATION
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MAP REF: P.23.1318
AUTHOR: NPA
REV: C
DATE: 22/03/2024
DATA SOURCES: Aerial Imagery from ESRI,
Data from Spatial Collaboration Portal,
QSpatial, Project Specific Data

LEGEND

- | | | |
|--|--|--|
| Site | Major Road | Land Zoning |
| Population Centre | NSW/QLD Border | RU1 - Primary Production |
| Proposed Access Track | Investigation Area | Cadastral Boundary |
| Watercourse | State Forest | Associated Lot |
| Electricity Transmission Line | Crown Land | Non-associated Lot |

Figure 2 Location of the Site

1.2 Applicant

The Applicant is FRV Services Australia Pty Ltd. FRV is a utility scale, solar and storage independent power producer bringing projects from origination through to development and has been operating in Australia since 2010. FRV have 12 utility scale solar farm and BESS development built or under construction in Australia of which 10 are owned and operated by FRV.

FRV's business strategy is to develop clean energy projects to assist in decarbonising the world's energy system. By delivering projects that generate change, FRV continues to support a sustainable business model centred on building a better world for all.

FRV is committed to the local communities in which they operate, working hard to engage and involve local communities in projects. This begins at the pre-planning stage through public consultation. Through this engagement, they work to resolve any potential impact or issues on the local community and invite residents to share their views on suitable local projects/initiatives for a community benefit fund.

Details of the Applicant are provided in Table 1.

Table 1 Applicant Details

Condition	Detail
Company Name	FRV Services Australia Pty Ltd
Address	Suite 1001, 1 York Street, Sydney NSW 2000
ABN	60 151 469 662
Nominated Contact	Thomas Sheridan
Contact Details	Ph: +61 430 073 421 E: Thomas.Sheridan@frv.com

1.3 Impact avoidance and minimisation strategies

The development will be designed to avoid and minimise impacts where possible. The concept layout will be designed informed by the findings of the detailed site investigations and community and stakeholder engagement.

The development would have onsite electrical grid connection via the existing 330 kV transmission line which traverses the Site. The existing transmission line minimises the need to construct additional infrastructure for electrical grid connection and avoids additional potential environmental impacts.

The Investigation Area has been selected to avoid areas of high biodiversity value and minimise impacts to natural drainage tributaries of Sandy Creek within the Site by affording these waterways appropriate buffer setbacks. The concept layout will incorporate boundary setbacks to minimising the potential visual and construction noise impacts to surrounding receivers.

Where impacts cannot be avoided, measures for minimising, managing, or offsetting throughout construction, operation, and decommissioning would be developed in preparation of the Environmental Impact Statement (EIS).

1.4 Purpose of this Scoping Report

This Scoping Report has been prepared to provide a description of the proposed development and to succinctly identify key environmental and social aspects of the site and the proposed development to inform the Secretary's Environmental Assessment Requirements (SEARs) for the EIS. This report includes justification for the development, alternatives

considered, describes the completed and proposed community engagement activities, and identifies the proposed level of environmental and social assessments to be undertaken in the preparation of the EIS.

This report has been prepared in accordance with the following guidelines:

- 'State Significant Development Guidelines – preparing a scoping report' (DPE, 2022i) (Scoping Report Guidelines)
- 'Large-Scale Solar Energy Guideline' (DPE, 2022g) (LSSE Guideline)
- 'Technical Supplement – Landscape and Visual Impact Assessment' (DPE, 2022j) (LVIA Technical Supplement)
- 'Social Impact Assessment Guidelines' (DPE, 2023a) (SIA Guidelines)
- 'Undertaking Engagement Guidelines for State Significant Project' (DPE, 2022k) (Engagement Guidelines); and
- 'Cumulative Impact Assessment Guidelines for State Significant Projects' (DPE, 2022f) (CIA Guidelines).

1.5 Key Terms

The following terms are used throughout this Scoping Report:

- **The development** – Texas Solar Farm, consisting of a solar farm with a nominal capacity of approximately 400 MW, a 200 MW BESS, and ancillary infrastructure
- **The Site** – Lots 15, 16, 17, 18 and 20 DP750122 and part Lot 2 DP1124783
- **Investigation Area** – area within the Site to locate a solar farm, BESS, ancillary infrastructure and access track
- **Concept Layout** – concept design of the Development
- **Associated landowner** – a landowner that is involved with the development; and
- **Potential receiver** – a landowner/residence, who may be impacted by the proposed development (e.g. visual, noise, access) and is not involved with the development. Their property boundary may or may not border the Site.

2. Strategic context

2.1 Development justification

The development would contribute to improving the reliability and stability of the state and national electricity network by generating electricity from renewable sources to the grid, storing surplus energy on the Site and releasing dispatchable energy during peak demand periods to the grid.

The development would support energy generation and storage development in NSW and Australia by increasing flexibility and resilience of the electrical grid as overall renewable energy generation increases and non-renewable energy generation decreases over time. The proposed solar farm would generate up to 876,000 MWh of renewable energy annually, enough to supply approximately 150,552 homes (AER, 2020) and reduce carbon emissions by approximately 674,520 tonnes (t) carbon dioxide equivalent (CO₂-e), calculated using the 'Australian National Greenhouse Accounts Factors' (DCCEEW, 2022).

2.2 Regional and local context

2.2.1 International need

In December 2015, Australia became a signatory to the United Nations Paris Agreement on climate change. The main objectives of the Paris Agreement are:

- Limit the increase in global temperatures to well below two degrees and pursue efforts to limit the rise to 1.5 degrees
- Achieve net-zero emissions, globally, by the second half of the century; and
- Differentiated expectations for developed nations, including Australia, that they will reduce their emissions sooner than developing nations.

The Australian Government has committed to reduce greenhouse gas emissions by 26 to 28% on 2005 levels by 2030.

The proposed development would be an effective method to meet the nation's international commitments to reduce greenhouse gas emissions and contribute to Australia's effort to meet the Paris Agreement.

2.2.2 National need

The Renewable Energy Target (RET) is an Australian Government scheme designed to reduce emissions of greenhouse gases (GHG) in the electricity sector and encourage additional renewable energy generation. The Large-scale RET scheme incentivises investment in renewable energy power stations such as solar farms. The scheme has an annual target of 33,000 gigawatt hours (GWh) until the scheme ends in 2030.

The proposed development would contribute to the RET and provide an alternative power generation resulting in reduced GHG emissions, contribute to meeting the Paris Agreement and aiding the transition towards cleaner electricity generation.

2.2.3 State need

With the objective of delivering cheaper, cleaner, and more reliable electricity to support future growth across the state, the NSW government established the following policies:

- 'NSW Transmission Infrastructure Strategy' (DPE, 2018)
- 'NSW Electricity Strategy' (DPIE, 2019); and

- 'NSW Electricity Infrastructure Roadmap' (DPIE, 2020b).

These policies facilitate transitioning the state into a modern, global renewable energy superpower through private sector investment and development of renewable energy zones (REZ). The development, although not within a current or proposed REZ, would contribute to this transition.

2.2.4 Regional need

New England North West Regional Plan 2041

The 'New England North West Regional Plan 2041' (NENWRP) (DPE, 2022h) includes the Inverell LGA and aims to facilitate sustainable growth in the region by adapting to challenges posed by climate change and the economy.

Objective 9 of the NENWRP is to support the State's transition to Net Zero by 2050 and deliver the New England REZ. Whilst the Site is outside of the New England REZ, the proposed development would support this objective and contributes to achieving net zero emissions by 2050, by generating and storing renewable energy.

Inverell Shire Council Community Strategic Plan

The Inverell Shire Council's (ISC) strategic objectives for the growth and development of the Inverell LGA are set out across three key plans:

- '2022/2032 Community Strategic Plan' (Inverell CSP) (ISC, 2022a)
- '2022/2024 Delivery Plan' (Inverell DP) (ISC, 2022b); and
- 'Operational Plan 2023 - 2024' (Inverell OP) (ISC, 2023).

The Inverell CSP is the ISC's primary strategic document which sets the ISC's shared goals and aspirations and 'Destinations' for the future, including the ISC's mission and purpose. The Inverell DP is a four year plan outlining the 'Term Achievements', which align directly to "Destinations" and provide detail on the strategies to be used to progress towards the Destinations. The Inverell OP outlines the ISC's annual objectives, including activities undertaken and the council officers responsible and includes information on key performance indicators.

The proposed development would align with the following 'Destinations' of the Inverell CSP:

- Prosperity - a diverse range of businesses are sustainable and maintain a long-term presence in the Shire
- Liveability - the community values our natural and built environment

and support the following strategies of the Inverell DP:

- Prosperity - 1.2 Business development and investment is encouraged; and
- Liveability - 3.1 Partner with local groups and responsible agencies to preserve and maintain our natural environment and 3.3 Ensure compliance with environmental regulations and controls.

2.3 Site selection

The Site was identified as preferred for utility scale solar electricity generation due to:

- Presence of a 330 kV transmission line through the Site enabling direct connection to the electrical grid
- Good energy yield from high solar irradiance
- Availability of suitably sized lots
- Topography is relatively flat, minimising the need for earthworks

- Not identified as Biophysical Strategic Agricultural Land and not high capability agricultural land
- Easy access to the Bruxner Way and other major transport connections for construction logistics; and
- Expectation of low environmental and heritage constraints and reduced natural values due to historic clearing and farming of the site.

2.4 Development benefits

The construction and operation of the proposed development would provide the following benefits:

- Support Australia's 2030 emission reduction targets, NSW's transition to net-zero emissions by 2050 and the objectives of the NENWRP
- Improving the stability and reliability of the electricity network by storing energy during periods of low demand, including those from intermittent renewable sources and dispatching energy during periods of peak demand
- Local employment opportunities of approximately 250 jobs during an 18 month construction period and approximately 4-5 full-time jobs during the proposed 30 year operational life
- Construction and operation of the development is likely to be of low impact upon the locality; and
- Potential for direct and indirect investment into Inverell LGA and adjoining Goondiwindi LGA during construction.

Additional benefits would be investigated during preparation of the EIS and ongoing consultation with community and stakeholders.

3. Site and development description

3.1 The Site

The Site is situated within Texas, NSW approximately 1.3 km south of the NSW and QLD border. The locality of Texas, NSW has a population of 23 (ABS, 2021a). The nearest town to the Site is Texas, QLD, located approximately 4 km to the north east. Texas, QLD has a population of 790 (ABS, 2021b) and is one of seven townships within the Goondiwindi Regional LGA. The nearest major population centre to the Site is Gold Coast, QLD, approximately 240 km to the north east. The nearest major port to the Site is Brisbane, approximately 245 km to the north east. Agriculture is the primary industry of the region.

The Site includes six lots totalling approximately 1,600 ha, owned by two landowners:

- Lots 15 – 18 DP750122
- Lot 20 DP 750122
- Part Lot 2 DP1124783 (remainder of this lot extending north of Bruxner Way); and
- Lots 1 and 2 DP 820232.

Through Lot 2 DP 1124783, Lot 16 DP 750122 and Lot 18 DP 750122 is a 60m wide easement to accommodate Transgrid's 330kv powerline that forms part of the QLD to NSW Interconnector.

The Site is zoned *RU1 – Primary Production* under the Inverell LEP. The Site is predominantly gently sloping towards Dumaresq River to the north. The highest elevation is approximately 360 metres (m) above sea level near the western boundary. The lowest elevation is approximately 280 m adjacent to Sandy Creek on the northern boundary. The Site is predominantly open grassland mostly cleared of dense vegetation, with some large areas of dry sclerophyll forests south of the Site and scattered riparian vegetation found along watercourses. The Site is used predominantly for grazing.

The Site is bounded by Bruxner Way to the north and Goat Rock Road to the east. Goat Rock Road is a two-way, unsealed, unmarked, local road and serves as access to the Site. Bruxner Way is a two-way highway that connects Ballina in the east and Boggabilla, NSW in the west. Bruxner Way links Goat Rock Road with Texas Road which provides connection to Texas, QLD.

East, north and west of the Site is agricultural land while along the southern boundary is the Bebo State Forest. Within the Site, tracts of continuous vegetation from Bebo State Forest intersect the Site. A 330 kV transmission line traverses through the Site and Bebo State Forest generally in a north to south direction.

Intersecting the centre of the Site, flowing south to north, is a Strahler order 3 watercourse named Sandy Creek. Sandy Creek is approximately 18 km in length. Dinner Corner Creek runs adjacent to the eastern boundary of the Site. Both creeks are tributaries of Dumaresq River, approximately 1.3 km to the north (Figure 2).

Photographs of the site are provided in Figure 3 to Figure 10.

Within the site, Sandy Creek has fifteen tributaries (Figure 11). Many of these tributaries in the western portion of the site are largely first order open depressions with no defined bed or bank.



Figure 3 West side of Sandy Creek looking north



Figure 4 Access to Lot 2 DP 1124783 looking south



Figure 5 Lot 16 DP750122 looking west with powerline easement in background



Figure 6 East of Sandy Creek looking west from Lot 2 DP1124783



Figure 7 Sandy Creek looking north east from Lot 18 DP 750122



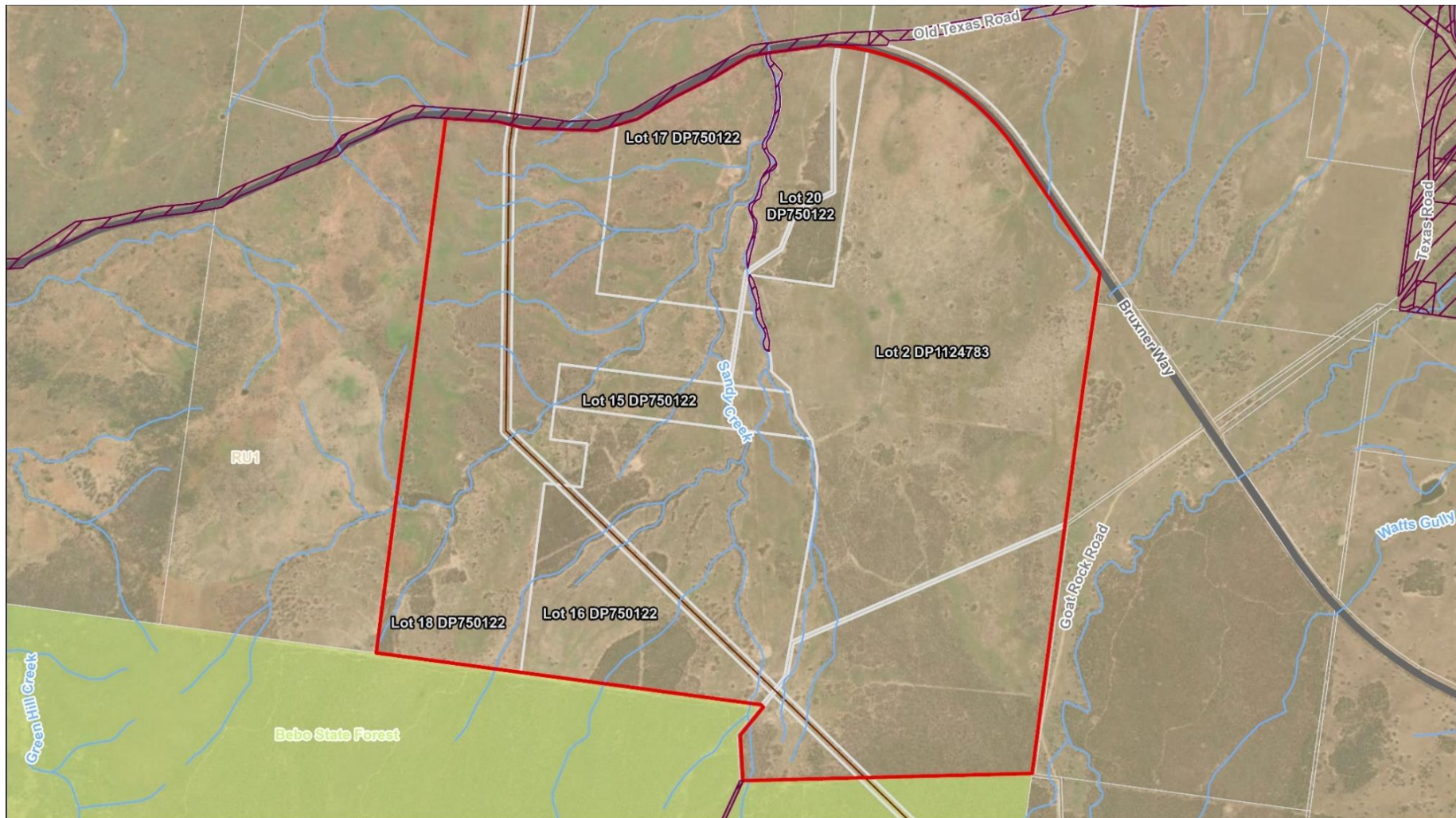
Figure 8 From southern boundary of Lot 16 DP750122 looking south into Bebo State Forest



Figure 9 From Lot 16 DP 750122 looking north west over a spring located within the Sandy Creek riparian corridor



Figure 10 From Lot 2 DP 1124783 looking west





The future happens here

SITE
Texas Solar Farm and BESS

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MAP REF: P.23.1318
AUTHOR: VLY
REV: 8
DATE: 25/01/2024
DATA SOURCES: Aerial imagery from ESRI,
 Data from Spatial Collaboration Portal,
 Project Specific Data

LEGEND

- Site
- Watercourse
- Electricity Transmission Line
- Major Road
- NSW/QLD Border
- State Forest
- Crown Land
- RU1 - Primary Production

Cadastral Boundary

- Associated Lot
- Non-associated Lot

Figure 11 The Site

3.1.1 Site condition

A site inspection by pitt&sherry and the applicant in mid-December 2023 was attended by the landowners. The landowners - who own farmland outside of the site - have farmed the site within their family for many years. In terms of agricultural productivity, the landowners expressed their frustration at not being able to “rest” the site from grazing and enable soil regeneration and pasture improvement to occur. Pasture improvement activities – including the recent sowing of oat pasture in parts of the western portion of the site – have been undermined by grazing kangaroos that reside in the surrounding state forests. Managing this pest grazing would normally be undertaken by fencing and allowing the site to rest. However, land management costs and the prioritisation of farming on more productive and valuable land (e.g on the Dumaesq River flood plain) has led to the site being used for marginal grazing.

3.2 Investigation area

Of the approximate 1,600 ha that make up the Site, approximately 1000 ha would be required for the concept layout.

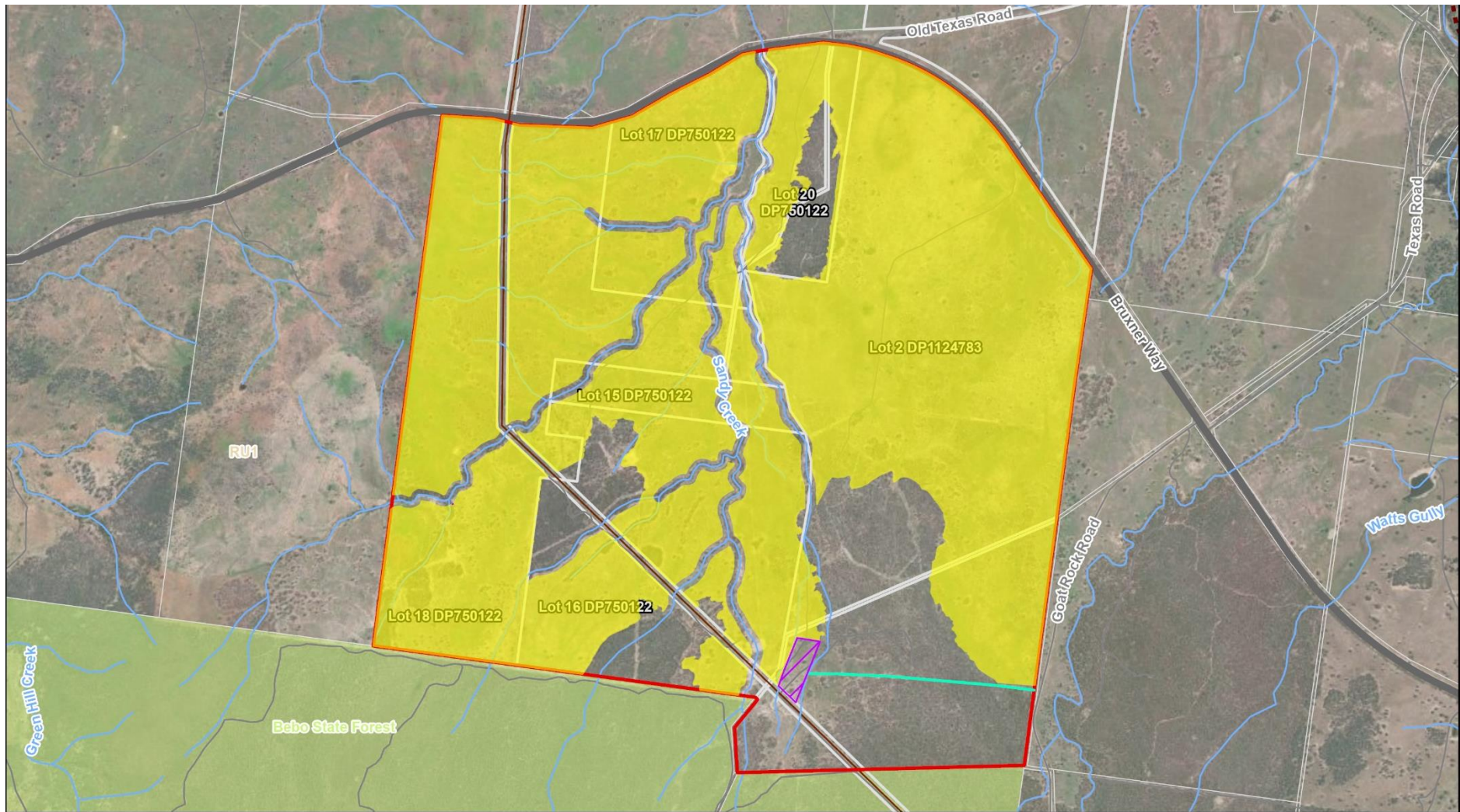
The investigation area (within which the concept layout would be located) avoids areas of likely biodiversity value including the riparian corridor along Sandy Creek and the existing 330 kV transmission line easement.

The investigation area is shown in Figure 12 and includes land for solar arrays, BESS (and substation and switching station) and the construction access track off Goat Rock Road. The investigation area is based on preliminary information regarding environmental constraints, engineering assessments, access options and a preliminary site inspection. Detailed site investigations and consultation through the EIS process will inform the concept layout and it may be smaller or larger than indicated the investigation area.

3.3 Development description

The proposed solar farm will have a capacity up to 400 MW whilst the proposed BESS will have a capacity up to 200MW/800MWh. Subject to detailed design, the key elements of the development would include:

- Ground mounted solar photovoltaic (PV) modules. PV modules totalling approximately 550,000 panels, would be mounted on single axis tracking systems with an assumed maximum height up to 5.5m above ground
- Power conversion units (PCUs) with underground cabling connecting each PCU to the on-site substation
- the BESS would be grouped in containerised modules near the substation
- a switching station to switch current when storing and releasing power to and from the BESS and from the site to the grid
- A substation connected to the solar farm and BESS for connection to the distribution network via an underground or overhead 330 kV transmission line
- Temporary construction facilities may include:
 - Construction compound
 - Laydown areas
 - Construction materials storage
 - Site office buildings and amenities
 - Temporary access tracks including watercourse crossings
 - Workers accommodation (on or off site)
- Permanent supporting infrastructure would include:
 - Trenched AC and DC cables
 - Internal access tracks including watercourse crossings



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INVESTIGATION AREA
Texas Solar Farm and BESS

pitt&sherry

N
0 0.5 1
Kilometres
Scale: 1:32,000 @A4
Coordinate System: GDA 1994 MGA Zone 56
MAP REF: P.23.1318
AUTHOR: NPA
REV: C
DATE: 22/03/2024
DATA SOURCES: Aerial imagery from ESRI,
Data from Spatial Collaboration Portal,
Project Specific Data

LEGEND

- | | | |
|-------------------------------|------------------------|--------------------|
| Site | Major Road | State Forest |
| Proposed Access Track | NSW/QLD Border | Cadastral Boundary |
| Watercourse | Indicative Solar Array | Associated Lot |
| Electricity Transmission Line | BESS | Non-associated Lot |

Figure 12 Investigation area

- Security fencing and lighting
- Operations and maintenance buildings
- Operational vehicle access points
- Upgrade of Goat Rock Road to site access (approximately 2.06km)
- Site access track from Goat Rock Road to BESS location using an existing access track along a fence line; and.
- Subdivision of the land upon which the switching station and substation is located to enable this land and the constructed infrastructure to be transferred to Transgrid.

Fencing the entire site for security purposes will lead to the exclusion of kangaroos and other native fauna from surrounding state forests. This presents an opportunity to, in farming terms, “rest the land”, undertake pasture improvement prior to construction and the integration of the detailed design and operation of the solar farm and introduce sheep grazing to both manage ground cover and achieve ongoing agricultural use of the site. This also enables the landowners to obtain two incomes from the site – one for using the site for renewable energy generation and the other for continued agricultural production.

3.4 Development delivery

3.4.1 Transport and access

Access to the Site is expected to be from an access track off Goat Rock Road. Deliveries of bulk materials such as solar panels, steel piles, support structures and cabling, would use semi-trailers, B-double vehicles and oversize and over-mass (OSOM) vehicles. The origin of materials is likely to be from the Port of Brisbane, approximately 260 km to the north east. The likely transport access route, as calculated using the National Heavy Vehicle Regulator (NHVR) Route Planner (NHVR, 2023) would use the following main roads:

- Port of Brisbane Motorway
- Gateway Motorway
- Logan Motorway
- Ipswich Motorway
- Cunningham Highway
- Stanthorpe Inglewood Road
- Greenup Limevale Road
- Inglewood Texas Road
- Texas Road; and
- Bruxner Way.

Figure 13 shows the potential transport route for the delivery of materials to the site. Transport and access are discussed further in Section 6.8.

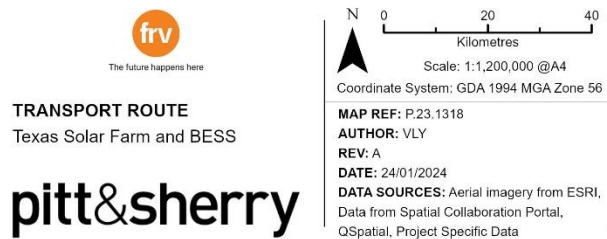
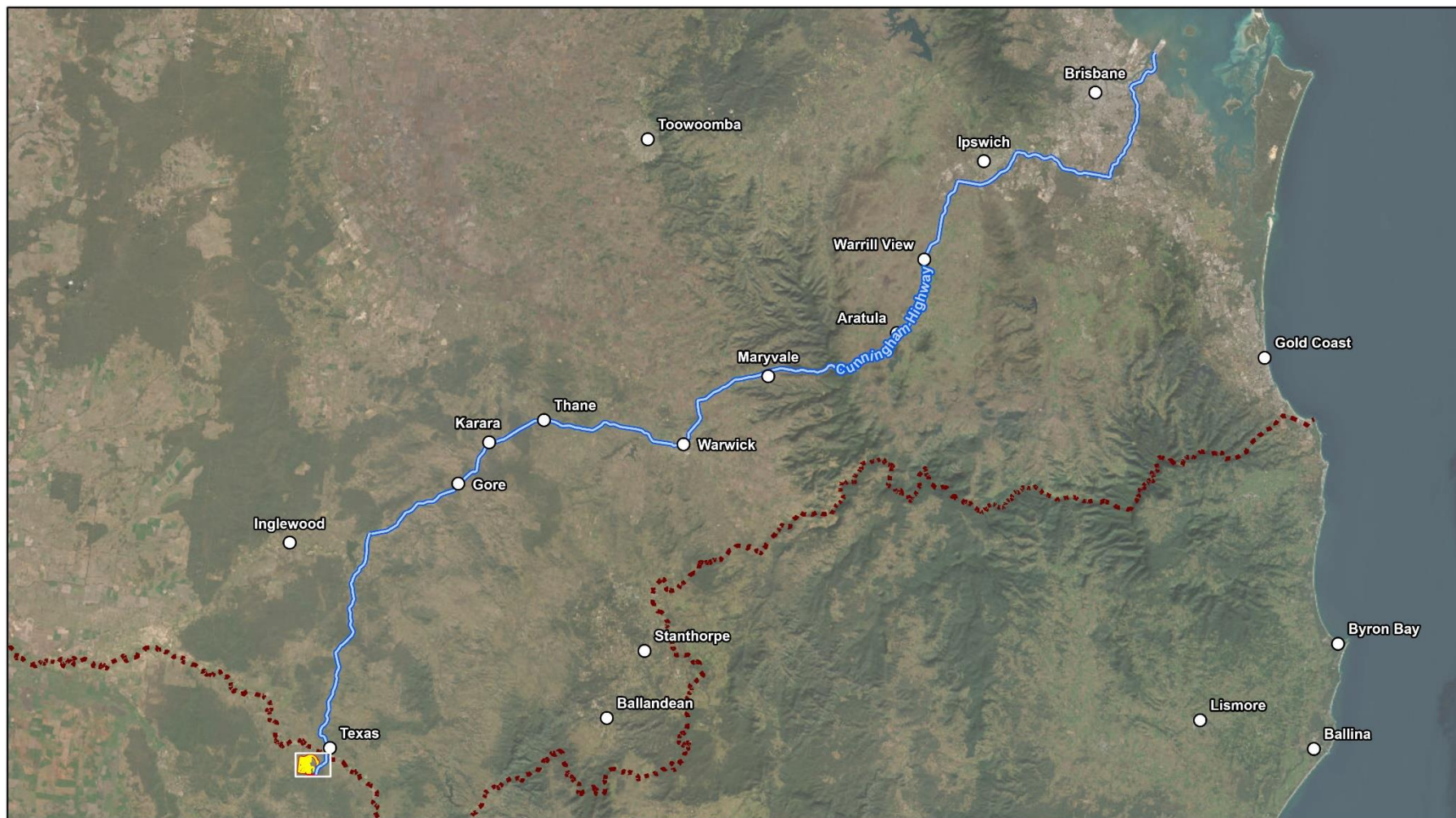


Figure 13 Potential transport access routes

3.4.2 Construction

It is estimated up to 350-400 construction workers would be required on site during the peak construction period. Consultation with Goondiwindi Regional Council (GRC) indicates Inland Rail has been investigating construction worker camps at Yelarbon and Inglewood and recently submitted a DA for a worker camp in Goondiwindi to GRC. Goondiwindi, ISC and Texas local business owners will be consulted throughout the detailed site investigations and preparation of the EIS identifying potential impacts and opportunities for accommodation of the construction workforce. Early indications suggest there is more opportunity for workers accommodation in Goondiwindi LGA.

As far as practicable, the construction workforce would be sourced from the local area. Potential cumulative impacts on accommodation, infrastructure, and services will be considered in the Social Impact Assessment (SIA).

Construction is anticipated to commence within 18 to 24 months of obtaining development consent. Construction is expected to take approximately 12 to 18 months, with a peak construction period of approximately 4 months.

Construction hours would be standard construction hours (Monday to Friday: 7 am - 6 pm, and Saturdays: 8 am to 1 pm) with out of hours or night works not anticipated, excluding emergency works.

3.4.3 Operations

The solar farm and BESS would operate 24 hours a day, seven days a week with electricity generation, storage, and transmission occurring as circumstances allow. Daily operations and maintenance by operational staff would be undertaken during standard working hours. Emergency response, inspections, and maintenance activities may be required to be undertaken out of hours or as night works.

Operation of the development is anticipated to create between 4-5 full time equivalent (FTE) employment opportunities. The development has a proposed operational life of 30 years that may be extended if and as required.

During operations, solar farm, BESS, switching station and substation components will be replaced or upgraded as circumstances require.

3.4.4 Decommissioning

At the end of its useful life, development decommissioning and rehabilitation of the Site would be undertaken. The objective of decommissioning would be to return the land to as close to its pre-construction condition as possible. The Site would be left suitable for its existing or appropriate alternative land use.

During the decommissioning process all above-ground infrastructure would be removed, with the possible exception of the switching station and substation, as this would be up to the discretion of the asset's owner, Transgrid.

Decommissioning would include:

- Removal of the solar arrays and foundation piles. Materials would be sorted, packaged, and removed
- Removal of all site amenities and equipment, including buildings, PCUs, and all footings
- Removal of all cabling, where practical
- Some fencing would be removed subject to landowner needs and preferences; and
- Rehabilitation of disturbed surfaces, in consultation with the landowner.

Wherever possible and practicable, materials removed from the Site would be either re-used or recycled in accordance with a Waste Management Plan.

3.5 Development alternatives

3.5.1 The “do nothing” option

The consequences of not proceeding with the development would be to forgo the benefits of the Project, resulting in:

- The loss of a source of renewable energy that would assist the Australian and NSW Government to reach their
- Targets such as the NSW Net Zero Plan Stage 1: 2020-2030, which targets net zero emissions by 2050 (DPIE,2020);
- The loss of cleaner energy and reduced greenhouse gas emissions;
- The loss of energy security through diversification of energy sources;
- The loss of additional electricity generation and supply into the Australian grid;
- Loss of social and economic benefits to Texas and nearby towns in both the Inverell and Goondiwindi LGAs through the provision of direct and indirect employment opportunities locally and regionally during construction and operation
- The continued use of the site for light cattle grazing and a decreasing likelihood that the site can be rested and undergo pasture improvement and increase productivity of the site; and
- The continued access of cattle into Sandy Creek and ongoing impacts of erosion and water quality.

The ‘do nothing’ option may avoid potential environmental impacts associated with the Development. However, it is considered the benefits of the Development would significantly outweigh any potential environmental impacts whilst contributing to ecologically sustainable development.

3.5.2 Site suitability and layout

FRV are continually looking for sites for renewable energy development. Following a Fatal Flaws Analysis in 2022 and consideration of the capacity of the Transgrid’s Dumaresq Substation some 35km’s to the south east, FRV considered the site was preferred for utility scale solar electricity generation due to:

- Proximity to and capacity of connection infrastructure, with a 330kV transmission line running through site
- Good energy yield
- Availability of suitably sized lots
- Site having a predominantly north facing aspect facing
- Ease of access from Bruxner Way for construction logistics; and
- Expectation of low environmental and heritage constraints.

4. Statutory context

The relevant statutory requirements for the proposed development are summarised in Table 2. This table is presented in accordance with Table 1 of the Scoping Report Guidelines and includes the following:

- Power to grant consent
- Permissibility
- Consistent approvals
- Commonwealth approvals
- Approvals not required
- Pre-conditions to exercising the power to grant consent; and
- Mandatory matters for consideration.

A detailed consideration of relevant statutory requirements would be provided in the EIS.

Table 2 Statutory Context

Matter	Legislation and Requirement
Power to grant consent	
Environmental Planning and Assessment Act (EP&A Act)	The EP&A Act regulates environmental planning and development in NSW. Part 4 addresses development assessment and consent. Section 4.36(2) states that: <i>A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.</i>
Planning Systems SEPP	The Planning Systems SEPP identifies SSD. Section 2.6(1) states: (1) <i>Development is declared to be State significant development for the purposes of the Act if:</i> (a) <i>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</i> (b) <i>the development is specified in Schedule 1 or 2.</i> Schedule 1 Section 20 provides the following definition for SSD: <i>Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that—</i> (a) <i>has a capital investment value of more than \$30 million</i> The development is for the purpose of electricity generation and storage and would have a capital investment value of more than \$30 million and accordingly is SSD and requires consent under Part 4 of the EP&A Act. The consent authority would be the Minister for Planning.
Permissibility	
Inverell LEP	The site is zoned RU1 – Primary Production under the LEP. <i>Electricity generating works</i> is not listed under Item 2 or 3 of the Land Use Table and is therefore prohibited development. However, the development is permitted with consent under Section 2.36(1) of the TI SEPP – see below.
Transport & Infrastructure SEPP	Under Section 2.36(1) of the SEPP: (1) <i>Development for the purpose of electricity generating works may be carried out by any person with consent on the following land—</i> (a) <i>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,</i> (b) <i>in any other case—any land in a prescribed non-residential zone.</i>

Matter	Legislation and Requirement
	Section 2.35 identifies <i>RU1 – Primary Production</i> as a prescribed non-residential zone. The site is zoned RU1 – Primary Production and as such, the development is permissible with consent.
Consistent Approvals for SSD that cannot be refused and be substantially consistent with the consent under Section 4.42 of EP&A Act	
<i>Roads Act 1993 (Roads Act)</i>	The Roads Act addresses authorities, functions, and regulations of activities relating to the use and types of roads. Under Section 138(1) of the Roads Act: (1) A person must not— (a) erect a structure or carry out a work in, on or over a public road, or (b) dig up or disturb the surface of a public road, or (c) remove or interfere with a structure, work or tree on a public road, or (d) pump water into a public road from any land adjoining the road, or (e) connect a road (whether public or private) to a classified road, otherwise than with the consent of the appropriate roads authority. Subject to further investigation, it is proposed to upgrade Goat Rock Road from Bruxner Way to the site access to enable access for construction heavy vehicles. This may include an upgrade to the Goat Rock Road/Bruxner Way intersection. Approval under Section 138 of the Roads Act from the relevant authority would be required for these works.
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	The POEO Act regulates pollution control and waste disposal in NSW. Section 48 requires an environment protection licence (EPL) to undertake premise based scheduled activities. Premise based scheduled activities are defined in Schedule 1. Section 17 of Schedule 1 requires an EPL for electricity works generating more than 30 MW of power. Solar farms are excepted from the definition of general electricity works and are not a scheduled activity. BESS's are not identified in the Schedule. Accordingly, an EPL is not required.
Other approvals that may be required	
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	The EPBC Act protects matters of national environmental significance (MNES). Where an action is considered likely to have a significant impact on a MNES, a referral is required to Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). If the action is determined to be a controlled activity under Part 9, DCCEEW approval is required. A Biodiversity Development Assessment Report (BDAR) would be completed to determine presence and likely impact on TECs and threatened or migratory species. Development design would seek to minimise impacts to any identified TECs, and the habitats of threatened or migratory species. A referral to DCCEEW following specialist field surveys may be undertaken to confirm whether the DA requires assessment and approval under this Act.
<i>Crown Land Management Act 2016 (Crown Land Act)</i>	The Crown Land Act provides a legislative framework to manage Crown Land. Under the Act, Crown Land must not be occupied, used, sold, leased, licenced, dedicated, reserved, or dealt with in any other way unless authorised. A desktop review of the Planning Portal Crown Lands dataset on 20 Dec. 2023 identified Crown Land within the Site. Landowner consent from Crown Lands for the DA will be required.
Approvals not required for SSD under Section 4.41 of the EP&A Act	
<i>Fisheries Management Act 1994 (FM Act)</i>	The FM Act aims to conserve, develop and share the fishery resources of the State. A permit under Section 201 and Section 219 of the Act to carry out dredging or reclamation work, or to block passage of fish respectively, is not required.

Matter	Legislation and Requirement
	The development will likely require creek crossings for construction and ongoing maintenance access across the Site. These works would be undertaken in accordance with 'Policy and Guidelines for Fish Habitat Conservation and Management' (DPI, 2013a) and 'Guidelines for watercourse crossings on waterfront land' (DPE, 2022c).
<i>Heritage Act 1977</i> (Heritage Act)	The Heritage Act aims to protect and conserve items of State heritage significance. A desktop review of the NSW State Heritage Inventory did not identify items of State heritage significance within 10 km of the site within NSW.
<i>National Parks and Wildlife Act 1974</i> (NPW Act)	The NPW Act aims to conserve the natural environment and objects, places or features (including biological diversity) of cultural value within the landscape, including Aboriginal heritage. An Aboriginal Cultural Heritage Assessment Report (ACHAR) would be prepared and include consultation with the registered Aboriginal parties. An Aboriginal heritage impact permit under Section 90 of this Act is not required.
<i>Rural Fires Act 1997</i> (RF Act)	The RF Act provides a framework for bushfire prevention, mitigation and suppression. A bush fire assessment would be carried out in accordance with <i>Planning for Bushfire Protection</i> (RFS, 2019). A bush fire safety authority under Section 100B would not be required.
<i>Water Management Act 2000</i> (WM Act)	The WM Act governs the management of water resources in NSW. The objects of the Act are to provide for the sustainable and integrated management of the water sources of the State. The Site is traversed by Sandy Creek and multiple tributaries. Water for construction may be drawn from Sandy Creek, its tributaries and/or the associated agricultural dams located on the Site. Creek crossings would be required for construction and ongoing maintenance access across the Site. These works would be carried out in accordance with relevant DPE guidelines and controls. A water use approval under S.89, a water management work approval under S.90, or an activity approval under Section 91 of this Act would not be required.
Preconditions to exercising the power to grant consent	
<i>Biodiversity Conservation Act 2016</i> (BC Act)	The BC Act is the main legislation that identifies and protects threatened species populations and ecological communities in NSW. Section 7.9 requires a BDAR for SSD. A BDAR would be prepared and submitted with the DA and include consultation with NSW DCCEEW.
<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i> (BC SEPP)	The BC SEPP provides a planning framework for the protection and management of the natural environment in NSW. Chapters 3 and 4 promote the proper conservation and management of areas that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current decline in koala population. LGAs to which the BC SEPP applies are identified in Schedule 2. The Inverell LGA is listed. The BDAR and EIS would address potential impacts on koala habitat.
TI SEPP	Section 2.48 requires written notice to be given of a development located near electrical infrastructure to the electricity supply authority inviting comments about potential safety risks. Site includes an existing 330 kV transmission line. Consultation with Transgrid would be undertaken.

Matter	Legislation and Requirement
Mandatory matters for consideration	
Section 1.3 of the EP&A Act	Objectives of the EP&A Act relevant to the development are: (a) <i>to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,</i> (b) <i>to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,</i> (c) <i>to promote the orderly and economic use and development of land,</i> (e) <i>to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,</i> (f) <i>to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),</i> (g) <i>to promote good design and amenity of the built environment,</i> (j) <i>to provide increased opportunity for community participation in environmental planning and assessment.</i> These objectives would be considered in the EIS.
Section 4.15 of the EP&A Act	A consent authority is required to take into consideration the following relevant matters in determining development application: (a) <i>the provisions of –</i> (i) <i>any environmental planning instrument,</i> (ii) <i>any proposed instrument that is or has been the subject of public consultation under the EP&A Act and that has been notified to the consent authority,</i> (iii) <i>any development control plan</i> (iiia) <i>any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4,</i> (iv) <i>the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,</i> (b) <i>the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,</i> (c) <i>the suitability of the site for the development,</i> (d) <i>any submissions made in accordance with this Act or the regulations,</i> (e) <i>the public interest.</i> Section 4.15 would be addressed in the EIS.
BC Act	Section 7.16 (serious and irreversible impacts on biodiversity) would be considered in the BDAR.
RH SEPP	The RH SEPP provides provisions for the management of coastal zones, hazardous and offensive development and remediation of contaminated land. Under Section 3.7, consideration must be given to hazardous or offensive development circulars or guidelines to determine if a development is: (a) <i>a hazardous storage establishment, hazardous industry or other potentially hazardous industry, or</i> (b) <i>an offensive storage establishment, offensive industry or other potentially offensive industry.</i> The following would be considered in the preparation of the EIS: • Applying Resilience and Hazards SEPP • 'Hazardous industry planning advisory paper (HIPAP) No. 3 – Risk Assessment' (DoP, 2011c) • 'HIPAP No. 6 – Hazard Analysis' (DoP, 2011d) • 'HIPAP No. 12 – Hazards-Related Conditions of Consent' (DoP, 2011e)
Inverell LEP	The EIS would consider the relevant provisions of the LEP .

5. Community engagement

A Community Participation Plan (CPP) was prepared to guide consultation for the scoping report and EIS. The CPP identifies selected engagement methods and communications tools to be applied in accordance with:

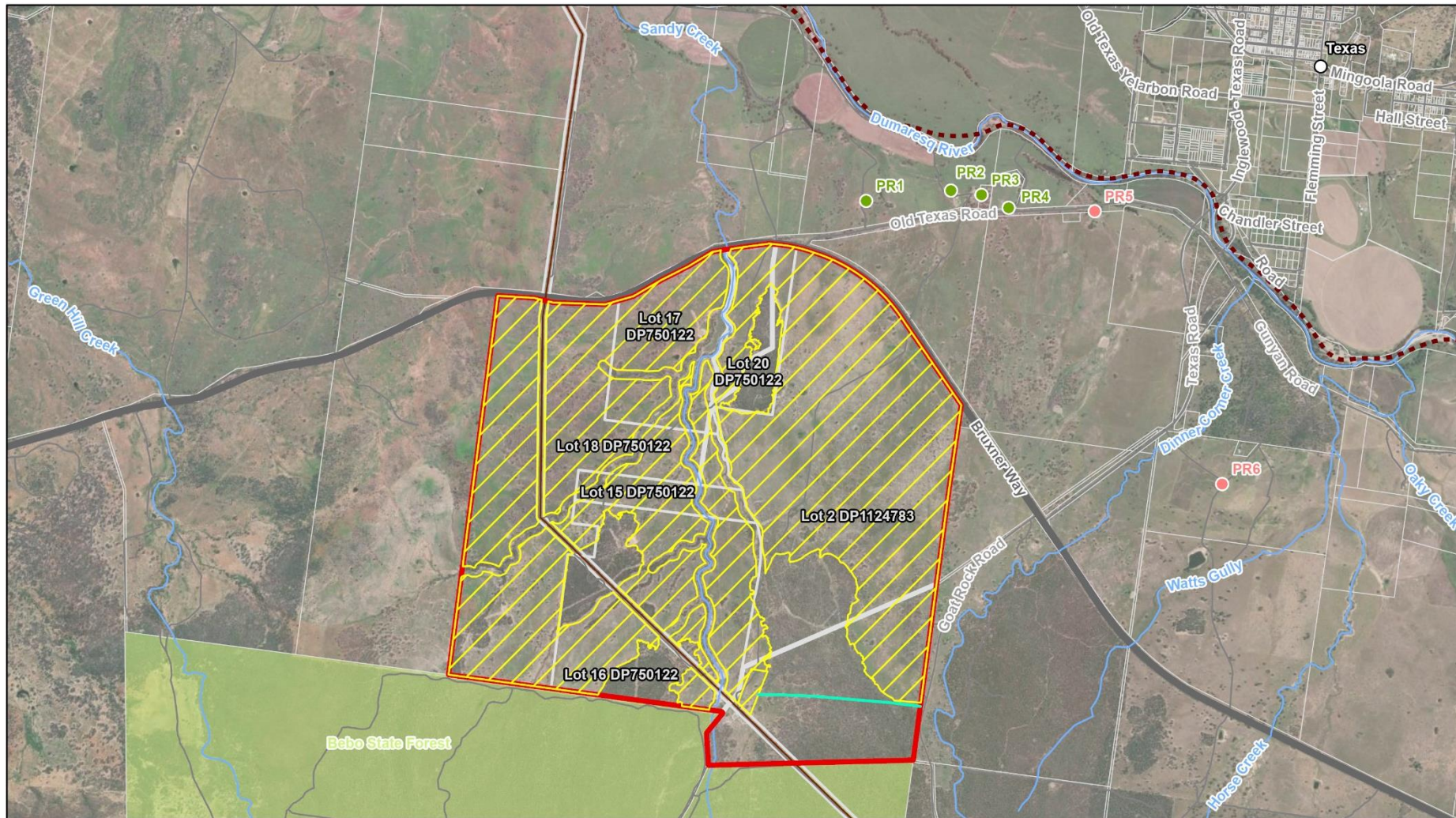
- IAP2 Core Values and Public Participation Spectrum
- Engagement Guidelines (DPE, 2022k)
- SIA Guidelines (DPE, 2023a)
- LSSE Guideline (DPE, 2022g); and
- The CPP provides a framework for the delivery of communication and engagement throughout the site investigation, concept design and EIS preparation process. Implementation of the CPP will adjust as information comes to hand and as circumstances require.

5.1 Engagement undertaken

- Preliminary targeted consultation commenced in November 2023. Adjoining landowners and dwellings within 4km of the site that would be potentially impacted by the development were identified and Inverell Shire Council and Goondiwindi Regional Council were contacted.
- Preliminary receiver identification provided by our visual impact subconsultant for the preliminary visual impact assessment (refer Section 6.6), cross referenced with applicant data, identified potential receivers (dwellings) west and south of the site and suggested many potential receivers north of Dumaresq River in Queensland may have visibility of the site and therefore should be subject to targeted consultation
- Upon visiting the site in mid-December 2023, ground truthing identified the potential receivers west and south of the site are relatively remote from the site due to distance, topography and vegetation and are unlikely to be impacted by development construction or operations. Ground truthing methodology was adjusted to focus on potential receivers within 4km northeast of the site i.e. towards the town of Texas via Texas Road and Old Texas Road
- The relatively flat landscape and intervening trees including riparian vegetation along the banks of the river restrict views to the site from potential receivers north of the Dumaresq River. Accordingly, it was deemed that preliminary consultation with these residents would not be undertaken for the scoping report; and
- Ground truthing methodology was again adjusted to undertake preliminary targeted consultation with potential receivers within approximately 2km of the site on the south side of the Dumaresq River via Texas Road and Old Texas Road (Figure 14).

Letterbox drop of 'sorry we missed you' pamphlets which including an introduction to the development and contact details, was undertaken for potential receivers who did not respond to door knocking.

- The method, timing and details of stakeholders consulted are identified in Table 3.





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POTENTIAL RECEIVERS
Texas Solar Farm and BESS

pitt&sherry

MAP REF: P.23.1318
AUTHOR: NPA
REV: D
DATE: 22/03/2024
DATA SOURCES: Aerial imagery from ESRI,
Data from Spatial Collaboration Portal,
QSpatial, Project Specific Data

Scale: 1:45,000 @A4
Coordinate System: GDA 1994 MGA Zone 56

LEGEND

- Project Site
- Population Centre
- Proposed Access Track
- Watercourse
- Electricity Transmission Line
- Main Road

NSW/QLD Border

Investigation Area

State Forest

Potential Receivers (verified 13.12.23)

- Associated
- Non-associated

Cadastral Boundary

- Associated Lot
- Non-associated Lot

Figure 14 Potential receivers consulted

Table 3 Targeted consultation

Engagement Method	Timing	Stakeholders
Phone call/email	23 November 2023	Manager Development Services - Inverell Council
Phone call	4 December 2023	Potential receivers 5 and 6
Emails	4 December 2023	Potential receivers 5 and 6
Phone call	12 December 2023	Potential receiver 6
Emails	12 December 2023	Potential receiver 5
Doorknocking and 'Sorry we missed you' letter	13 December 2023	Potential Receivers within 2 km along Old Texas Road and Texas Road (PR1 to PR6)
Face-to-face meetings	13 December 2023 14 December 2023	Potential receivers 5 and 6 Manager Development Services - Inverell Council
Teleconference meeting	1 st February 2024	Goondiwindi Regional Council

5.2 Engagement outcomes

Feedback provided by the stakeholders was generally in support of the development having economic and social benefits. A summary of matters raised by key stakeholder groups are provided in Table 4.

Table 4 Summary of engagement

Inverell Shire Council	Traffic and impacts on Council's road infrastructure;
	Waste Management and decommissioning
	Accommodating the Construction workforce (where and how);
	Border Region of Councils (Inverell and Goondiwindi Councils members) may be a body to consult
Goondiwindi Regional Council	Accommodation an issue, very limited accommodation locally
	Workforce/services/supplies
	Concern about loss of local workforce
	Some tradies available locally and could do with extra work
	Benefits from demand for goods and services, e.g. hotel, supermarket, etc
	Community infrastructure
	No landfill locally, closest is Inglewood. Suggest use contractors to transfer waste to Inglewood – they are not averse to receiving waste
	Cross border transport of wastes between NSW and Qld may pose some issues
	Community benefits
	Council would love to see some community benefit flow from the project

	Examples are improved telecommunications (e.g tower), improved power supply (they get regular blackouts, end of line from NSW, no redundancy), cheaper power
	Legacy infrastructure (e.g accommodation) could stay to support community
	Council can provide a list of ideas
	Disaster management.
	Texas floods, though Site is probably high enough being south of the Bruxner Way. Texas can get cut off from the site
	In case of a flood or other disaster, Qld services likely to be first responders. Speak to State Govt Agencies, e.g Ambulance, RFS, SES, Health
	Viewpoints, special places
	Goat Rock near the site
	Site not visible from much of Texas due vegetation screening
	Community / stakeholder engagement
	Full Council meeting in Texas once a year (August ?). Suggest FRV present
	Would value a community engagement session, so locals get firsthand information
	Local Agriculture
	Is mainly grazing of cattle with some irrigated farming on river flats, fodder crops, some horticulture (fruit, nuts)
	Mainly family owner/operator farms
	Material supplies
	Some availability of material like crushed granite, river gravels, but mainly small operations
	This could be an opportunity to leave a legacy for community (e.g quarry development)
	Border issues/co-operation
	Have recently signed a MOU with Inverell to work on some projects
	Border Regional Organisation of Councils meets several times a year ?
Nearby residents	Questions raised revolved around similar concerns including:
	Community benefit
	Opportunities for community grants
	Opportunities for public space improvements
	Workforce accommodation

	• Lack of accommodation near the Site
	• Construction personnel competing with tourists for accommodation in Texas, QLD
	• Land use
	• Lack of waste management facilities within close proximity to the Site
	• Insufficient capacity to take construction waste at Inverell Waste Depot
	• Increased kangaroo presence on adjacent land due to proposed site security fencing.

These matters would be considered in implementation of the CPP and preparation of the EIS.

5.3 Engagement proposed

During the preparation of the EIS, FRV will continue to consult with relevant local and state agencies, infrastructure and service providers, community groups, Traditional Owners, neighbours and affected landowners.

FRV seeks to generate community participation to inform and consult with identified stakeholders and the wider community with an interest in and/or ability to shape the development. Overall, FRV wishes to gain community acceptance for the development and earn trust as they pursue sustainable social and economic performance during its operating life.

This approach to community participation fits with FRV's broader corporate values. FRV is committed to the local communities in which they operate in, working hard to engage and involve local communities in projects. This begins at the pre-planning stage through public consultation as they work to resolve any potential impact or issues on the local community, inviting the community to share views on suitable local projects/initiatives for a community benefit fund.

Aboriginal stakeholders will be identified and consulted with during the preparation of the EIS in accordance with the 'Aboriginal Cultural Heritage Consultation Requirements for Proponents' (DECCW, 2010a).

Consultation during the development of the EIS will aim to:

- Proactively engage with community and stakeholders using clear and consistent key messages
- Continue to collaborate with key stakeholders to identify potential concerns, impacts, opportunities, and benefits
- Communicate progress including key outcomes of assessments; and
- Enable input from stakeholders into the preparation of the EIS, including investigation of opportunities for community benefit sharing.

6. Proposed assessment of environmental impacts

A preliminary environmental assessment was undertaken to identify matters requiring assessment in the EIS and the level of assessment proposed. In accordance with the Scoping Report Guidelines (DPE, 2022i), the following factors were considered in determining the level of assessment proposed:

- The scale and nature of the likely impacts of the development and the sensitivity of the receiving environment
- Whether the development is likely to generate cumulative impacts with other relevant future projects in the area; and
- The ability to avoid, minimise and/or offset likely development impacts, to the extent known at the scoping stage.

The matters were categorised in accordance with Appendices A and D of the Scoping Report Guidelines (DPE, 2022i).

A scoping table for each matter is included in Appendix A. A summary of the key environmental matters identified, and the level of assessment proposed is presented in Table 5.

Table 5 Level of assessment to be undertaken for the EIS

Level of Assessment	Assessment Matter	Section
Detailed	Aboriginal Heritage	6.1
	Biodiversity	6.2
	Hazards and Risks	6.3
	Hydrology and Flooding	6.4
	Land, Soil Quality, and Agriculture	6.5
	Landscape and Visual Amenity	6.6
	Social	6.7
	Traffic, Transport, and Access	6.8
	Cumulative Impacts	6.14
Standard	Noise and Vibration	6.9
	Air Quality	6.10
	Waste	6.11
No Further Assessment	Conservation Areas, Historic Heritage, and Natural Heritage	6.12
	Airport Facilities	6.13
	Port Facilities and Coastal Hazards	6.15
	Design Quality, Accessibility and Odour	6.14

6.1 Aboriginal heritage

6.1.1 Existing environment

The Site is located in Kamilaroi country. The site has been used for agriculture and is currently used for cropping and cattle grazing. Sandy Creek traverses the Site, flowing south to north, with 15 tributaries. Four dams are located in the western part of the Site.

A desktop assessment of the AHIMS database was conducted on 19 December 2023 to identify known Aboriginal sites and/or places within a search area combining Lot 2 DP1124783 with a 1 km buffer and Lot 18 DP750122 with a 1 km buffer, encompassing the entirety of the Site. The assessment identified two Aboriginal sites within the Site, one within or on the northern boundary of Lot 18 DP 750122 and another within or on the southwestern boundary of Lot 2 DP1124783. The sensitivity of these sites is unknown and therefore have not been placed on a map.

6.1.2 Potential impacts

Ground disturbing activities required for development construction and decommissioning have the potential to disturb Aboriginal sites or places. The two Aboriginal heritage sites suggest the likely presence of other sites on the site.

Predictive models indicate that greater Aboriginal archaeological potential tends to exist on landforms within 200 m of permanent and ephemeral water sources, along access or trade routes, and areas with suitable flora, fauna, and shelter. However, Aboriginal archaeological potential is generally reduced on landforms disturbed by erosion and historical impacts.

Although the historic agricultural land use of the Site reduces Aboriginal archaeological potential, there is still potential for unknown Aboriginal sites or places to be present, especially in proximity to the existing drainage lines and riparian vegetation. As such, a detailed assessment for Aboriginal heritage would be considered for the EIS.

6.1.3 Assessment approach

A suitably qualified specialist would prepare an ACHAR to assess Aboriginal archaeological potential and characteristics of the Site. The ACHAR would be undertaken in accordance with:

- 'Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales' (DECCW, 2010b)
- 'Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales' (OEH, 2011); and
- 'Aboriginal cultural heritage consultation requirements for proponents' (DECCW, 2010a).

The ACHAR would include mitigation measures to avoid or minimise impacts to any identified Aboriginal sites or places.

6.2 Biodiversity

6.2.1 Existing environment

The Site consists of open grassland cleared for agricultural production, riparian vegetation associated with Sandy Creek and its tributaries, scattered trees and large patches of forest.

Native Flora and Fauna

Desktop assessments of the following databases were undertaken on 17 January 2024 to identify known biodiversity constraints within the Site:

- Inverell LEP
- NSW BioNet
- DCCEEW PMST
- Fisheries NSW Spatial Data Portal (Fisheries Portal); and
- NSW DCCEEW State Vegetation Type Map (SVTM) data.

The Inverell LEP does not include a biodiversity clause and hence there is no biodiversity mapping.

The BioNet assessment searched an area of 10 km x 10 km around the Site for existing records (observations) of protected species listed under the BC Act within the last decade. The assessment identified 103 sightings of 61 species protected under the BC Act. None of the identified species were listed in the EPBC Act. Table 6 summarises the types of species identified and Appendix B includes the full list of sightings.

Table 6 BioNet results

Class	Species	Sightings	BC Act Status
Amphibian	3	11	P
Birds	49	97	V, P, 3
Mammals	4	4	V, P
Reptiles	3	3	E1, P
Flora	2	2	P, 2

BC Act Status: 2 = Category 2 sensitive species; 3 = Category 3 sensitive species; E1 = Endangered; P = Protected; V = Vulnerable

A search of DCCEE Protected Matter Search Tool (PMST) was undertaken on 19 December 2023. The site does not contain nor is it in proximity to World Heritage Properties, National Heritage Places, Wetlands of International Importance, Commonwealth marine area or Great Barrier Reef Marine Park.

Results indicate six Threatened Ecological Communities (TECs), 39 listed threatened species, and 11 migratory species could occur within a 5 km buffer of the Site (Appendix C).

The PMST assessed the Site with a 5 km buffer for MNES. A summary of the findings is included in Table 7. The complete PMST report is attached as Appendix C.

Table 7 PMST results

MNES	Records
World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance (RAMSAR)	3
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	6
Listed Threatened Species	42
Listed Migratory Species	11

Three TECs, summarised in Table 8, were identified as likely to occur within the search area.

Table 8 Threatened ecological communities within 5km of the site

TEC Name	EPBC Act Status	Likelihood of Occurrence
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	CE	Likely
Poplar Box Grassy Woodland on Alluvial Plains	E	Likely
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	Likely

EPBC Act Status: E = Endangered; CE = Critically Endangered

A total of 42 fauna threatened species and 11 migratory species were identified within the search area. Of these, seven threatened species and two migratory species are known to occur while 19 threatened species and two migratory species are likely to occur. Table 9 summarises the types of threatened species identified.

Table 9 Threatened and migratory species

Type	May Occur	Likely to Occur	Known to Occur	TOTAL
Threatened				
Bird	5	8	4	17
Fish	-	1	1	2
Mammal	2	2	2	6
Plant	7	5	-	12
Reptile	4	3	-	7
Migratory				
Bird	5	2	2	9
TOTAL	23	21	9	53

The Fisheries Portal did not identify Sandy Creek as a Key Fish Habitat (KFH) within the northern basin of the Murray-Darling Basin.

The SVTM data showed nine plant community types (PCT) within the Site. Of the PCTs identified, five are associated with the 'White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland' TEC identified in the PMST search. Table 10 summarises the PCTs and Figure 15 shows the location of the PCTs within the Site.

Table 10 PCTs within the Site

PCT ID	Name	Associated TEC	BC Act Status	EPBC Act Status
281	Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	CE
368	Smooth-barked Apple - cypress pine - Long-fruited Bloodwood - Dirty Gum shrubby open forest / woodland on sandstone hills in the Warialda to Bonshaw region, Brigalow Belt South Bioregion and Nandewar Bioregion	None	N/A	N/A

PCT ID	Name	Associated TEC	BC Act Status	EPBC Act Status
373	Narrow-leaved Ironbark - White Cypress Pine +/- Buloke tall open forest or woodland of the Warialda to Yetman region, Brigalow Belt South Bioregion	None	N/A	N/A
516	Grey Box grassy woodland or open forest of the Nandewar Bioregion and New England Tableland Bioregion	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	CE
544	Rough-barked Apple - White Cypress Pine - Blakely's Red Gum riparian open forest / woodland of the Nandewar Bioregion and New England Tableland Bioregion	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	CE
589	White Box - White Cypress Pine - Silver-leaved Ironbark grassy woodland on mainly clay loam soils on hills mainly in the Nandewar Bioregion	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	CE
593	Silver-leaved Ironbark - White Cypress Pine grassy woodland mainly in the northern Nandewar Bioregion	None	N/A	N/A
595	Silver-leaved Ironbark - White Cypress Pine - tea tree shrubby woodland mainly in the northern Nandewar Bioregion	None	N/A	N/A
599	Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	CE

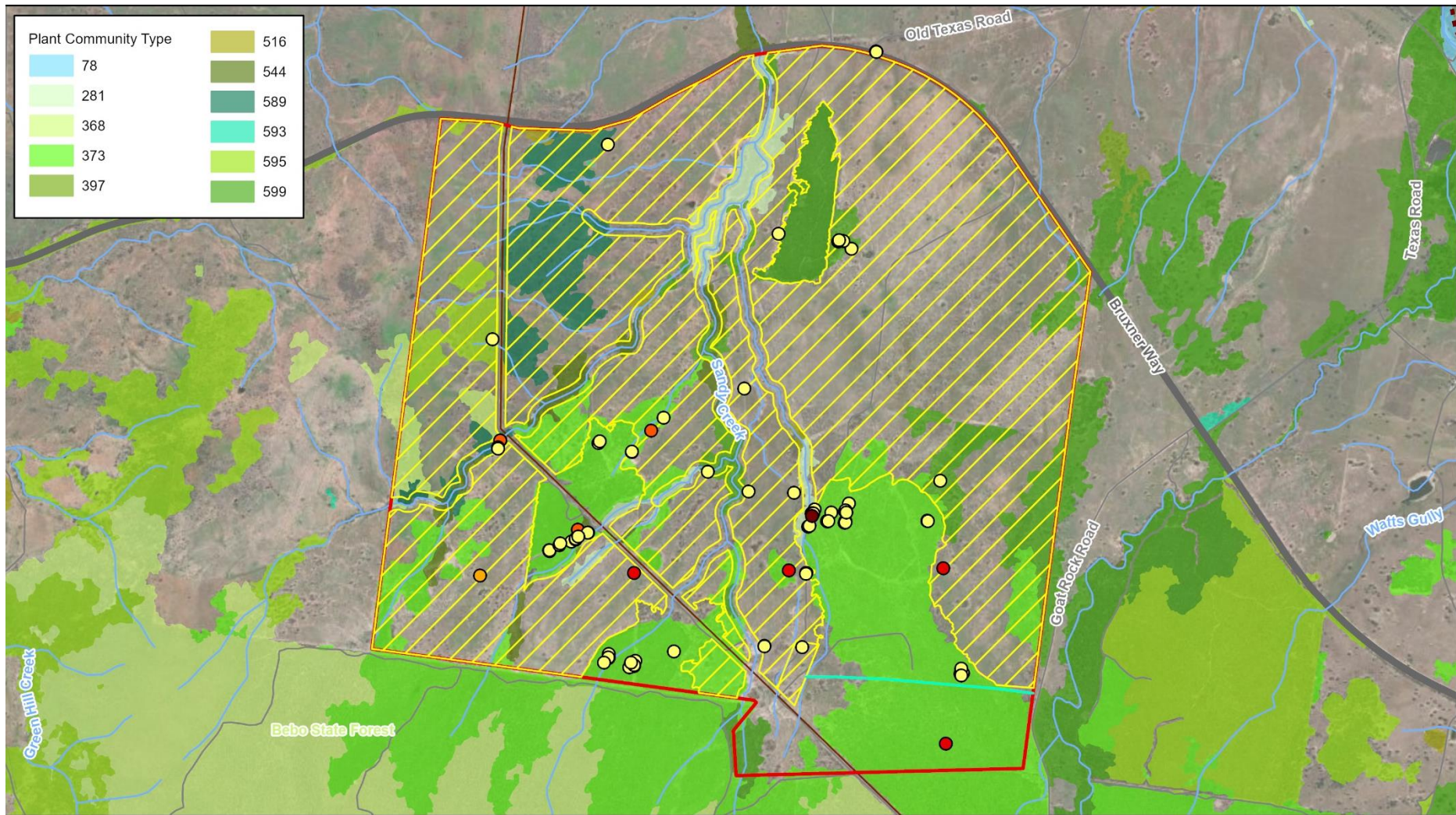
Groundwater Dependent Ecosystems

Groundwater dependent ecosystems (GDE) are ecosystems that need access to groundwater to meet all or some of their water requirements to maintain their communities of plants and animals, ecological processes and ecosystem services. The dependence of GDE on groundwater varies from seasonal or episodic, to continual.

A desktop assessment of the Bureau of Meteorology (BOM) GDE Atlas and the NSW DCCEE High Ecological Value Aquatic Ecosystem (HEVAE) spatial data was completed on 18 January 2024.

The BOM GDE Atlas did not identify aquatic GDE within the Site. Subterranean GDE data was not available for the Site and surrounds. However, areas of high, moderate and low potential terrestrial GDE covered most the Site and largely corresponded with the identified PCTs.

The HEVAE data differed from the BOM GDE Atlas data. Areas of high and medium potential GDE were limited along the riparian vegetation associated with Sandy Creek as well as some areas towards the east (Figure 15).





The future happens here

BIODIVERSITY
Texas Solar Farm and BESS

pitt&sherry

MAP REF: P.23.1318
AUTHOR: NPA
REV: C
DATE: 22/03/2024
DATA SOURCES: Aerial imagery from ESRI,
Data from Spatial Collaboration Portal,
Project Specific Data

N
0 0.5 1
Kilometres
Scale: 1:32,000 @A4
Coordinate System: GDA 1994 MGA Zone 56

LEGEND

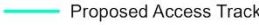
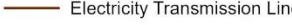
- | | | |
|--|---|---|
|  Site |  NSW/QLD Border |  V, P, 3 |
|  Proposed Access Track |  Investigation Area |  V, P |
|  Watercourse |  BioNet Species Sighting |  P, 2 |
|  Electricity Transmission Line |  NSWStatus |  P |
|  Major Road |  E1, P | |

Figure 15 PCTs and GDEs within the Site

6.2.2 Potential impacts

Subject to BDAR investigations, the concept layout would be designed based on the avoid, minimise and offset hierarchy under the biodiversity offset scheme.

New construction and/or upgrades to existing crossings over Sandy Creek would be required for construction and maintenance access. Although, mitigation measures to avoid or minimise impacts to the watercourse and drainage lines during construction would be implemented, reducing potential impacts downstream, construction activity in and around the watercourse could lead to water quality impacts.

The development has the potential to impact threatened species populations and disrupt local ecosystems. Hence, a detailed assessment would be required for the EIS to determine the extent of biodiversity impacts.

6.2.3 Assessment approach

A BDAR would be prepared by a suitably qualified specialist to complete a detailed assessment of potential biodiversity impacts from the construction and operation of the development. The BDAR would be undertaken in accordance with the Biodiversity Assessment Method (BAM) (DPIE, 2020a). The BDAR would inform the concept layout and include mitigation measures to avoid or minimise potential impacts to biodiversity.

6.3 Hazards and risks

6.3.1 Bush Fire

The NSW Bush Fire Prone Land map was reviewed on 19 December 2023. Vegetation category 1, vegetation category 3 and vegetation buffer zone bush fire prone land occur on the Site. Concept design and bush fire risk would be assessed under Planning for Bushfire Protection (NSW Rural Fire Service, 2019).

6.3.2 Biosecurity

Weeds, pests, diseases, contaminants, and other biosecurity matter are regulated under the *Biosecurity Act 2015* (Biosecurity Act) which aims to manage biosecurity risks to primary production industries, threats to the environment and human health. Under the Biosecurity Act, everyone has a general biosecurity duty.

A desktop assessment of NSW WeedWise was undertaken on 21 December 2023 to identify known priority weeds relevant to the Site within the Northern Tablelands region. The assessment identified a total of 96 weeds (Table 11).

Table 11 Priority weeds for the Northern Tablelands

Duty	Number of Weeds
Prohibited Matter	31
Biosecurity Zone	3
Prohibition on Certain Dealings	52
Regional Recommended Measure	18
Control Order	4

Note: Some weeds fall into more than one Duty

The Site and surrounds are primarily used for agriculture. Biosecurity outbreaks in primary production areas pose a significant risk to the agricultural industry and national food security.

General construction activity and the transportation of materials can pose a biosecurity risk as weeds, pests and contaminants can be dispersed through plant, equipment, and vehicle movement. However, risks can be effectively managed through standard plant, equipment, and vehicle cleaning protocols during construction.

A detailed assessment of weeds and biosecurity would be undertaken as part of the BDAR.

6.3.3 Hazardous materials and dangerous goods

The development would require the transportation, use, or storage of potentially hazardous materials which present potential risk to the environment and the safety of the public.

Table 12 lists the hazardous materials which may be transported, stored, or used with relevant classifications under the 'Australian Code for the Transport of Dangerous Goods by Road and Rail' (ADG Code) (NTC, 2022).

Table 12 Potential hazardous materials used by the Project

Material	Dangerous Goods Class
Lithium ion batteries	Class 9
Transformer oil	Combustible liquid C1 (AS1940)
Diesel fuel	Class 3
Aerosols	Class 2
Solvents	Class 3

A PHA would be prepared by a suitably qualified specialist to assess potential hazardous risks. The PHA would be completed in accordance with the following, and incorporated into the EIS:

- Applying Resilience and Hazards SEPP
- HIPAP No. 3 – Risk Assessment (DoP, 2011c)
- HIPAP No. 6 – Hazard Analysis (DoP, 2011d); and
- HIPAP No. 12 – Hazards-Related Conditions of Consent (DoP, 2011e).

6.3.4 Electromagnetic fields

Electromagnetic fields (EMF) are the group term for electric fields and magnetic fields. Electric fields are created by differences in voltage – the higher the voltage, the stronger the resultant field. Magnetic fields are created when electric current flows – the greater the current, the stronger the magnetic field. Although contested, EMF may cause adverse effects on human health.

EMF are present on the Site from the existing 330 kV overhead transmission line. The development would produce EMF when operational. On-site personnel during development construction and operation would be exposed to EMF radiation.

A standard assessment of EMF would be undertaken including potential electric, magnetic, and electro-magnetic field risks against the following International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines:

- 'ICNIRP Guidelines for Limiting Exposure to Time-varying Electric and Magnetic Fields (1 Hz to 100 kHz)' (ICNIRP, 2010); and
- 'ICNIRP Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz)' (ICNIRP, 2020).

6.4 Hydrology and flooding

6.4.1 Existing environment

The Site gently slopes towards the north east. Elevation within the Site ranges about 50 m from approximately 340 m above sea level in the west to approximately 290 m in the east near Bruxner Way.

Sandy Creek is a nonperennial, Strahler stream order 3 watercourse. Joining the Dumaresq River in the north, Sandy Creek forms part of the Border Rivers catchment of the Murray-Darling Basin. The western half of the Site includes 15 unnamed, nonperennial tributaries and four associated dams of Sandy Creek. Sandy Creek and some of its tributaries have associated riparian vegetation.

Flooding

Desktop assessments of the following online databases were undertaken on 21 December 2023 to identify flood information relevant to the Site:

- Australian Flood Risk Information Portal; and
- NSW Flood Data Portal.

No existing flood studies were identified for Texas, NSW. However, the desktop search did identify a flood study for Texas, QLD. The 'Flood Hazard Mapping – Texas' (SKM, 2013) was developed under the QLD Flood Mapping Program overseen by the QLD Reconstruction Authority. The Program involved collecting historical flood information and undertaking flood investigations and flood hazard mapping for up to 100 "at risk" towns in QLD. Texas, QLD was identified as an at risk town due to its proximity to the Dumaresq River and the major flooding event of 2011.

The study modelled 2%, 1% and 0.2% annual exceedance probability (AEP) events. No AEP event reached the Site.

6.4.2 Potential impacts

Water Quality

Water quality is most often impacted by rainfall, runoff and erosion leading to sediments and pollutants entering the water network. Sediments and pollutants can also enter the water network through ground disturbance from construction activities. Impacts to water quality can directly affect the aquatic environment and GDE. Areas within the Site at highest risk of water quality impacts are around the existing watercourses.

Nonperennial watercourses are present within the Site. The investigation area mostly avoids Level 3 or 4 watercourses. Where unavoidable, such as for the construction of the creek crossings, water quality impacts can be managed through the implementation of erosion and sediment controls (ESC). During operation, solar farms and BESS developments are considered to present a low water pollution risk, being made of relatively inert materials that are not known for emitting pollutants. The Site would also be rehabilitated post decommissioning with groundcover restored, minimising further erosion and sediment risks.

Flooding

Flooding can pose a safety risk to on-site personnel and a hazard for electrical infrastructure. If not managed appropriately to minimise impacts, flooding can cause impacts to the environment through erosion and runoff and increase flooding of property offsite.

Modelled AEP levels from the 'Flood Hazard Mapping – Texas' (SKM, 2013) did not reach the Site. Based on the topography of the land and the existing watercourses, the Site may be subject to localised flooding during major rain events. It is proposed that a standard assessment be undertaken for the EIS.

Water Availability

Water would be required during construction and, to a much lesser extent, during operations. The Site does not have access to a reticulated town water supply and has a limited number of small farm dams. It is likely water needs would be met by tankering water to the Site. Proposals to extract from local groundwater or surface water sources would need to be in accordance with requirements of the WM Act.

6.4.3 Assessment approach

A suitably qualified specialist would undertake a Hydraulic Assessment to assess potential surface water and groundwater impacts. The assessment would assess flood risk and impacts to water quality within the Site, Sandy Creek and downstream.

Factors to assess would include drainage patterns and watercourse protection, ESC, water quality, flooding, groundwater levels, and water availability and demand. A qualitative assessment of water quality is considered adequate given the low water quality risks presented by the development. Quantitative water quality modelling is not proposed.

The Hydraulic Assessment would identify appropriate buffers and site specific mitigation measures to minimise impacts to the drainage lines and dams.

6.5 Land, soil quality and agriculture

6.5.1 Existing environment

The Site is within the NSW South Western Slopes biogeographical region, with characteristics described as “a large area of foothills and ranges comprising the western fall of the Great Dividing Range and comprised of a wide variety of rock and soil types across the region”. The area has also been classified in terms of a ‘visual landscape region’, as having:

- Landscape characteristics comprised of elevated, undulating granitic slopes
- Undulating black soil slopes with crops, pasture grasses and scattered timber
- Higher, forested slopes and ridges; and
- Hilly lands with native grasses and scattered trees.

In proximity to the Site, distinctive natural landscape features include:

- Extensive, undulating, cleared paddocks;
- Scattered trees within open pastures;
- Intermittent dense stands of tall trees (particularly on steeper slopes, along creek lines and road reserves); and
- Distant vegetated ridgelines.

The Site is gently undulating, with the elevation varying from 360 m AHD down to 280m AHD.

The soil quality on site is likely to be lower than the soils on the Dumaresq flood plain north of Bruxner Way. Accordingly, use of the site for agricultural activities is less intense than on the floodplain as reflected in the relatively low density grazing.

Desktop assessments of the following EPA databases were undertaken on 20 December 2023 to understand known soil contamination risks:

- Contaminated land record of notices
- List of notified sites.

Desktop assessments of the DPHI eSPADE v2.2 and NSW SEED database were undertaken on 22 December 2023. The following land and soil properties were assessed:

- Australian Soil Classification (ASC)
- Soil landscapes
- Land and soil capability (LSC)
- BSAL; and
- Acid sulfate soils (ASS).

Contamination

Contaminated land presents a risk to human health and the environment and, in terms of land use, is primarily regulated under the *Contaminated Land Management Act 1997* (CLM Act).

No record of notice or list of notified sites were identified within or in close proximity to the Site. However, based on historic agricultural land use of the Site, elevated levels of agricultural chemicals may be present in the soil.

Australian Soil Classification (ASC)

The soil at the Site is classified as Sodosols under the ASC. Sodosols are texture contrast soils high in sodium concentration and an abrupt increase in clay, which may lead to soil dispersion and instability. Sodosols are prone to tunnel and gully erosion due to dispersive subsoils (ASRIS, 2012).

Soil Landscape

No soil landscape data was available for the Inverell LGA or Texas, NSW region.

Land Soil Capability (LSC)

LSC refers to the inherent physical capacity of the land to sustain a range of land uses and management practices in the long term without degradation to soil, land, air, and water resources. Land and soil hazards including water erosion, wind erosion, soil structure decline, soil acidification, salinity, waterlogging, shallow soils, and mass movement are assessed and the LSC class of the land is based on the most limiting hazard (OEH, 2012). Table 13 identifies the LSC class definitions.

Table 13 LSC class definitions

Class	General Definition
Land capable of a wide variety of land uses (cropping, grazing, horticulture, forestry, nature conservation)	
1	<u>Extremely high capability land</u> : Land has no limitations. No special land management practices required. Land capable of all rural land uses and land management practices.
2	<u>Very high capability land</u> : Land has slight limitations. These can be managed by readily available, easily implemented management practices. Land is capable of most land uses and land management practices, including intensive cropping with cultivation.
3	<u>High capability land</u> : Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation.
Land capable of a variety of land uses (cropping with restricted cultivation, pasture cropping, grazing, some horticulture, forestry, nature conservation)	
4	<u>Moderate capability land</u> : Land has moderate to high limitations for high impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high intensity grazing and horticulture.

Class	General Definition
	These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.
5	<u>Moderate to low capability land</u> : Land has high limitations for high impact land uses. Will largely restrict land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation.
Land capable for a limited set of land uses (grazing, forestry and nature conservation, some horticulture)	
6	<u>Low capability land</u> : Land has very high limitations for high impact land uses. Land use restricted to low impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation
Land generally incapable of agricultural land use (selective forestry and nature conservation)	
7	<u>Very low capability land</u> : Land has severe limitations that restrict most land uses and generally cannot be overcome. On-site and off-site impacts of land management practices can be extremely severe if limitations not managed. There should be minimal disturbance of native vegetation.
8	<u>Extremely low capability land</u> : Limitations are so severe that the land is incapable of sustaining any land use apart from nature conservation. There should be no disturbance of native vegetation.

The Site is mapped LSC Class 5 – moderate to low capability land. An inspection of the site would confirm this classification.

Biophysical Strategic Agricultural Land

BSAL is land with high quality soil and water resources capable of sustaining high levels of productivity identified under *SEPP Resources and Energy 2021*. Although the SEPP is not applicable to renewable energy development, the BSAL map is a good indicator of high quality agricultural land. The desktop assessment did not identify BSAL within the Site or on the nearby floodplains of the Dumaresq River.

Acid Sulfate Soils

The desktop assessment did not identify acid sulfate soils within the Site or surrounds.

6.5.2 Potential impacts

Potential impacts to land and soils are expected to occur mainly during development construction and decommissioning. Once in operation, there is opportunity for productive agriculture to continue that is compatible with a solar farm and BESS renewable energy development and the LSC class of the Site, such as sheep grazing.

Potential soil and land impacts that could occur during construction include:

- Soil disturbance during groundcover clearing and civil works and potential soil erosion
- Dust generation due to wind activity and vehicle movements over exposed soil
- Compaction of exposed soils, leading to increased erosion and runoff and poor vegetation condition
- Soil structure decline caused by topsoil removal and compaction by machinery
- Poor storm water quality due to erosion and increased sediment loads, causing turbid stormwater runoff and impacts on receiving waters
- Potential disturbance of historical land contamination; and
- Contamination of soil due to spillage of hazardous chemicals such as fuels, oils etc.

Maintenance of established vegetation groundcover and application of site specific ESC measures, have the ability to substantially reduce risks of erosion and sedimentation. ESC proposed for the Site would take into account the instability and high erodibility of Sodosols. Rehabilitation of the Site with groundcover in areas disturbed by construction would further reduce the erosion hazard in disturbed areas.

Impacts to agricultural land resulting from the development would need to be recognised as part of broader environmental studies, particularly in relation to cumulative impacts, which may arise if multiple projects are approved in the greater area. Additionally, potential impacts to surrounding agricultural operations during construction and operation would be considered during EIS development. Potential cumulative impacts are detailed in Section 6.14.

6.5.3 Assessment approach

A standard assessment of potential impacts to land, soil and agriculture would be undertaken and would include the following:

- Confirmation of soil type using the ASC system (Isbell, 2021), through visual, physical and laboratory analysis
- Verification of LSC class through laboratory analysis
- Erosion hazard would be assessed using the Revised Universal Soil Loss Equation and relevant controls identified to manage erosion and sedimentation; and
- Agricultural impact assessment in accordance with the LSSE Guidelines.

Appropriate mitigation measures to minimise land, soil quality and agriculture impacts would be developed based on the results of the detailed assessment and incorporated into the EIS.

6.6 Landscape and Visual Amenity

A Preliminary Landscape and Visual Impact Assessment (LVIA) has been undertaken by Envisage to inform the Scoping Report in accordance with the LSSE Guideline (DPE, 2022g) and the LVIA Technical Supplement (DPE, 2022j). The purpose of the Preliminary LVIA was to identify viewpoints that could be visually impacted by the development and determine which viewpoints would require a detailed assessment as part of the EIS.

The Preliminary LVIA is summarised below and attached as Appendix D.

6.6.1 Existing environment

The existing environment is described in Section 6.5.1.

6.6.2 Preliminary assessment

In accordance with the Technical Supplement, receivers within 4 km of the site (e.g. residents and public facilities) and possible public viewpoints from roads or rail within a 2.5 km viewshed, must be identified.

To identify viewpoints, a viewshed of the Site was developed to identify receivers with theoretical line-of-sight to the site. The viewshed presents a worst case scenario for visual impacts as it was produced based only on 'bare earth' terrain and does not account for intervening elements such as vegetation or buildings which could obstruct views.

The following public viewpoints were identified within 2.5 km of the site:

- 9.5 km length of the Bruxner Highway
- Old Texas Road, Texas Road and Goat Rock Road; and
- Possible view points within Bebo State Forest.

Within 4 km of the site, 36 residential receivers were identified of which 8 were located in NSW and 28 located in Goondiwindi LGA in Queensland (Figure 16). Four of the receivers in NSW are associated with the site and are not considered for further assessment.

- Figure 16 also shows the viewshed and viewpoints developed based on an approximate height of 5.5m for the solar from the Site boundary.

The Preliminary Assessment Tool (PAT) was applied to these potential viewpoints. The PAT is based on the vertical and horizontal field of view of the site when viewed from each viewpoint, and is influenced by the distance, height, change in elevation and width of the site.

The results of the PAT are summarised in Table 1 of Appendix D. Private receivers that require further assessment in the preparation of the EIS are listed in Table 14.

Table 14 Potentially impacted receivers determined using the PAT

Receiver	Distance to Site (m)	Height of Viewpoint	Relative Height Difference (m)	Vertical Field of View (°)	Horizontal field of view (°)
PR5	1944	281.2	87.5	2	66
RR6	2387	289.2	87.5	2	72

Note: Viewpoints along roads not represented in Table

6.6.3 Assessment approach

A landscape visual impact assessment would be prepared by Envisage in accordance with the LVIA Technical Supplement to provide a detailed assessment of the visual impacts on the 2 private viewpoints and public viewpoints identified in the Preliminary LVIA. The LVIA would be incorporated into the EIS.

Subject to revisions to the concept layout as the impact assessment process continues, some of the results of the Preliminary LVIA may change during detailed assessment. Any change to the relative location, number, and sensitivity of receivers would be reviewed and updated as part of the LVIA.

A glint and glare assessment will be completed in accordance with the requirements of Appendix C of the LSSE Guideline.

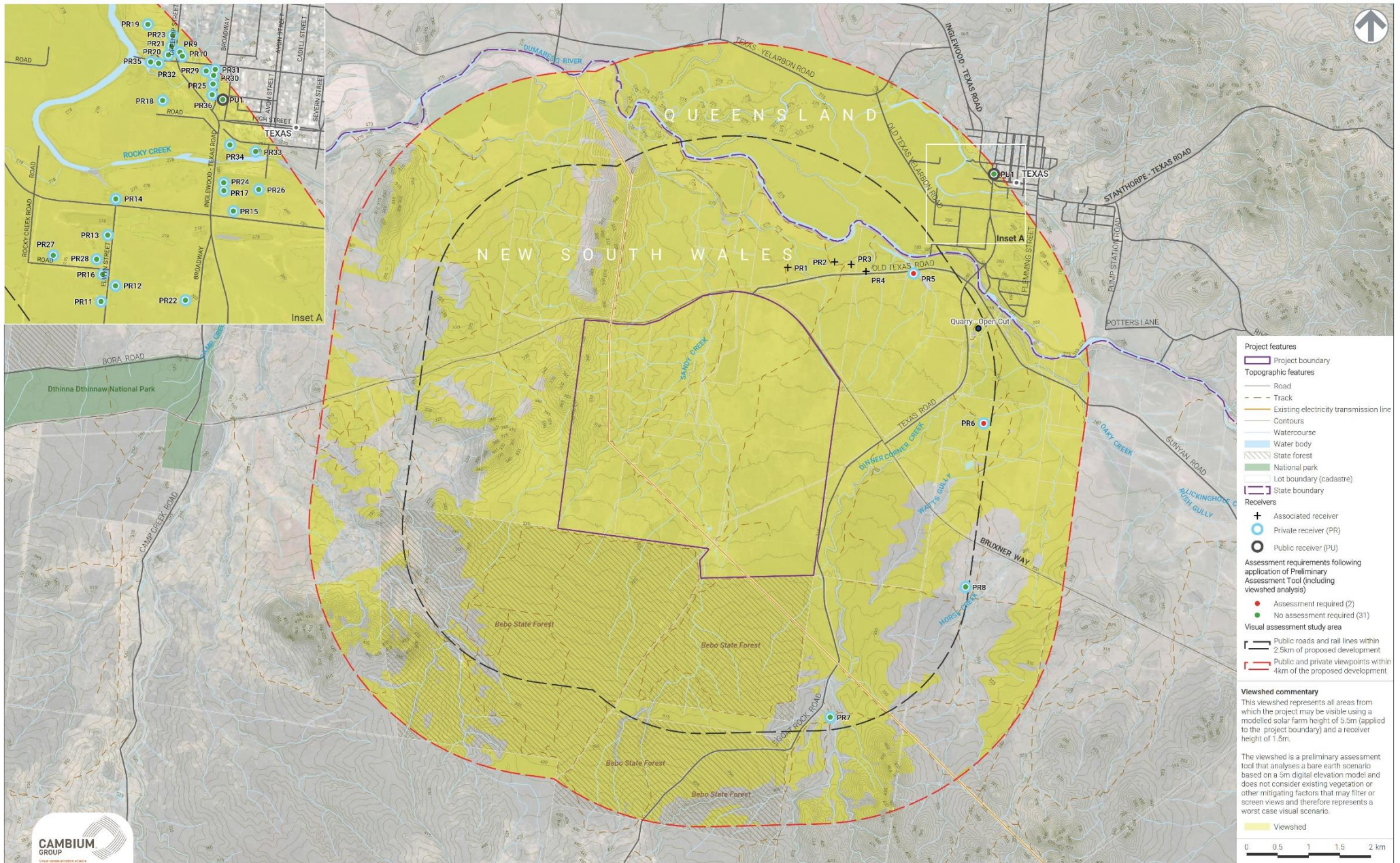


Figure 16 Preliminary theoretical viewshed and viewpoint analysis

6.7 Social

6.7.1 Existing environment

The site is located in the Inverell LGA in Texas, NSW, in the New England North West region of NSW and is 5 km south west of Texas, QLD. The traditional custodians of the land are the Kamilaroi (Gomeri) and Anaiwan (Eneewin) nation.

The locality of Texas is characterised as a farming community. The locality itself does not have its own township in NSW. The closest town is Texas, QLD. Residents within the NSW border identify and recognise Texas, QLD as their local population and commercial centre e.g Queensland does not have daylight saving but residents and farmers in the Texas NSW locality use Queensland time when NSW has daylight saving. As such, potential social impacts from the development shall be considered for the locality of Texas (NSW) and town of Texas, QLD.

A review of the Australian Bureau of Statistics (ABS) census data was undertaken on 18 January 2024 to understand the demography of the area. Limited statistical data was available for Texas, NSW, likely due to the small population size.

The total number of people in Texas, NSW in the 2021 Census was 23, with a median age of 50. The population made up six families across 15 private dwellings. In comparison, the total number of people in Texas, QLD at the time was 790, with a median age of 53. Texas, QLD had 205 families across 451 private dwellings.

The cultural diversity of Texas, QLD included 43.9% Australian, 39.1% English, 11.4% Irish, 9.4% Aboriginal and 8.9% Scottish with 84.7% of the population born in Australia, suggesting minimal immigration into the locality. However, 67.2% of private dwellings were either owned outright or owned with a mortgage. This often indicates a stable community committed to the area.

Labour force participation rates of people aged 15 and over of Texas, QLD in 2021 was lower than the average participation rate of QLD at 43.6%. Beef Cattle Feedlots employed the largest number of people at 9.6%, followed by hospitals at 6.7%, supermarket and grocery stores at 6.3%, primary and secondary education at 5.2% and meat processing at 3.7%. Overall unemployment in Texas, QLD was 8% in comparison to 5.4% for the rest of QLD.

In 2021, the highest level of educational attainment for people in Texas, QLD was Year 10 at 22.3%. Completion of Year 12 made up 10.3% of the population, while 6.2% completed a Bachelors degree as their highest level of education attainment.

6.7.2 Potential impacts

A Scoping SIA was undertaken in accordance with the SIA Guidelines (DPE, 2023a) and the 'Technical Supplement Social Impact Assessment Guideline for State Significant Projects' (SIA Technical Supplement) (DPE, 2023c) to identify the potential social impacts and determine the recommended scale of SIA to be conducted for the EIS.

The Scoping SIA identified a range of potential impacts and opportunities. These were identified through early engagement with relevant stakeholders, and a review of publicly available reports completed for other proposed developments in the area. Some of the key potential impacts of the proposed development include:

- Waste generation during construction, and decommissioning due to infrastructure disposal and environmental rehabilitation at end of project life
- Amenity impacts due to increased noise and dust during construction, and visual impacts during construction and operation
- Housing and accommodation impacts during construction
- Perceived physical and safety effects due to perceived health risks, fire risks, battery storage etc.
- Impacts on road conditions - decreased road conditions due to increased traffic; and
- Changes to community character and composition.

Some of the key potential benefits of the would include:

- Potential for infrastructure upgrades (e.g. improving local roads, major roads)
- Local employment, procurement, and training - construction and to a lesser extent operation
- Increase in the demand of local goods and services from the construction workers
- Possible power purchase agreements with Council and other energy users to access clean energy; and
- Community benefit schemes and investment by proponent contributing to community infrastructure.

6.7.3 Assessment approach

Using the Scoping SIA Worksheet (DPE, 2023b), the overall assessment level recommended for social impacts of the proposed development was a detailed assessment. The detailed SIA will assess potential social impacts and benefits in accordance with the requirements of the SIA Guideline (DPE, 2023a) and the SIA Technical Supplement (DPE, 2023c).

The Scoping SIA Worksheet is included in Appendix E.

6.8 Traffic, transport and access

6.8.1 Existing environment

Access to the Site is proposed via Goat Rock Road. Goat Rock Road is an unsealed and unmarked two-way Local road. Upgrades to the road may be required to allow for safe heavy and OSOM vehicles access.

The transportation of materials and goods for the construction of the Project would utilise heavy and OSOM vehicle approved State, Regional and Local roads. Being the closest port to the Site, materials would likely originate from the Port of Brisbane, approximately 260 km away to the north east. The likely transport access route, as calculated using the NHVR Route Planner (NHVR, 2023), is approximately 340 km long and would utilise the main roads listed in Table 15.

Table 15 Main roads proposed for transportation of materials and goods for construction

Road Name	Classification	Owner
Port of Brisbane Motorway	National	Department of Transport and Main Roads (QLD) (DTMR)
Gateway Motorway	National	DTMR
Logan Motorway	National	DTMR
Ipswich Motorway	National	DTMR
Cunningham Highway	National / State	DTMR
Stanthorpe Inglewood Road	District	DTMR
Greenup Limevale Road	Local	Goondiwindi Regional Council
Inglewood Texas Road	Local	DTMR
Texas Road	Regional	ISC
Bruxner Way	Regional	ISC

Figure 13 shows the potential transport route for the delivery of materials to the site.

A desktop assessment of the 'Average Annual Daily Traffic for Queensland State Controlled Roads 2012 to 2022' (DTMR, 2023) was undertaken on 8 January 2024 to understand existing traffic conditions along the proposed transport access routes. Last updated in August 2023, Table 16 summarises the annual traffic data from 2022.

Table 16 Traffic data for main roads from 2022 (DTMR, 2023)

Site ID	Road Name	Speed Limit	Light Vehicles*	Heavy Vehicles ⁺	AADT [^]
136238	Port of Brisbane Motorway	60	6,277	4,583	10,860
136414	Gateway Motorway	100	70,449	13,709	84,518
135687	Logan Motorway	80	27,163	2,139	29,302
140035	Ipswich Motorway	100	115,724	1,691	117,415
50030	Cunningham Highway	100	1,646	783	2,429
51834	Stanthorpe Inglewood Road	100	252	104	356
50775	Inglewood Texas Road	100	189	129	318

*Austroads Vehicle Classes 1 and 2

⁺Austroads Vehicle Classes 3 to 12

[^]AADT = Annual Average Daily Traffic

6.8.2 Potential impacts

OSOM vehicles may be required to transport specific operational machinery or equipment e.g transformer. Some improvements to the local road network, including widening, may be required to accommodate OSOM vehicles.

Internal access tracks would be unsealed and serve as construction access and maintenance access for operations. During construction, plant, equipment, and vehicles would utilise the land within the concept layout area for parking as appropriate. Parking would be limited to designated areas during operation to minimise disturbance of soil and groundcover.

The following ancillary works may be required depending on further investigations and final transport plans:

- Widening and upgrades to Goat Rock Road
- Upgrade of approaches and turning lanes, such as the intersection of Goat Rock Road and Bruxner Way; and
- Construction of temporary construction access roads within the Site.

Goat Rock Road is managed by the Forestry Corporation of NSW (NSW Forestry) while Bruxner Way is managed by the ISC. Access and potential road upgrades would be completed in consultation with the appropriate agencies.

Increased levels of traffic would be generated during construction. Traffic would include light vehicles for the movement of construction workers and the delivery of materials, as well as heavy and OSOM vehicles for the delivery of large infrastructure and components to the Site. Operational traffic would be minimal and is expected to mostly involve light vehicle movements.

A detailed assessment of traffic, transport, and access impacts is proposed for the EIS.

6.8.3 Assessment approach

A Traffic Impact Assessment (TIA) would be prepared to assess the potential impacts to the proposed transport access route and the wider road network. Consultation and engagement with DTMR, Goondiwindi Council, ISC would inform the TIA and help to understand existing road conditions and safety concerns. The TIA would consider the following documents in its preparation:

- 'Guide to Traffic Impact Assessment' (DTMR, 2018)
- 'Guide to Traffic Generating Developments' (RTA, 2002)
- 'Austroads Guides to Road Design' (Austroads, 2021)
- 'Austroads Guides to Traffic Management' (Austroads, 2020); and
- Any relevant standards.

The TIA would identify road infrastructure upgrades and include mitigation measures to minimise traffic, transport, and access impacts. The TIA would be incorporated into the EIS.

6.9 Noise and vibration

6.9.1 Existing environment

The surrounding environment is rural and predominantly used for agricultural production. The existing noise environment is typical of a rural setting with the predominant noise and vibration sources being from agricultural activities and vehicle movement along local roads and the Bruxner Way.

There are a total of six potential noise-sensitive receivers within 2 km of the Site up to the NSW and QLD border. All six potential receivers are residential receivers. PR1 to PR4 are associated with the development while PR5 and PR6 are not associated with the development.

Figure 16 shows the locations of the noise potential receivers to the Site.

6.9.2 Potential impacts

Noise and vibration impacts (NVI) could be disruptive to potential receivers within close vicinity to the Site. Severe NVI could affect the general wellbeing of potential receivers.

It is anticipated that most NVI would occur during construction. Plant and equipment proposed for construction would generate levels of noise and vibration atypical to the existing environment. The juxtaposition of the existing rural noise environment with general construction activities could be highly noticeable to potential receivers. However, most NVI would be temporary and limited to the construction phase of the Project.

Minimal NVI are expected during development operations. Operational NVI would be limited to some low noise generating infrastructure e.g. the BESS and substation. The concept layout would locate these infrastructure away from potential receivers.

Due to the potential NVI and the low number of non-associated potential receivers, a standard assessment of NVI would be undertaken for the EIS.

6.9.3 Assessment approach

A Noise and Vibration Impact Assessment (NVIA) would be prepared to assess potential NVI resulting from the Project. The NVIA would be completed in accordance with the following:

- 'Interim Construction Noise Guideline' (DECC, 2009)
- 'NSW Road Noise Policy' (DECCW, 2011)
- 'Noise Policy for Industry' (EPA, 2017); and
- 'Assessing Vibration: a technical guideline' (DEC, 2006).

Mitigation measures to minimise NVI for potential receivers would be developed as part of the NVIA and incorporated

into the EIS.

6.10 Air quality

6.10.1 Existing environment

The existing air quality at the Site is characteristic of a rural environment. Regular sources of air pollutants and emissions in the area are a result of agricultural activities and emissions from vehicles and farm plant.

The nearest air monitoring station to the Site is Toowoomba in the South West Queensland region. Located within Toowoomba, the monitoring station is approximately 168 km north east of the Site. The following air pollutants are currently measured at the station:

- Particulate matter with diameter of ≤ 10 micrometres (μm) as PM_{10} ; and
- Particulate matter with diameter of ≤ 2.5 μm as $\text{PM}_{2.5}$.

Air pollutants are measured hourly, and results correspond to an Air Quality Category (AQC) ranging from 'Good', 'Fair', 'Poor', 'Very Poor' to 'Extremely Poor'.

A desktop assessment of the Queensland Department of Environment, Science and Innovation (DESI) Air Quality database was undertaken on 11 January 2024. The assessment reviewed available air quality data for the last quarter of 2023 from the Toowoomba monitoring station. Long term historic data for the station was not available.

The assessment found that the average AQC for all pollutants across the three month period was 'Good'.

6.10.2 Potential impacts

Construction and decommissioning activities such as ground disturbance and vehicle movements have the potential to generate dust and vehicle emissions, and impact local air quality. Dependent on wind conditions, these impacts are likely to be localised to the Site and immediate surrounds and may include potential receivers located nearest to the Site. Air quality impacts are unlikely to reach the township of Texas, QLD.

Potential impacts to air quality would be temporary in nature and limited to the construction and decommissioning. Air quality impacts during operations are not anticipated as the development would not produce air pollution or greenhouse gases when operating. Once decommissioned, the site would be rehabilitated to pre-construction conditions including restoration of groundcover, thus minimising dust generation.

Overall, potential air quality impacts from the proposed development are expected to be low and minimised by the implementation of standard dust suppression measures during construction. Therefore, a standard assessment is proposed to be incorporated into the EIS.

6.10.3 Assessment approach

A standard air quality impact assessment would be undertaken for the EIS. The assessment would evaluate the potential for air emissions during construction and decommissioning activities and identify key potential receivers. Mitigation measures would be developed to manage and minimise potential air emissions.

6.11 Waste

6.11.1 Existing environment

The ISC currently has one waste management facility, four waste transfer stations and one landfill within the LGA. The

Inverell Waste Depot is located approximately 94 km south of the Site. The closest waste management facility to the site is the Inglewood Waste Facility in the Goondiwindi LGA, approximately 49 km north of the Site. Both waste facilities are licenced to accept regulated waste.

6.11.2 Potential impacts

Waste and resource usage associated with construction are anticipated to include fuel for vehicles and equipment, construction materials and packaging, general waste, and water for dust suppression and construction activities. Operational resource use and waste streams are expected to be minimal.

6.11.3 Assessment approach

Likely waste streams to be generated during construction, operation, and decommissioning will be identified and quantified as part of the EIS. A Waste Management Plan would be developed prior to construction and would include strategies to minimise waste generated where possible and identify appropriate registered facilities for recycling and disposing of waste materials.

6.12 Conservation areas and heritage

6.12.1 Existing environment

Desktop assessments of the following databases were undertaken on 11 January 2024 to identify any known conservation areas and/or historic heritage in proximity to the Site:

- QLD Heritage Register
- NSW State Heritage Inventory
- Australian Heritage Database
- Inverell LEP; and
- National Parks and Wildlife Service (NPWS) database.

The desktop assessments identified the following:

- No heritage listings on the QLD Heritage Register in proximity to the NSW and QLD border near Texas, QLD
- No heritage listings on the NSW State Heritage Register within or in close proximity to Texas, NSW
- No heritage listings on the Australian Heritage Database within or in close proximity to Texas, NSW
- No heritage listings on the Inverell LEP within or in close proximity to Texas, NSW
- Maroomba State Conservation Area and Dhinna Dhinawan National Park is within 10 km of the Site

No heritage listings were within 10 km of the Site.

6.12.2 Potential impacts

Construction activities have the potential to impact heritage and conservation areas through the clearing of land, noise, and vibration. However, no heritage listings or conservation areas were identified in proximity to the Site. The Project is also unlikely to impact the identified NPWS reserves due to their distance from the Site. Historic agricultural land use of the Site also reduces likelihood of unexpected heritage finds during construction.

As such, no further investigations of conservation areas and heritage is proposed.

6.13 Airport facilities

6.13.1 Existing environment

Texas Aerodrome is approximately 5 km north of the Site and is owned and operated by Goondiwindi Council. No commercial flights operate to or from the aerodrome. On average, up to two flights per week land at the aerodrome transporting fly in doctors servicing the town of Texas, QLD.

6.13.2 Potential impacts

The development involves the installation of potentially reflective components which may impact visibility for pilots. Although unlikely due to distance, excessive dust and particulate matter generated during construction may cause dust clouds which could also affect visibility for aircrafts. However, dust suppression mitigation measures would be implemented during construction to further reduce potential air quality impacts.

6.13.3 Assessment approach

Potential impacts to airport facilities would be addressed in the following assessments:

- A glint and glare assessment would be undertaken in accordance with the Large Scale Solar Energy Guideline (DPE, 2022g) to identify potential visual amenity impacts from reflective surfaces (see Section 6.6); and
- A standard assessment is proposed in the EIS for assessing air quality impacts. The assessment would also include mitigation measures to minimise the potential impacts (see Section 6.10).

6.14 Cumulative impacts

6.14.1 Existing environment

A desktop assessment of NSW Major Projects and QLD Department of State Development and Infrastructure (DSDI) website was undertaken on 12 January 2024 to identify state significant projects in the Inverell and Goondiwindi LGAs. The assessment identified 18 applications (primary applications and subsequent modifications) in varying stages of development in the Inverell LGA and one in the Goondiwindi LGA. Identified major projects are listed in Table 17.

Table 17 Surrounding major projects

Development	Proximity	Status	Potential cumulative impacts
Dumaresq Solar Farm (SSD-61740963)	27 km S	Prepare EIS	Traffic Social Waste
Bonshaw Solar Farm (SSD-9438)	38 km SE	Determination	Traffic Social Waste
Inland Rail – Border to Gowrie	46 km NW	Active	Traffic Social Waste
Sapphire Wind Farm (MP09_0093) + 1 modification	88 km S	Determination	Traffic Social Waste

Development	Proximity	Status	Potential cumulative impacts
Bindaree Abattoir (SSD-6093)	95 km S	Determination	Traffic Social Waste
Sapphire Solar Farm (SSD-8643) + 1 modification	92 km S	Determination	Traffic Social Waste
Sundown Solar Farm (SSD-8911)	105 km SE	Response to Submissions	Traffic Social Waste
White Rock Wind Farm (MP10_0160) + 6 modifications	109 km SE	Determination	Traffic Social Waste
White Rock Solar Farm (SSD-7487) + 1 modification	115 km SE	Determination	Traffic Social Waste

NW = North West, S = South, SE = South East

6.14.2 Potential impacts

The development may generate cumulative impacts concurrent with other development in the locality particularly during construction. These may include cumulative amenity, construction traffic, social, and waste impacts.

6.14.3 Assessment approach

A detailed cumulative impact assessment (CIA) will be completed as part of the EIS in accordance with the CIA Guidelines (DPE, 2022f). The CIA would take into consideration the developmental stage of the other major projects, including those constructed and are operational.

6.15 Matters not requiring further assessment in the EIS

Matters that do not require further assessment in the EIS are outlined in Table 18.

Table 18 Matter not requiring further assessment in the EIS

Matter	Comment
Port facilities	The Site is not located in proximity to a port facility. The nearest port to the Site is the Port of Brisbane, approximately 259 km north east.
Coastal hazards	The site is not located within a coastal zone.
Odour	Solar farms and BESS developments are not known to emit odours which could impact nearby potential receivers. Likewise, it is not anticipated that the Project would produce odours during construction or operation.
Accessibility	Access to the site during construction and operation would be restricted to authorised personnel.
Greenhouse gas and energy	It is anticipated emissions generated during construction or decommissioning will be offset by the reduction in energy generation emissions. Greenhouse gas emissions will be addressed in the justification for the development in the EIS.

7. Conclusion

The Site was identified as a preferred location due its relatively flat topography, moderate agricultural capability, and its proximity to and capacity of connection to the existing 330 kV transmission line.

The proposed solar farm and BESS would contribute to improving the reliability and security of the state and national electricity network by generating electricity from renewable sources, storing surplus energy on the Site, and releasing dispatchable energy during peak demand periods. This in turn would support energy generation and storage development in NSW and Australia by increasing flexibility and resilience of the electrical grid as overall renewable energy generation increases and non-renewable energy generation decreases over time.

The investigation area avoids areas of high biodiversity value and minimise impacts to natural drainage tributaries of Sandy Creek within the Site. The concept layout will incorporate boundary setbacks in consideration of minimising the potential visual, and construction noise impacts to surrounding receivers.

As further investigations are completed, and community and stakeholder engagement is undertaken, the concept layout will be designed, reviewed and refined in response to the outcomes and findings. Where impacts cannot be avoided, measures for minimising, managing, or offsetting throughout construction, operation, and decommissioning would be developed in preparation of the EIS.

While minimising impacts to the environment, the development will provide the following benefits to the state, regional, and local communities, including:

- Infrastructure investment of approximately \$550 million
- Supporting Australia's 2030 emission reduction targets, NSW's transition to net-zero emissions by 2050 and the objectives and themes of the NENWRP and Inverell CSP
- Improving the stability and reliability of the electricity network by storing energy during periods of low demand, including those from intermittent renewable sources and dispatching energy during periods of peak demand
- Local employment opportunities during an approximate 18 month construction period with up to 250 jobs during a peak period of 4 months and approximately 4-5 full-time jobs during the proposed 30 year operational life; and
- Benefits to the local community through the implementation of a community benefit scheme to be developed in consultation with the community and stakeholders.

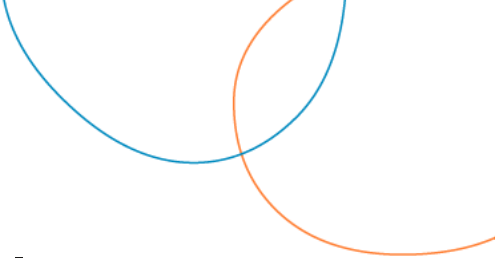
The proposed development is unlikely to have significant long-term impacts to the environment, locality, and region, with potential impacts during construction likely to be short-term and are likely to be mitigated and or managed.

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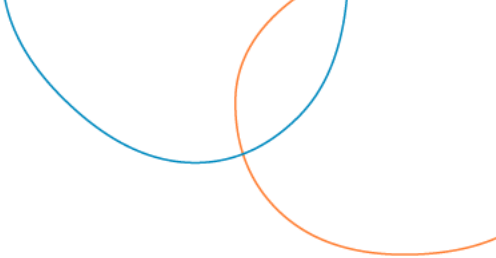
Scoping Summary Table

Appendix A

Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Report Reference
Detailed Assessment				
Aboriginal Heritage	N	Specific	• 'The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance' (ICOMOS, 2013) • 'Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW' (OEH, 2011) • 'Aboriginal cultural heritage consultation requirements for proponents' (DECCW, 2010a) • Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b)	6.1
Biodiversity	N	General	• 'Biodiversity Assessment Method' (DPIE, 2020a) • 'NSW Biodiversity Offsets Policy for Major Projects' (OEH, 2014) • 'Framework for Biodiversity Assessment' (OEH, 2018) • 'Threatened Biodiversity Survey and Assessment' (DEC, 2004) • 'Surveying threatened plants and their habitats' (DPIE, 2020c) • 'Policy and Guidelines for Fish Habitat Conservation and Management' (DPI, 2013a) • 'Controlled activities - Guidelines for watercourse crossings on waterfront land' (DPE, 2022c) • 'Controlled activities - Guidelines for riparian corridors on waterfront land' (DPE, 2022c) • 'Controlled activities – Guidelines for vegetation management plans on waterfront land' (DPE, 2022d)	6.2
Hazards and Risks	N	Specific	• 'Planning for Bushfire Protection' (RFS, 2019) • 'ICNIRP Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (1 Hz to 100 kHz)' (ICNIRP, 2010) • 'ICNIRP Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz)' (ICNIRP, 2020) • 'Hazardous Industry Planning Advisory Paper No 2. – Fire Safety Study Guidelines' (DoP, 2011b) • 'Hazardous Industry Planning Advisory Paper No. 3 – Risk Assessment' (DoP, 2011c)	6.3

Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Report Reference
			• 'Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis' (DoP, 2011d) • 'Hazardous Industry Planning Advisory Paper No 12 – Hazards-Related Conditions of Consent' (DoP, 2011e) • 'Australian Code for the Transport of Dangerous Goods by Road and Rail' (NTC, 2022) • State Environmental Planning Policy (Resilience and Hazards) 2021 • 'Assessment Guideline: Multi-Level Risk Assessment' (DoP, 2011a)	
Hydrology and Flooding	N	General	• 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality' (ANZG, 2018) • 'Managing Urban Stormwater: Soils and Construction Volume 1' (Landcom, 2004) • 'Managing Urban Stormwater: Soils and Construction Volume 2' (DECC, 2008) • 'Approved methods for the sampling and analysis of water pollutants in NSW' (EPA, 2022b) • 'Controlled activities - Guidelines for instream works on waterfront land' (DPE, 2022a) • 'Controlled activities – Guidelines for outlet structures on waterfront land' (DPE, 2022b) • 'Controlled activities - Guidelines for watercourse crossings on waterfront land' (DPE, 2022e)	6.4
Land, Soil Quality, and Agriculture	N	General	• 'Land Use Conflict Risk Assessment Guide' (DPI, 2011) • 'Best Practice Erosion and Sediment Control' (IECA, 2008) • 'Large-Scale Solar Energy Guideline' (DPE, 2022g) • 'Land and Soil Capability Assessment Scheme' (OEH, 2012)	6.5
Landscape and Visual Amenity	Y	Specific	• 'Large-Scale Solar Energy Guideline' (DPE, 2022g) • 'Technical Supplement – Landscape and Visual Impact Assessment' (DPE, 2022j)	6.6
Glint and Glare	N	General	• 'Large-Scale Solar Energy Guideline' (DPE, 2022g) • 'Technical Supplement – Landscape and Visual Impact Assessment' (DPE, 2022j)	6.6
Ssocial	Y	Specific	• 'Undertaking Engagement Guidelines for State Significant Projects' (DPE, 2022k) • 'Social Impact Assessment Guidelines for State Significant Projects' (DPE, 2023a)	6.7

Matter	CIA	Engagement	Relevant Government Plans, Policies and Guidelines	Report Reference
			• 'Large-Scale Solar Energy Guideline' (DPE, 2022g) • 'IAP2 Core Values' (IAP2, 2019) • 'IAP2 Public Participation Spectrum' (IAP2, 2018)	
Traffic, Transport, and Access	Y	Specific	• 'Guide to Traffic Impact Assessment' (DTMR, 2018) • 'Guide to Traffic Generating Developments' (RTA, 2002) • 'Austroads Guide to Road Design' (Austroads, 2021) • 'Austroads Guide to Traffic Management' (Austroads, 2020) • Any relevant standards	6.8
Cumulative Impacts	Y	General	• 'Cumulative Impact Assessment Guidelines' (DPE, 2022f)	6.14
Standard Assessment				
Noise and Vibration	Y	Specific	• 'Interim Construction Noise Guideline' (DECC, 2009) • 'NSW Road Noise Policy' (DECCW, 2011) • 'Noise Policy for Industry' (EPA, 2017) • 'Assessing Vibration: a technical guideline' (DEC, 2006)	6.9
Air Quality	N	General	• 'Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales' (EPA, 2022a) • 'Approved methods for the sampling and analysis of air pollutants in NSW' (EPA, 2022c)	6.9
Waste	Y	General	• 'Waste Classification Guidelines' (EPA, 2014)	6.11



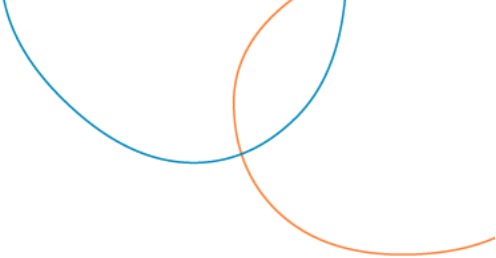
BioNet Results

Appendix B

Scientific Name	Common Name	BC Act Status
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	P
<i>Acanthiza nana</i>	Yellow Thornbill	P
<i>Acanthiza pusilla</i>	Brown Thornbill	P
<i>Accipiter fasciatus</i>	Brown Goshawk	P
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	P
<i>Amalosia rhombifer</i>	Zigzag Velvet Gecko	E1, P
<i>Anas gracilis</i>	Grey Teal	P
<i>Anthus novaeseelandiae</i>	Australian Pipit	P
<i>Aprosmictus erythropterus</i>	Red-winged Parrot	P
<i>Aquila audax</i>	Wedge-tailed Eagle	P
<i>Artamus cyanopterus</i>	Dusky Woodswallow	V, P
<i>Cacatua sanguinea</i>	Little Corella	P
<i>Chenonetta jubata</i>	Australian Wood Duck	P
<i>Chthonicola sagittata</i>	Speckled Warbler	V, P
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V, P
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	P
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	P
<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike	P
<i>Corcorax melanorhamphos</i>	White-winged Chough	P
<i>Corvus coronoides</i>	Australian Raven	P
<i>Corvus orru</i>	Torresian Crow	P
<i>Cracticus nigrogularis</i>	Pied Butcherbird	P
<i>Crinia parinsignifera</i>	Eastern Sign-bearing Froglet	P
<i>Cryptoblepharus</i> sp.		P
<i>Cymbidium canaliculatum</i>	Tiger Orchid	P, 2
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V, P
<i>Dromaius novaehollandiae</i>	Emu	P
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	P
<i>Eolophus roseicapilla</i>	Galah	P
<i>Eopsaltria australis</i>	Eastern Yellow Robin	P
<i>Geopelia striata</i>	Peaceful Dove	P
<i>Gerygone olivacea</i>	White-throated Gerygone	P
<i>Glossopsitta pusilla</i>	Little Lorikeet	V, P
<i>Grallina cyanoleuca</i>	Magpie-lark	P
<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog	P
<i>Lophoictinia isura</i>	Square-tailed Kite	V, P, 3

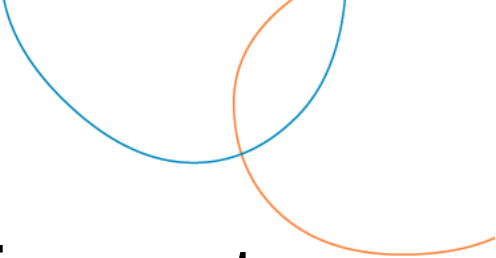
Scientific Name	Common Name	BC Act Status
<i>Malurus cyaneus</i>	Superb Fairy-wren	P
<i>Neophema pulchella</i>	Turquoise Parrot	V, P, 3
<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat	P
<i>Ocyphaps lophotes</i>	Crested Pigeon	P
<i>Osphranter robustus</i>	Common Wallaroo	P
<i>Pachycephala rufiventris</i>	Rufous Whistler	P
<i>Pardalotus striatus</i>	Striated Pardalote	P
<i>Phaps chalcoptera</i>	Common Bronzewing	P
<i>Philemon citreogularis</i>	Little Friarbird	P
<i>Philemon corniculatus</i>	Noisy Friarbird	P
<i>Platycercus adscitus</i>	Pale-headed Rosella	P
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V, P
<i>Psephotus haematonotus</i>	Red-rumped Parrot	P
<i>Ptilotula penicillata</i>	White-plumed Honeyeater	P
<i>Rhipidura albiscapa</i>	Grey Fantail	P
<i>Rhipidura leucophrys</i>	Willie Wagtail	P
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V, P
<i>Smicrornis brevirostris</i>	Weebill	P
<i>Strepera graculina</i>	Pied Currawong	P
<i>Todiramphus macleayi</i>	Forest Kingfisher	P
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	P
<i>Uperoleia rugosa</i>	Wrinkled Toadlet	P
<i>Varanus varius</i>	Lace Monitor	P
<i>Wallabia bicolor</i>	Swamp Wallaby	P
<i>Xanthorrhoea johnsonii</i>	Johnson's Grass Tree	P

BC Act Status: 2 = Category 2 sensitive species; 3 = Category 3 sensitive species; E1 = Endangered; P = Protected; V = Vulnerable



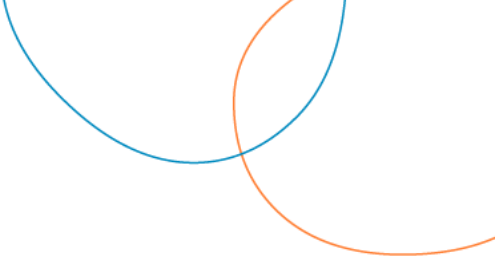
PMST Results

Appendix C



Landscape and visual impact assessment – Preliminary Assessment

Appendix D



Scoping SIA Worksheet

Appendix E

Category	Potential Impact		Previous Investigations	Cumulative Impacts	Material Impact?					Assessment Level
	Impact	Positive / Negative			Extent	Duration	Intensity	Sensitivity	Level of Concern	
Access	Limited access to Goat Rock Road and associated Bruxner Way intersection during upgrades	Negative			N	N	N	N	N	Not Relevant
	Strain on housing, accommodation and goods and services due to influx of workers during construction	Negative	Consultation with adjacent landowner		Y	N	Y	Y	Y	Detailed
	Improved access to Goat Rock Road post upgrades	Positive			N	Y	N	N	N	Minor
Community	Changes to composition due to influx of workers	Negative			Y	Y	Y	N	Y	Detailed
	Changes to character due to changes in land use	Negative			N	Y	Y	N	N	Detailed
	Increased cohesion and resilience from community benefit scheme and Project investment	Positive			Y	U	U	N	U	Detailed
	Strain on ISC and Goondiwindi Council waste management facilities during construction	Negative	Consultation with ISC	Potential cumulative strain from concurrent major projects within the same locality	Y	N	Y	Y	Y	Detailed
Culture	Risk of unexpected finds of Aboriginal heritage during construction	Negative			N	N	N	N	U	Minor
Decision-making Systems	Perceived lack of knowledge and inclusion in the planning, assessment, and consultation process of the Project.	Negative			Y	N	N	U	U	Detailed
Health and Wellbeing	Stress and anxiety associated with tensions surrounding lease agreements	Negative	Consultation with adjacent landowner		N	Y	N	Y	Y	Detailed
	Concerns over safety risk associated with increased traffic during construction	Negative			Y	N	N	N	U	Standard
	Concerns over potential increase of kangaroo presence in adjacent property after erection of safety fence for the Project	Negative	Consultation with adjacent landowner		N	Y	U	Y	Y	Detailed
	Overall wellbeing affected by amenity impacts during construction	Negative			Y	N	N	N	Y	Detailed

Category	Potential Impact		Previous Investigations	Cumulative Impacts	Material Impact?					Assessment Level
	Impact	Positive / Negative			Extent	Duration	Intensity	Sensitivity	Level of Concern	
Livelihood	Reduced productivity of the adjacent land parcels due to potential increase of kangaroo grazing	Negative	Consultation with adjacent landowner		N	Y	U	Y	Y	Detailed
	Increased patronage to local businesses	Positive			Y	N	U	N	U	Detailed
	Use of local resources and creation of new jobs during construction and operation	Positive			U	N	U	U	U	Detailed
	Increased resilience of local economy through diversification of direct and indirect economic inputs	Positive			N	Y	N	N	N	Minor
	Potential reduction in property value	Negative			N	U	N	N	N	Minor
	Increased biosecurity risk from incoming construction vehicles and materials	Negative			N	N	U	Y	Y	Detailed
Surroundings	Short term changes to amenity during construction and long term visual amenity during operation	Negative			N	N	N	N	N	Not Relevant
Way of Life	Impacts to noise amenity from increase noise levels during construction	Negative			N	N	N	N	N	Not Relevant
	Prolonged travel times and changes to the travel experience from increased traffic during construction	Negative			Y	N	N	N	N	Minor



Scoping Report

Texas Solar Farm and Battery Energy Storage System

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