
NGH
A FYFE Company
Prepared for Elgin Energy Pty Ltd
Scoping report
Langley Vale Solar Farm and BESS
Upper Lachlan LGA, Lerida, NSW
November 2025
Project Number: 250254
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Scoping report
Langley Vale Solar Farm and BESS

Document verification

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Final Scoping Report v1.0	7/11/2025	Matt Spann	Brooke Marshall
Final Scoping Report v1.1	25/11/2025	Matt Spann	Brooke Marshall

We acknowledge the Traditional Owners of this land and pay our respect to Elders past, present and emerging. We recognise that the First Nations peoples of Australia have traditionally managed the resources of this land in a sustainable way, and that they are the original custodians of the Australian environment.

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Acronyms and abbreviations

ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BESS	Battery Energy Storage System
DPHI	Department of Planning, Housing and Infrastructure (NSW)
EDM	Electronic Direct Mail
EEC	Endangered Ecological Community
EIA	Environmental impact assessment
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
ESD	Ecologically Sustainable Development
ha	hectares
TISEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021 (NSW)
km	kilometres
LEP	Local Environment Plan
m	metres
MNES	Matters of National Environmental Significance under the EPBC Act (*c.f.*)
NEM	National Energy Market
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NSW	New South Wales
SEPP	State Environmental Planning Policy (NSW)
SSD	State Significant Development
ULSC	Upper Lachlan Shire Council

Key terms in this report

Term	Description
Langley Vale Solar Farm and BESS (the Project)	The construction, operation and decommissioning of a circa 250 megawatt (MW) Alternating Current (AC) solar farm, comprising solar Photo Voltaic (PV) modules, trackers, piles, inverters, transformers, access roads, cabling, onsite substations, associated operational facilities and a centralised Battery Energy Storage System (BESS) with up to 500MW capacity and with 4 hours (up to 2000MWh) of storage duration.
Applicant	Elgin Energy Pty Ltd
Involved Lands	All lots and easements that are intersected by the Project, as listed in Section 1.3 and Table 1-1.
Project Site	The broader area of land that is being investigated for siting of the Project, approximately **1143ha.**
Development Footprint	The area of land that would be directly impacted by the Project (including during construction, operation and decommissioning). The Development Footprint is currently indicative and will be refined after further detailed assessment and consultation. The total area of the indicative Development Footprint is **573ha**
Receivers	A 'receiver' is typically a residential dwelling that may be impacted by the Project. Associated receivers have reached an agreement with the Project and are considered 'involved'. Assessment is not required where an agreement is in place. This can be limited to specific impacts. All other receivers are considered non-associated and must be assessed for impacts.

1. Introduction

1.1. Project outline

Elgin Energy Pty Ltd (the Applicant) is proposing the construction, operation and decommissioning of the Langley Vale Solar Farm and BESS (the Project). The Project is located across two private landholdings - 721 Collector Road, Gunning, and 196 Lucks Lane, Lerida. The site is approximately 1,143 hectares (ha) and is located about 5km southeast of the township of Gunning, within the Upper Lachlan Shire Council Local Government Area (LGA) (refer to Figure 1-1).

The Project will have a capacity of approximately 250 megawatt (MW) Alternating Current (AC) and will connect into the national electricity network via the existing Transgrid 330 kV overhead transmission lines through a proposed onsite substation. The Project would include solar Photo Voltaic (PV) modules, trackers, piles, inverters, transformers, access roads, underground and above ground cables, onsite substations and associated operational facilities including a BESS with up to 500MW capacity and four hours of storage duration (up to 2000MWh).

This Scoping Report provides a high-level description of the Project, including its strategic context, statutory context, and identifies key environmental issues relevant to the Project and proposed investigation strategies for them.

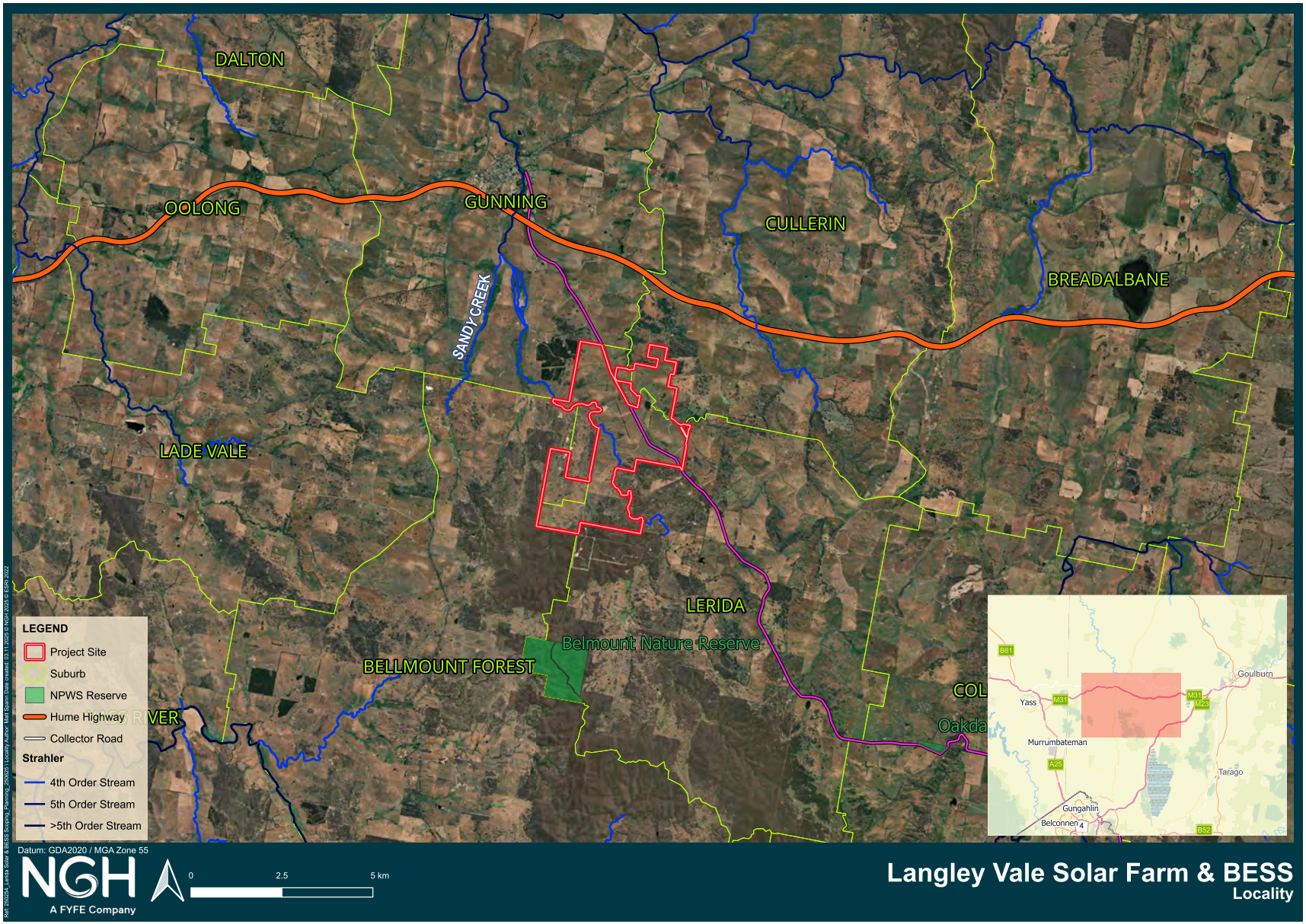
1.2. Project objectives

The Project aims to provide a meaningful contribution to NSW's transition to renewable energy and is aligned with Federal, NSW and local land use policies in this regard. The increase in renewable energy generation, supported by appropriate storage and transmission infrastructure, will reduce Australia's reliance on fossil fuels for electricity generation and the consequent harmful effects of climate change.

Specifically, the Langley Vale Solar Farm and BESS will seek to:

- Be responsive to the site's environmental constraints, specifically avoiding areas of higher biodiversity value such as threatened species habitat.
- Maintain some agricultural production across the Project site for agricultural activities such as sheep grazing.
- Be responsive to local social concerns and build in broader community benefits.
- Within these constraints, optimise the generation and storage of renewable energy along an established high voltage transmission line.
- Help address a real and current need that the national and NSW electricity market has for new generation capacity.
- Displace Carbon Dioxide (CO_2) and reduce emissions associated with energy production.

Strategies to minimise impacts and reflect local values will be further investigated as part of detailed environmental assessments and community engagement processes in the EIS.


DALTON
OOLONG
GUNNING
CULLERIN
BREADALBANE
SANDY CREEK
LADE VALE
LERIDA
Belmount Nature Reserve
BELLMOUNT FOREST
Oakdale
Yass
Goulburn
Murrumbateman
Tarago
Gungahlin
Belconnen
LEGEND
Project Site
Suburb
NPWS Reserve
Hume Highway
Collector Road
Strahler
4th Order Stream
5th Order Stream
>5th Order Stream
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
2.5
5 km
Langley Vale Solar Farm & BESS
Locality

1.3. Site overview

The Project would be located approximately 5km southeast from the township of Gunning (refer Figure 1-1). It is located within the Upper Lachlan Shire Council (LGA) and is 198km southwest of Sydney. The site is dissected by Collector Road.

The Project would connect to the existing 330 kilovolt (kV) transmission line that runs in an approximate northwest / southeast direction between Yass and Marulan and crosses the site. The Project is planned to connect directly into the transmission line via a new onsite substation.

The Project Site consists of undulating grazing land. General elevation of the site ranges from 695 m above sea level (ASL) in the east to 590 m in the northwest. Some densely vegetated areas occur within the site but will be excluded from the Development Footprint. Two creeks run through the site; Lerida Creek and Meadow Creek. The surrounding land is generally used for agriculture.

The Project Site is located on 1,143ha of privately owned land. Access to the site would be via the Hume Highway and Collector Road through the northwestern side of the Project site, as indicated in Figure 1-1.

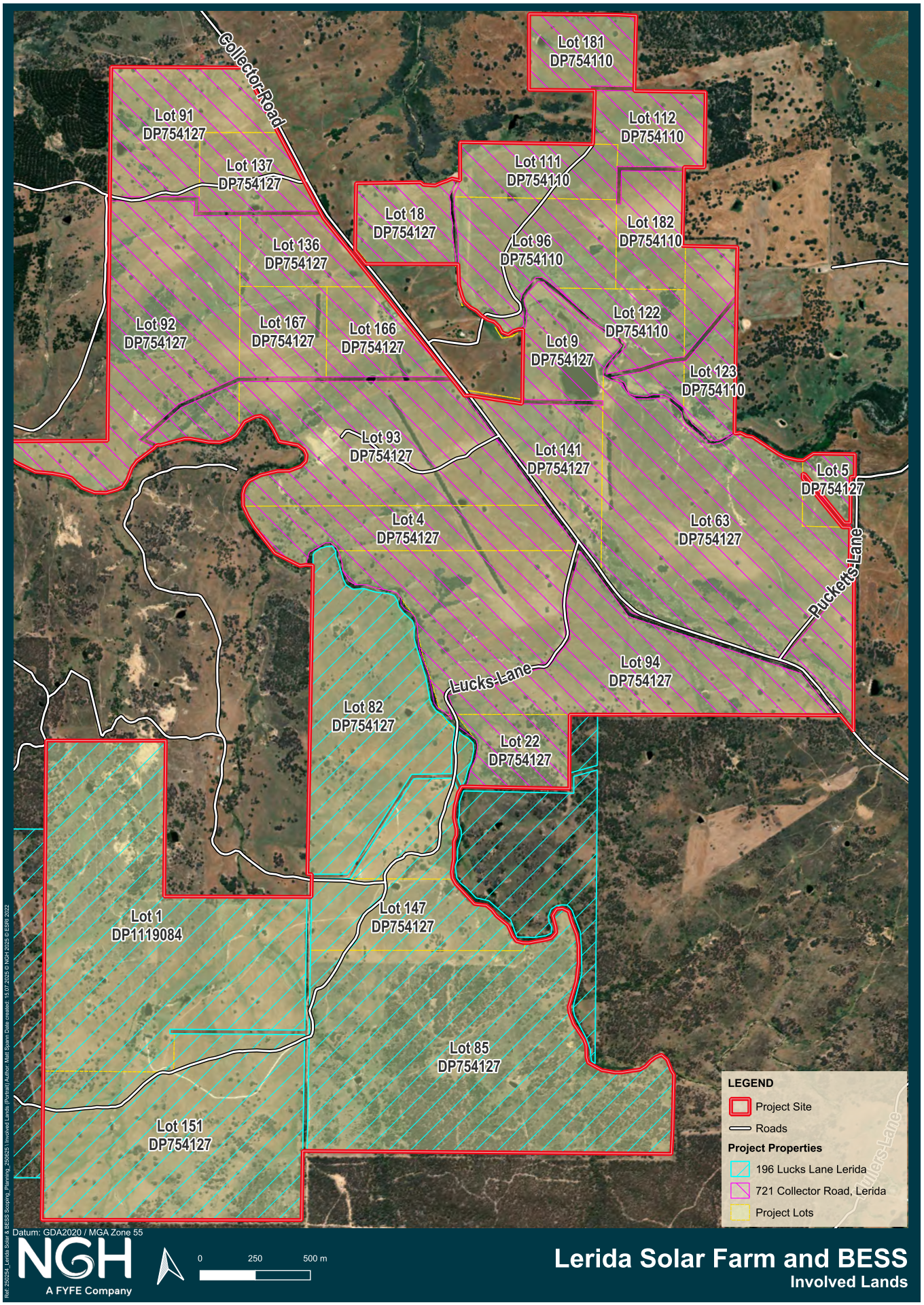
Between the two landholdings at 721 Collector Road, Gunning, and 196 Lucks Lane, Lerida, the Project Site intersects or is located within the following Involved Lands (Table 1-1 and Figure 1-2). This includes road reserves and parcels of Crown Land as shown below in Figure 2-1.

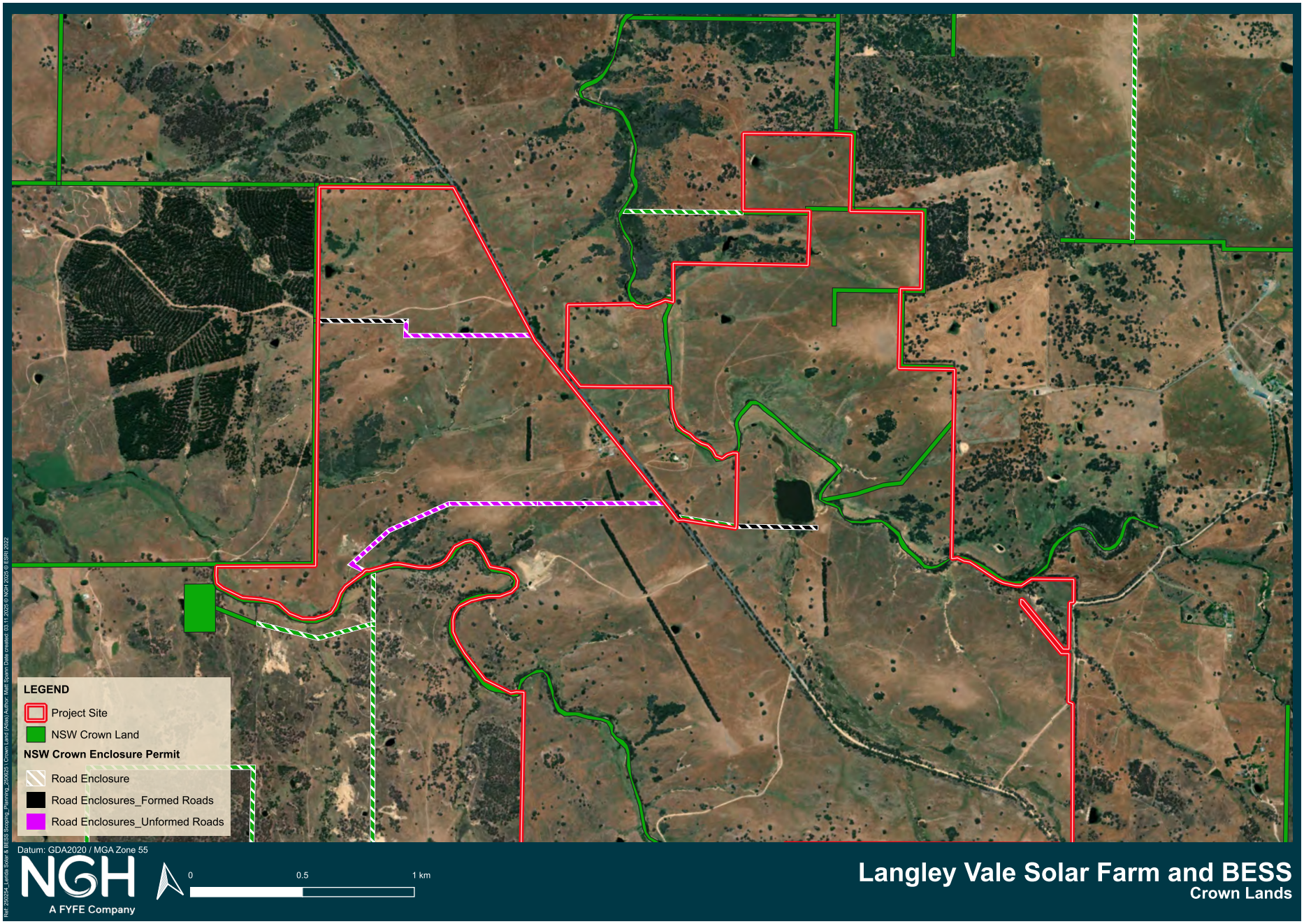
Table 1-1 Involved Lands intersected by the Project Site

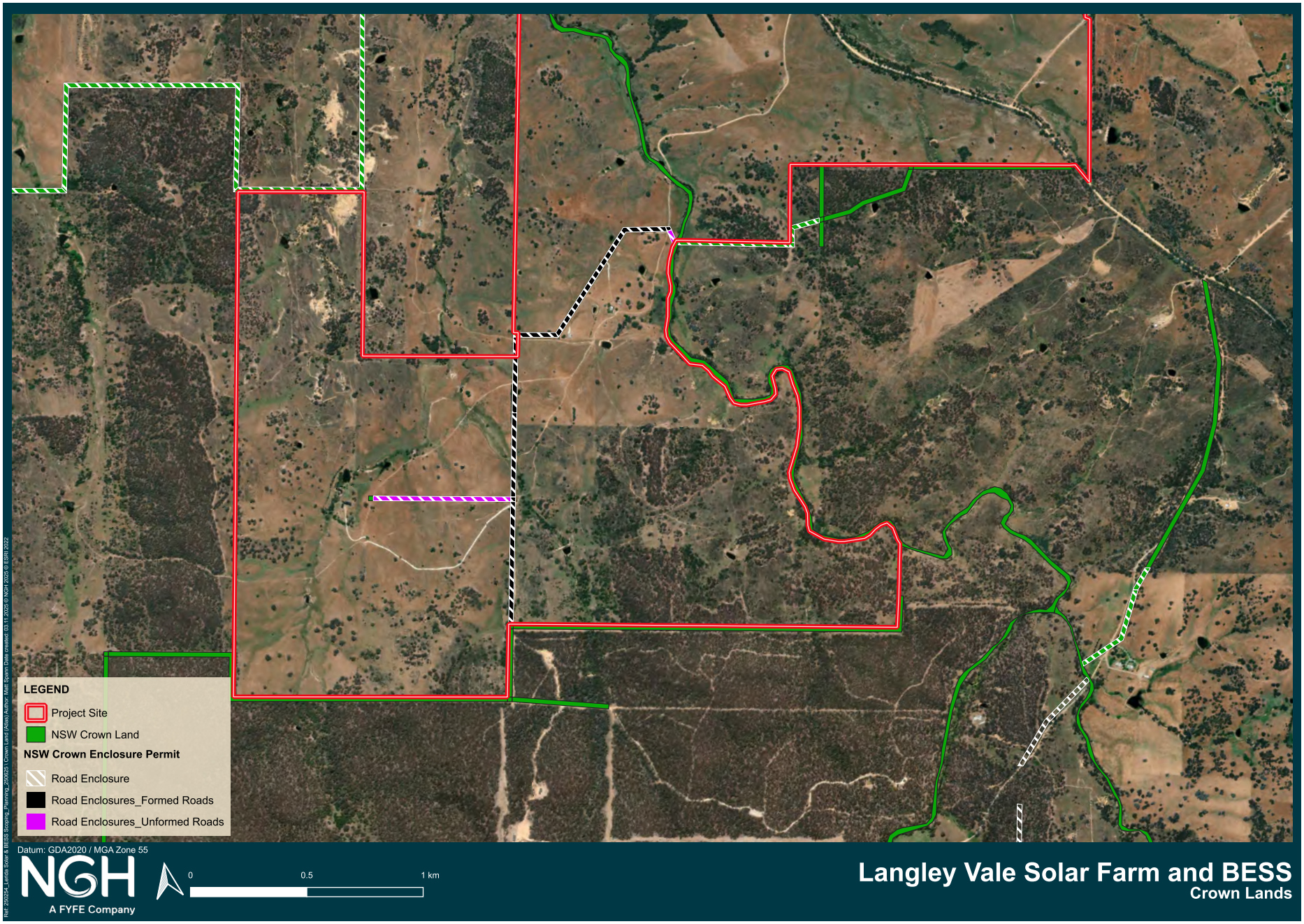
Owner/Landholding	Proposed usage for the Project	Area (ha)	Lot/Deposited Plan (DP)
721 Collector Road, Lerida	Solar farm siting	28.76	4//DP754127
		60.61	93//DP754127
		16.18	167//DP754127
		16.18	166//DP754127
		16.00	136//DP754127
		31.86	91//DP754127
		16.06	137//DP754127
		16.65	9//DP754127
		22.19	141//DP754127
		33.00	96//DP754110
		16.10	182//DP754110
		17.83	111//DP754110

		16.18	112//DP754110
		16.03	18//DP754127
		16.18	181//DP754110
		17.16	122//DP754110
		18.88	123//DP754110
		15.06	22//DP754127
		6.66	5//DP754127
		103.65	63//DP754127
		72.20	92//DP754127
		96.32	94//DP754127
196 Lucks Lane Lerida NSW 2581	Solar farm, BESS and substation siting	133.05	151//DP754127
		194.34	85//DP754127
		39.49	147//DP754127
		115.64	82//DP754127
		180.07	1//DP1119084
Crown roads	Paper roads (unmade) and Council administered (made) roads	Impacts to be confirmed (refer to Figure 1-3 and Figure 1-4)	
Upper Lachlan Shire Council	Collector Road reserve	Need for upgrades to be confirmed	
Transport for NSW	Hume Highway road reserve (intersection with Collector Road)	Need for upgrades to be confirmed	

The Applicant proposes to lease the land from the host landholders for the lifetime of the project. Electrical substations are treated as premises rather than fixtures due to the substantial and permanent nature of their construction. The need for subdivision, particularly in relation to the onsite substation would be confirmed and detailed in the EIS following further engagement with Transgrid, the Applicant and the landowner. Improvements to road assets, including intersection treatments, would be undertaken in consultation with the road administrator; either Upper Lachlan Shire Council or Transport for NSW, where these are required.


Collector Road
Lot 181 DP754110
Lot 91 DP754127
Lot 112 DP754110
Lot 137 DP754127
Lot 111 DP754110
Lot 18 DP754127
Lot 182 DP754110
Lot 136 DP754127
Lot 96 DP754110
Lot 92 DP754127
Lot 167 DP754127
Lot 166 DP754127
Lot 122 DP754110
Lot 9 DP754127
Lot 123 DP754110
Lot 93 DP754127
Lot 141 DP754127
Lot 5 DP754127
Lot 4 DP754127
Lot 63 DP754127
Puckets Lane
Lucks Lane
Lot 94 DP754127
Lot 82 DP754127
Lot 22 DP754127
Lot 1 DP1119084
Lot 147 DP754127
Lot 85 DP754127
Lot 151 DP754127
LEGEND
Project Site
Roads
Project Properties
196 Lucks Lane Lerida
721 Collector Road, Lerida
Project Lots
Datum: GDA2020 / MGA Zone 55
0
250
500 m
NGH
A FYFE Company
Lerida Solar Farm and BESS
Involved Lands


LEGEND
Project Site
NSW Crown Land
NSW Crown Enclosure Permit
Road Enclosure
Road Enclosures_Formed Roads
Road Enclosures_Unformed Roads
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm and BESS
Crown Lands


LEGEND
Project Site
NSW Crown Land
NSW Crown Enclosure Permit
Road Enclosure
Road Enclosures_Formed Roads
Road Enclosures_Unformed Roads
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm and BESS
Crown Lands

1.4. Project design development

A preliminary Development Footprint has been developed in consideration of early investigations and consultation with host landholders. The Development Footprint will continue to be refined in response to environmental assessments, and in consultation with the community and relevant stakeholders and agencies through the EIS process. Further detail including a constraints map and discussion is provided in Section 6.

Key matters identified to date which have influenced the Project include:

- Biodiversity:
  - Native vegetation remnants
  - Buffers in relation to waterways and their riparian corridors
- Agreements with associated landholders
  - Consideration of continued agricultural use and Agri-Solar practices within the Project Site.
- Location of existing transmission lines
- Site topography and aspect
- Nearby receivers (dwellings).

1.5. The Applicant

The Langley Vale Solar Farm and BESS is being developed by Elgin Energy (the Applicant).

Elgin Energy is a global leader in utility-scale solar and battery storage development, with a presence across the UK, Ireland, Europe, and a rapidly expanding foothold in Australia. Headquartered in Dublin and backed by Copenhagen Infrastructure Partners, Elgin has a track record of successfully advancing over 1 GW of ready-to-build projects, with a 15 GW+ development pipeline spanning the UK, Europe, and Australia (Elgin Energy, 2024).

In Australia, Elgin Energy is advancing several major hybrid projects that combine solar generation with battery storage. These include the 150 MW Elaine Solar Farm, expected to commence construction by 2026–27, and the approved 330 MW Barwon Solar Farm, both located in Victoria (PV Magazine Australia, 2024). Elgin's growing pipeline also includes projects in New South Wales, such as the 80 MW Glanmire Solar Farm near Bathurst, which is fully approved and ready to build.

With a clear focus on hybrid solar-plus-storage systems, and multiple development approvals in place, Elgin Australia is well-positioned to substantially contribute to the nation's renewable energy transition (Elgin Energy, 2024).

Their details are summarised below in Table 1-2.

Table 1-2 Applicant details

Company Name	Elgin Energy Pty Ltd
	50 Bridge Street Quay Quarter Tower Sydney NSW 2000
ACN	629 627 416
Contact	Tim Averill tim.averill@elgin.com

1.6. Related development

No related developments have been identified at this stage.

1.7. Purpose of this document

This Scoping Report provides a high-level description of the Project, including its strategic context, statutory context, and identifies key environmental issues relevant to the Project and proposed investigation strategies for them. The format and content within this scoping report is guided by the:

- *State significant development guidelines – preparing a scoping report* (DPE, 2022)
- *Undertaking engagement guidelines for state significant projects* (DPHI, 2024)
- *Social impact assessment guideline for state significant projects* (DPIE, 2023)
- *Cumulative impact assessment guidelines for state significant projects* (DPIE, 2022).

2. Strategic context

Context important to the development of this Project includes:

- Regional and local setting, zoning and key environmental features
- Strategic need for energy generation and storage in NSW.

Together, these support the justification for the Project as set out below.

2.1. Regional setting

The Project Site is situated within the Upper Lachlan LGA, within the Southern Highlands region of NSW, with a population of 8,514 people as per the 2021 Census (Australian Bureau of Statistics, 2021). Most of the population in centralised around the regional town of Crookwell, with other notable towns being Gunning, 5km to the northwest of the Project site, Dalton 15km northwest and Taralga, 66km northeast.

The regional cities of Yass and Goulburn in the neighbouring LGAs of Yass Valley and Goulburn Mulwaree Regional would provide a number of services including hospital, banks, retail outlets, grocery stores, public and private schools, accommodation facilities including motels, caravan parks and short-term rentals, being located nearer the Project site than Crookwell (33 kms and 38 kms respectively). The city of Canberra is also located only 72 kms by road from the Project Site, which would from another large source of services to the region.

Land surrounding the Project site typically has a range of uses, though is dominated by grazing of native and modified pastures. The two involved landholdings are separated by Meadow Creek, which flows to the northwest, eventually combining with Sandy Creek south of Gunning, and flowing into the Lachlan River north of Gunning.

The Project is *not* located within a declared Renewable Energy Zone (REZ) however, there are currently multiple renewable energy projects in the region of the Project site, including Collector Wind Farm located 1km to the east of the Project site, and Cullerin Wind Farm 7 km to the northeast. Consideration of cumulative impacts in relation to the Project are discussed further in Section 6.12.

2.2. Local setting

2.2.1. Zoning

The Project Site is zoned RU2 Rural Landscape under the *Upper Lachlan Shire Local Environmental Plan (LEP) 2010* (Upper Lachlan LEP) (NSW Government, 2010) (refer to Figure 2-1). The objectives of this zone are:

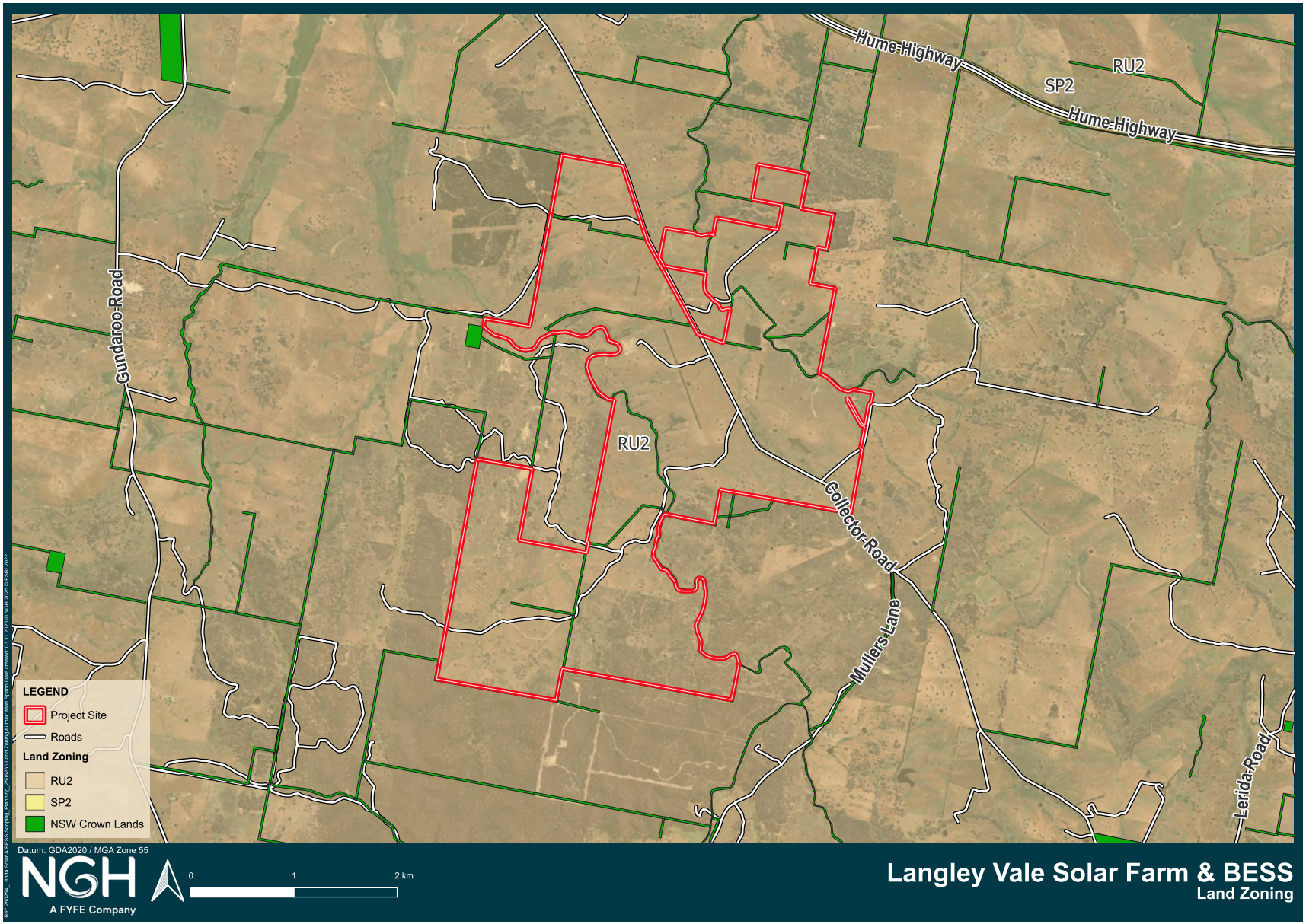
- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*
- *To protect, manage and restore areas with high conservation, scientific, cultural or aesthetic value.*
- *To encourage development that generates employment opportunities, integrates with tourism and is compatible with, and adds value to, local agricultural production.*
- *To retain the significant historic and social values expressed in existing landscapes and land use patterns.*
- *To conserve and enhance the quality of potentially valuable environmental assets, including waterways, riparian land, wetlands and other surface and groundwater resources, remnant native vegetation and fauna movement corridors.*

As part of the Project, the Applicant is exploring the opportunity to implement Agri-Solar practices within the Project Site, through continuing current sheep grazing activities under the solar panels. This would increase the alignment with the objectives of the RU2 land zoning as stated above, while being well placed to generate efficient renewable energy, supporting the transition of the network away from coal generation.

Part 2.3 Division 4 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP) provides that development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed non-residential zone. This includes RU2 zoned land. While the TISEPP overrides local provisions, it is noted that development of electricity generating works in RU2 zoned land is permitted with Consent under the Upper Lachlan LEP.

The selection of the Project Site to develop an energy facility supports the above objectives. It will:

- Be compatible with the existing network infrastructure; a 330kV transmission line traverses the Project Site, reducing the requirement to build large sections of connecting infrastructure
- Be compatible with adjacent agricultural land use and maintain the option for continued agricultural productivity within the Project Site.
- Have consideration for the natural resource base; this will be reflected in the design (avoiding vegetation remnants, waterways and their riparian buffers) and rehabilitation commitments of the Project (to maintain land capability).


Hume Highway
RU2
SP2
Hume Highway
Gundaroo Road
RU2
Collector Road
Mullers Lane
Lerida Road
LEGEND
Project Site
Roads
Land Zoning
RU2
SP2
NSW Crown Lands
Datum: GDA2020 / MGA Zone 55
NGH
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0
1
2 km
Langley Vale Solar Farm & BESS
Land Zoning

2.2.2. Site values

The Project Site includes farming land (predominantly grazing for sheep over modified pastures and native vegetation), an existing aboveground transmission line and easements (dual 330kV transmission lines that connect to Yass and Marulan), rural residential dwellings, farm dams and waterways.

There are several mapped waterways within the Project Site. Lerida Creek (3rd order stream under the Strahler Stream Order) runs in an approximately northern direction within the northern landholding of 721 Collector Road, while Meadow Creek – a 4th order stream – separates 196 Lucks Lane from the former landholding. Both waterways flow north to the Lachlan River. There are also multiple 1st and 2nd order streams within the Project Site.

The Land and Soil Capability (LSC) Scheme (NSW OEH, 2012) features eight categories, ranked in relation to contains to continued cultivation; Class 1 being the least constrained and Class 8 having significant constraints. While the mapping is broad and can be inaccurate, the Project Site is predominantly mapped as Class 4 (moderate capability land) in the northeast, and Class 5 (moderate-low capability land) in the southwest. There is a small area mapped as Class 6 (low capability land) to the southwest of the Site. Limitations of these LSC classes are discussed further below in Section 6.6. The site's LSC classes would be verified based on soil surveys as part of the EIS investigation.

There is no Biophysical Strategic Agricultural Land (BSAL) or State Significant Agricultural Lane (SSAL) mapped across the Project Site; these are the higher class lands which are more appropriate to retain in agricultural land use.

The Project Site contains four differing plant community types (PCTs) as verified by onsite flora surveys. Of these four, two are potentially associated with *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Box-gum Woodland), which is a Critically Endangered Ecological Community under the *Biodiversity Conservation Act 2016* (NSW) (BC) and *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC), and a potential Serious and Irreversible Impact (SAII) candidate in NSW. Further floristic surveys during the EIS phase would be required to fully determine the extent of impacts. Biodiversity values are further detailed in Section 6.5.

There are no current exploration or mining title leases across the Project Site. The site is not located within the Sydney Drinking Water Catchment.

The Project Site, in its current setting, contains approximately 91 sensitive receivers within the 4km visual line (refer to Figure 6-4). The 4km visual line is a legislative study area as per the *Technical Supplement* of the *Revised Large-Scale Solar Energy Guidelines* (DPHI, 2022) where sensitive receivers within the 4km visual line should be considered during assessment in the EIS. A Preliminary Visual Impact Assessment (PVIA) has been undertaken as part of the Scoping phase and is summarised in Section 6.3, commencing what will be a more detailed evaluation of visual impacts on residences, public view points and landscape character, as part of the EIS.

2.3. Alignment with federal, state and regional plans

2.3.1. Federal

The Paris Agreement

The COP21, also known as the 2015 Paris Climate Conference, achieved a legally binding and universal agreement on climate with the aim of keeping global warming below 2 degrees Celsius, chiefly by reducing greenhouse gas emissions.

On September 8, 2022, the Albanese Government's *Climate Change Bill 2022* passed the Senate and the House of Representatives.

The Bill enshrined into law (as the *Climate Change Act 2022*) an emissions reduction target of 43 percent from 2005 levels by 2030, and net zero emissions by 2050. In addition, the legislation ensures a whole-of-government approach to drive towards the target. The government has formally lodged this target as an enhanced Nationally Determined Contribution under the Paris Agreement.

The Act backs onto the Labor Government's Powering Australia plan, which is focused on creating jobs, cutting power bills and reducing emissions by boosting renewable energy.

The Project would form part of the Australian effort to help meet this target. The development of large- scale renewable energy generation is an important contribution to:

- Providing for further reductions in Green House Gas (GHG) emission intensity for generation in the National Energy Market (NEM)
- Supporting the Government's Renewable Target (RET) of 20 percent renewable energy by 2020. While the Large-scale RET target was met in 2019/20, the scheme will continue to require high-energy users to meet their obligations under the policy until 2030.

Large-scale Renewable Energy Target

The Australian Government Clean Energy Regulator administers the Large-scale Renewable Energy Target (LRET) which incentivises investment in renewable energy power stations such as wind and solar farms. The LRET of 33,000 GW hours of additional renewable electricity generation was met at the end of January 2021 (Clean Energy Regulator 2021). The annual target will remain at 33,000 GW hours until the scheme ends in 2030.

The goal of the LRET is to significantly increase the proportion of Australia's electricity generated from renewable sources, thereby reducing greenhouse gas emissions and promoting a sustainable energy future.

The Langley Vale Solar Farm and BESS will contribute to meeting the renewable energy target.

Capital Investment Scheme

The Capacity Investment Scheme (CIS) provides a national framework to encourage new investment in renewable energy capacity and battery storage. The CIS involves the Australian Government seeking competitive tender bids for renewable capacity and clean dispatchable capacity projects to:

- deliver an additional 32GW of capacity by 2030
- fill expected reliability gaps as ageing coal power stations exit
- deliver the Australian Government's 82% renewable electricity by 2030 target.

The Australian Government will provide revenue underwriting for successful CIS tender projects, with an agreed revenue 'floor' and 'ceiling'. This will provide a long-term revenue safety-net that decreases financial risks for investors and encourages more investment when and where it is needed. Revenue underwriting is being used domestically and globally to support investment into the energy transition.

The Project will support and assist in achieving the Australian Government renewable energy targets.

Reduction plan 2021 and Nationally Determined Contribution (2022)

Australia's long term emissions reduction plan and the Nationally determined contribution to the United Nations via the Paris Agreement (developed during United Nations Framework Convention on Climate Change (UNFCC) COP21) sets the nations goals towards zero emissions by 2050 and 43% below 2005 levels by 2030 (Department of Industry, Science, Energy and Resources, 2021). This was set to achieve the goal of avoiding a 1.5^{o}C rise (from pre-industrial levels) in temperature by the end of the 21st century. The Project assists in this reduction through the storage of electricity which should be primarily sourced from renewables, not fossil fuels under the forecasted energy transition.

There have been seven COP's since COP21. The latest outcomes from COP28 highlighted the need to triple global renewable energy capacity globally to meet the goals of the Paris agreement.

The Commonwealth *Climate Change Act 2022* enshrines into law an emissions reduction target of 43 percent from 2005 levels by 2030, and net zero emissions by 2050. In addition, the Act ensures a whole-of-government approach to drive towards the target. The government has formally lodged this target as an enhanced Nationally Determined Contribution under the Paris Agreement. The Act backs onto the Government's Powering Australia Plan, which is focused on creating jobs, cutting power bills and reducing emissions by boosting renewable energy.

While the Large-scale RET target was met in 2019/20, the scheme will continue to require high-energy users to meet their obligations under the policy until 2030.

2024 Integrated Systems Plan

Published every two years, the Integrated Systems Plan (ISP) details what, when, where, and how much electricity transmission, generation and storage is required in the NEM. This assists governments and industry to plan and invest to meet people's current and future energy needs.

The 2024 ISP confirms that urgent investment is needed in new renewable energy generation, transmission, storage and flexible gas generation to continue to deliver secure, reliable and affordable energy, and reach the renewable electricity generation targets of NEM jurisdictions.

The key messages from the plan include:

- Household and business electricity consumption from the grid is forecast to nearly double by 2050.
- With coal expected to retire faster than currently announced, the NEM is forecast to need a seven-fold increase in large-scale wind and solar generation by 2050. The 2024 ISP predicts a 90% (or 21 Gigawatts (GW)) closure of all coal plants by 2030, a significant increase from the forecast two-thirds of coal plants (or 14GW) from the 2022 ISP.
- It also requires building close to 10,000km of new transmission lines and upgrades to existing networks by 2050 to connect new generation across the power system.
- Delivering the transmission projects identified in this plan are expected to avoid $17 billion in additional costs to consumers if those projects were not delivered.

The 2024 ISP sets out how the Australian Energy Market Operator (AEMO) has identified the optimal development path for the NEM and is a roadmap through the energy transition. The 2024 ISP shifts from the 2022 ISP, the adjustment being in response to economic, physical and environmental policy changes. The AEMO states that “there will be a demand for 82GW of utility-scale wind and solar in the NEM by 2034-35, and 126GW by 2049-50. 34GW of this energy would need to come from NSW".

In response to an accelerated timeline for the closure of coal fired energy plants, the optimal development path is Step Change. Step Change is predicted to be the lowest cost, resilient and practical path to the NEM’s energy future rather than Progressive Change which reflects slower economic growth and energy investment or Green Energy exports which is focused on strong industrial decarbonisation and low emission energy exports. Under forecasts for the Step Change scenario (AEMO, 2023), the optimal development path requires investment that would:

- Triple grid scale variable renewable energy by 2030 and increase it seven-fold by 2050. Focus grid scale generation in REZs. Almost quadruple the firming capacity using utility scale batteries, hydro and gas-powered powered generation Support a fourfold increase in rooftop solar capacity.
- Leverage system security services and operational approaches.

There is an earlier need for renewable energy with a need for 6GW of new renewable energy per year compared to 4GW in the 2022 ISP to replace the coal generation capacity that is exiting faster, to meet the higher demand forecast compared to the 2022 ISP.

2.3.2. State

NSW Climate Change (Net Zero Future) Act 2023

The NSW Climate Change (Net Zero Future) Act 2023 was agreed on 11 December 2023. It aims to '*set objective for New South Wales to be more resilient to a changing climate; and to establish the Net Zero Commission to monitor, review and report on progress towards the 2030 and 2050 targets and the objective and to exercise other related functions'.*

The Act commits the NSW government to effective action on climate change to ensure a sustainable and fair future for the people, economy and environment of NSW. It legislates:

- Guiding principles for action to address climate change that consider the impacts, opportunities and need for action in NSW
- Emission reduction targets for NSW:
    - 50% reduction of 2005 levels by 2030
    - 70% reduction on 2005 levels by 2035
    - Net zero by 2050
- An object for NSW to be more resilient to a changing climate
- Establishing an independent, expert Net Zero Commission to monitor, review, report on and advise on progress towards these targets (NSW Government, 2023).

This Act supports the Commonwealth governments' *Climate Change Act* 2022.

NSW Net Zero Plan

In March 2020, the NSW Government released the NSW Net Zero Plan Stage 1 2020-2030. This plan sets out how the NSW Government will deliver on these objectives over the next decade. The Net Zero Priorities include to:

- Drive uptake of proven emissions reduction technologies that grow the economy, create new jobs or reduce the cost of living
- Empower consumers and businesses to make sustainable choices
- Invest in the next wave of emissions reduction innovation to ensure economic prosperity from decarbonisation beyond 2030
- Ensure the NSW Government leads by example.

The Net Zero Plan Stage 1: 2020-2030 is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050.

The proposed Langley Vale Solar Farm and BESS aligns with this goal.

2.3.3. Regional/local policy

Draft South East and Tablelands Regional Plan 2041

The Draft South East and Tablelands Regional Plan 2041 (the Plan) was re-released as a draft plan on 9 December 2022. As of 2025, it has not yet been finalised. The Plan covers the South East and Tablelands region of NSW which is inclusive of nine LGA's (Hilltops, Upper Lachlan Shire, Wingecarribee, Yass Valley, Goulburn–Mulwaree, Queanbeyan–Palerang Regional, Eurobodalla, Snowy Monaro Regional, and the Bega Valley).

The plan has set the following core vision for the region:

> *By 2040, the South East and Tablelands will be recognised as a region of collaboration and innovation, demonstrated through increased investment in tourism, renewable energy generation, sustainable agriculture and smart manufacturing. Country is widely recognised, with Aboriginal people providing valued strategic input into the region's future. The provision of quality, safe and fit for purpose housing, infrastructure and services attracts and retains people within our communities, with the natural environment being embedded at the heart of planning and decision-making.*

The vision is supported by five themes, each consisting of subsequent objectives:

- Theme 1 – Recognising Country, people and place
- Theme 2 – Enhancing sustainable and resilient environments
- Theme 3 – Leveraging diverse economic identities
- Theme 4 – Planning for fit for purpose housing and services
- Theme 5 – Supporting a connected and active region.

The Project as outlined in this Scoping Report is in alignment with the below objectives:

- Objective 5 – Protect Important Environmental Assets
  - The Plan outlines High Environmental Value (HEV) lands throughout the Region, and highlights the importance of the 'avoid, minimised, offset' hierarchy. The Project is consistent with the hierarchy, with development placed to avoid HEV land, specifically woodland remnants and riparian corridors.
- Objective 8 – Plan for a net zero region by 2050
  - The Plan notes the region does not have its own renewable energy zone; however, identifies the existing renewable energy network, coupled with increased renewable energy into the NSW electricity grid would benefit the region and reduce emissions, as per the vision to be a net zero region by 2050. The Plan states that renewable energy initiatives are therefore supported.
  - The proposed development is consistent with Objective 8 as it seeks to enable electricity generation from renewable sources, which will contribute to a net zero region by 2050.
- Objective 11 Realise economic benefits from a connection regional economy
  - The Plan notes the region's diverse economy, its connections to Canberra and Sydney and being a hub for renewable energy generation.
  - The Plan notes the Electricity Infrastructure Roadmap for NSW including major projects in the region like Hume Link and Energy Connect. Importantly, these will increase the capacity of electrical infrastructure in the region to further support increased renewable energy. The Project would further this objective through building the economic potential of renewable energy as identified in the Plan.

Southern Tablelands Regional Economic Development Strategy (REDS) 2023 update

In 2018, the NSW Government developed Regional Economic Development Strategies (REDS) for 38 Functional Economic Regions (FERs) across regional NSW. The 2023 update has outlined that over $1.7 billion has been invested into renewable energy generation facilities across the region including Bango, Biala, Collector, Crookwell II and Rye Park wind farms.

Key themes from the consultation highlighted the significant investment being made into renewable energy developments in the region and expressed a desire to ensure the region's communities derive long-term economic benefits from these projects. Items outlined in the updated 2023 Southern Tablelands REDS strategies that align with the Project include:

Maximise community benefits from the region's emerging strength in renewable energy generation

- Facilitate community benefits from the growth of off grid energy storage, generation and transmission capacity across the region while ensuring compatibility with surrounding land uses, such as agriculture.

There is also a strong focus throughout the REDS update on renewable energy as an emerging industry in the region. Given the significant investment into several renewable energy generation projects in the region, energy generation has significant capacity to continue to grow as a specialisation industry for the ULSC LGA.

The REDS also outlines that developments in the region should consider 'the provision of housing for works, the capacity of existing and planned infrastructure to service accommodation for workers, and provision for worker's accommodation sites' (Department of Regional NSW 2023). This is a serious regional issue that will be investigated as part of the EIS, in consultation with Council and local accommodation providers and in consideration of other large-scale projects proposed for the region.

Upper Lachlan Shire Council Community Strategic Plan 2042 (CSP)

The Upper Lachlan Shire Council Community Strategic Plan (CSP) outlines a collective, shared vision for the community, produced as the result of community consultation and underpinned by the desire to build and maintain sustainable communities while retaining the region's natural beauty. Five broad themes are covered by the CSP. The themes the Project align with include:

C. Our Environment

- Adopt environmentally sustainable practices
- Rural character and natural landscapes are protected and maintained through:
  - considering community feedback, local character and identity, economic factors and social impact in planning decision
  - encouraging positive social and environmental contributions from developers.

E. Our Civic Leadership

- Our community is informed and engaged in decision-making by:
  - empowering the community to access engagement opportunities to provide input into their future
  - allowing residents to have access to timely, relevant and accurate information
  - aim to engage 'hard to reach' community members in the region.

Upper Lachlan Local Environmental Plan 2010

The Upper Lachlan Local Environmental Plan (LEP) 2010 is a statutory document that guides land use planning and development.

'Electricity generating works' as defined by the Standard Instrument - Principal Local Environment Plan (2006) includes the generation and storage of electricity.

The Project Site is zoned Rural Landscape (RU2) under the Upper Lachlan LEP. Electricity generating works are permitted with consent within this zone under the LEP.

Upper Lachlan Development Control Plan 2010

The upper Lachlan Development Control Plan (DCP) 201 provides detailed guidelines and standards for development within the former Upper Lachlan Shire LGA.

This Plan supplements the LEP by providing general information and detailed guidelines and controls which relate to the decision making process. The LEP and this Plan provide the land use planning and development controls for the Upper Lachlan local government area.

The objectives of the DCP are as follows:

- To manage development such that it encourages orderly and sustainable growth whilst having regard to character, amenity, rural and agricultural productivity and environmental values associated with the Shire.
- To ensure that all development has regard to and reflects the principles of ecologically sustainable development.
- To provide a basis for assessing development applications.
- To provide certainty and confidence about the quality of development within the Shire.

The DCP came into effect on 18 February 2010 and serves as a crucial tool for developers and planners to understand the expectations and requirements for development in the Shire.

The Langley Vale Solar Farm and BESS would be consistent with the first two objectives of the DCP. As a State Significant Development, the assessment format and decision making will be lead by the NSW Government, in consultation with Council and other agencies.

2.4. Project justification

In addition to its important contribution to the national and NSW electricity market, providing new generation capacity and storage to assist the market transition from coal to renewable generation, the Project has clear local socio-economic and environmental benefits.

2.4.1. Socio-economic benefits

Socio-economic benefits of the Project would accrue through:

- Providing diversification of land use and additional income stream within the rural economy
- Providing employment and economic stimulus, primarily through the construction phase
- Providing ongoing community benefits to spread the economic benefits of the project through the operational phase.
- Putting downward pressure on electricity prices.

Regional Australia leads the world in agricultural and resource productivity. Solar is another valuable natural resource and a way of diversifying regional economies. Solar farms can be developed to have a minor and largely reversible impact on the agricultural capacity of the sites they occupy, while providing an additional income stream to associated landholders. The proposed dual land-use would allow a continued agricultural production and capacity for the host landowners during operation

In addition to providing an additional income stream to associated landholders, the Project is expected to create up to 300 full time equivalent (FTE) jobs during the key construction period and approximately 3 permanent jobs during operation. Largely due to the influx of workers, the Project would generate economic stimulus in the Upper Lachlan and surrounding LGAs. These areas would provide accommodation, food, fuel and trade equipment and services, mostly during the construction phase. During operation of the solar farm, economic benefits would be less, focussing on monitoring and inspections, maintenance, repair and upgrade of infrastructure, much of which is likely to be provided by the resident labour force.

To spread the economic benefits of the project through the operational phase and to address those members of the community which may be impacted but not directly involved with the Project, the Langley Vale Solar Farm and BESS will include a firm and clear commitment to a Community Benefit Scheme that would be developed in consultation with the community, key stakeholders and Upper Lachlan Shire Council.

Finally, the Australian Energy Market Commissions (AEMC) analysis indicated that multiple renewable energy projects are also likely to put downward pressure on the wholesale electricity prices, which has the potential to reduce electricity bills for households and businesses across NSW. As a utility scale solar project with ancillary storage, the Project is well placed to make a meaningful contribution to lowering electricity prices for consumers.

2.4.2. Environmental benefits and impact minimisation

The development of the Langley Vale Solar Farm and BESS will result in clear environmental benefits through its contribution to the electricity market's transition away from coal to less polluting, renewable generation options. This is important to reduce greenhouse gas emissions and the harmful effects of climate change.

Climate change presents specific risks to regional rural economies and biodiversity. The 2022 Intergovernmental Panel on Climate Change (IPCC) report (IPCC, 2022) states with a high level of confidence that energy diversification, including with decentralised renewable generation can reduce vulnerabilities to climate change especially for rural communities.

The Project will have the ability to produce approximately 640,000 MWh of renewable energy per year, which will:

- Displace about 470,000 tonnes of CO_2 emissions per year
- Power 110,000 typical Australian homes.

The Project would be designed to reflect the environmental values of the site. Soil resources, landscape character and visual amenity, important habitat and heritage values are all being investigated at this early planning stage to consider avoidance and protection of these values, through all stages of the project. Specific management commitments would accompany the final project description to ensure that impacts that cannot be avoided would be minimised to an acceptable degree. This will include commitments specific to:

- Avoidance of important biodiversity features
- Soil resources and rehabilitation objectives in the decommissioning phase advised by an agricultural impact assessment
- Buffers on waterways and commitments to best practice design and rehabilitation where water way crossings are required
- Appropriate landscape and visual amenity mitigation measures as recommended by an appropriate technical specialist
- Buffers on any important heritage items identified and salvage programmes to be developed in consultation with Aboriginal stakeholders.

2.4.3. Project site suitability

The Project is well placed to generate efficient renewable energy, supporting the transition of the network away from coal generation. Gunning, the nearest meteorological station, receives on average 4.8 kWh m^{-2} of solar exposure per day (BOM, 2024).

The Project Site has been evaluated against the *Large Scale Solar Energy Guidelines for State Significant Development* (DPHI, 2022). This process allows the opportunity to avoid or minimise negative impacts at the outset. Design and assessment of the Project can then be undertaken with a focus on mitigating and managing unavoidable impacts.

The Project Site is considered suitable as:

- It has access to existing high voltage electricity distribution networks
- It is relatively flat and has a good solar resource
- It is able to leverage on the skills being developed in the region through other large scale renewable projects in the area
- It is close to regional centres such as Yass and Goulburn to source local workforce and materials
- It is identified as being suitable for Agri-solar grazing operations.

2.5. Likelihood for cumulative impacts

The Project has the potential to result in cumulative impacts, most notably with other current or proposed State Significant Developments in the region. Key impacts for consideration have been identified as social and economic impacts (work force and accommodation), traffic and amenity impacts. These are discussed in Section 6.12 and would be assessed in detail in the EIS in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Project*s (DPIE, 2022).

2.6. Project agreements

Agreements are in place with host landholders, including where there are multiple dwellings and residents within the host properties.

At this stage, no other agreements have been entered into with neighbouring properties or other groups. Where agreements are not in place, all receivers (with the exception of host landholders) are treated as 'non-associated' and therefore impacts on them would be fully assessed in the EIS.

Associated and non-associated receivers within and surrounding the Project Site are shown in Figure 6-4.

The Applicant is committed to investigating appropriate local benefits as a result of the Project and will continue to consult with landowners, Upper Lachlan Shire Council and the local community throughout development of the EIS.

3. The project

The Project would involve the development, construction, operation and decommissioning of a Photo Voltaic (PV) solar farm with a generating capacity of approximately 250MWac and ancillary battery energy storage system (BESS) with up to 500MWac storage capacity and 4-hour duration. It would supply electricity to the national electricity grid via existing 330 kV transmission lines which transect the site.

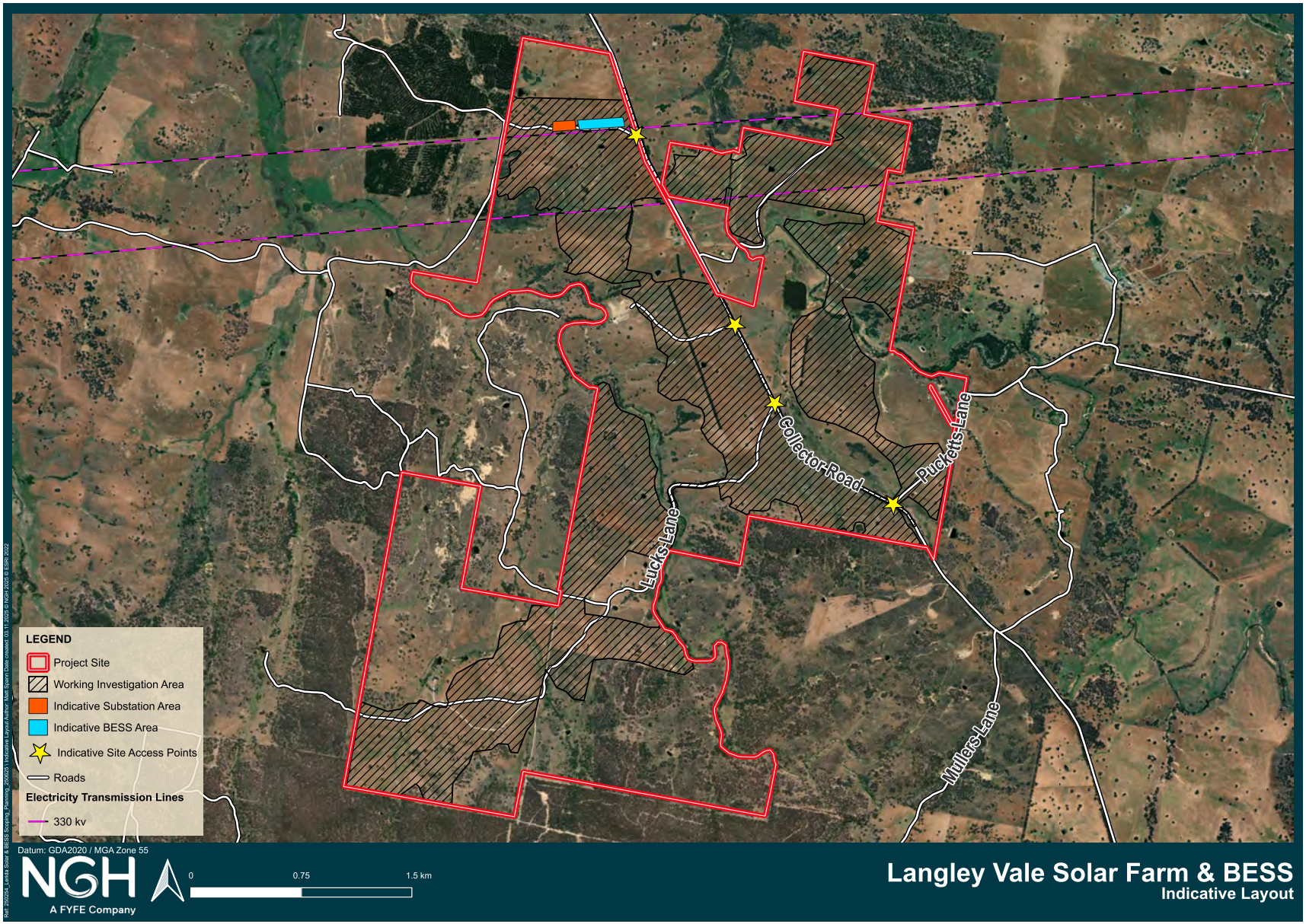
Site access is anticipated to be from Collector Road.

3.1. Project description

The Project is likely to include the following infrastructure:

- Approximately 448,000 single axis tracking bifacial PV modules supported by approximately 6230 tracker units. The modules may reach a peak height of 3.5m when fully rotated.
- Approximately 65 solar inverters
- Approximately 136 BESS inverters
- Approximately 136 Power Conversion Units (PCUs)
- Medium voltage (MV) transformers
- A centralised BESS with up to 500MW capacity and four hours of storage duration (2000MWh)
- The BESS would consist of approximately 400 units, which would be standard 20-foot shipping containers
- Substations, control room, maintenance facility. Some minor components (i.e. lightning rods and transmission poles) of the substation site would be up to 22m and 50m high respectively. Transmission pole height would be in keeping with that of the existing 330kV line.
- Other ancillary infrastructure including, but not limited to:
  - Operations and Maintenance building
  - Car parking
  - Staff facilities
  - Warehouse/storage
  - Bunding
  - Construction laydown areas
  - Drainage
  - Fencing and landscaping
  - Security fencing
  - Underground cables connecting site infrastructure
  - Water tank; and
  - Pumpable sewerage holding tank.
- Internal access track and underground/overhead cabling
- Watercourse crossings for internal access tracks, as required
- Intersection and road upgrades, where required.
- Landscape plantings to soften the view of expansive infrastructure, where required.

The Project Site boundary and indicative Development Footprint are outlined in Figure 3-1.The Development footprint is likely to be refined as further investigations are carried out on the site during the detailed investigation phase in the EIS.


LEGEND
Project Site
Working Investigation Area
Indicative Substation Area
Indicative BESS Area
Indicative Site Access Points
Roads
Electricity Transmission Lines
330 kv
Collector Road
Pucketts Lane
Lucks Lane
Nullers Lane
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.75
1.5 km
Langley Vale Solar Farm & BESS
Indicative Layout

3.1.1. Project delivery

The Project was identified in early 2023 and has since progressed through feasibility studies and now into the Scoping Phase. The preparation of the detailed environmental studies and consultation program will shape the project and is expected to take around 12-15 months.

Pending project approval, the Project delivery post approval can be separated into four key stages. Site establishment, construction, operation and decommissioning. The details of these stages are outlined below in Table 3-1 and would be described in more detail during the EIS phase.

Table 3-1 Indicative Project delivery timeline

Phase	Approximate commencement	Approximate duration
Detailed investigation and Environmental Impact Statement	Late 2025	12-15 months
Project Approval	From Q3 2027	2 months
Site establishment	Q3 2027	3-6 months
Construction	Q2 2028	18-24 months
Operation	2029-2030	Approximately 50 years
Decommissioning	2080	Within 3 – 6 months of the cessation of operations

Construction work hours

Construction hours will be limited to:

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

The delivery of materials requiring an escort and/or emergency works may occur outside of the above construction hours. The need for any additional out of hours work would be considered in the EIS.

3.1.2. Site establishment – Pre-construction

The site establishment phase would include the establishment of the site access and associated road treatments required to facilitate the traffic movements for the construction phase. This period would be undertaken over approximately 3-6 months. The details of the access treatments would be covered in the EIS. However, the access would likely be off Collector Road via the Hume Highway.

During this site establishment, activity on site may occur for early delineation of the site such as marking no go zones and compound area marking. Additional pre-construction works that may be undertaken also include installation of fencing, artefact survey and/or salvage, overhead line safety marking and geotechnical drilling and/or surveying.

3.1.3. Construction

The construction phase would begin following the road upgrades and is expected to take approximately 18-24 months. During peak construction there would be up to 350 FTE workers onsite. The construction program may be staged, with further detail to be provided in the EIS. Construction will involve the following key activities:

- Contractor mobilisation
- Site establishment including site access, access treatments (if required), clearing and grubbing, security fencing, temporary construction facilities/laydown, safety controls and environmental controls
- Earthworks and internal access roads as required
- Construction of foundations
- Delivery of module components
- Delivery of cabling, communication, and earthing components
- Trenching
- Installation of PV array and module components
- Delivery and installation of inverter-transformer stations
- Overhead powerline connection
- Construction of ancillary buildings and structures
- Testing and commissioning
- Removal of construction facilities/laydown and reinstate of temporary areas.

Materials

The following materials would be required to construct the Project:

- Aggregates, gravel road base, and concrete
- Fencing, gates and lighting
- Cabling, and conduit
- PV array modules and tracker units
- Container-based modules containing the battery units
- Inverters and transformer stations
- Building structures (including temporary structure for construction)
- Control room and switchgear.

The material quantities would be estimated in more detail in the EIS when the Development Footprint is developed through the EIS.

Equipment

The following typical equipment would be used throughout the construction of the Project. Further details and quantities of the equipment would be provided in the EIS:

- Excavators
- Mobile cranes
- Graders
- Concrete truck and pumps
- Truck and dogs
- Telehandlers
- Forklifts
- Drum / padfoot rollers
- Wheeled loader
- Trencher
- Water truck
- Hand tools.

3.1.4. Operation

It is anticipated that the Project would operate for up to 50 years, noting that the consent for similar projects is not time limited. The Langley Vale Solar Farm and BESS would be operational 24/7 with energy production from the solar farm occurring during the day, and the battery charging during times of high energy supply (or low demand) and discharging during periods of low energy suppled (or high demand). Battery discharge timing and duration would be determined by demands on the grid. Most of the site operations would be operated remotely, but emergency response, inspections and regular maintenance would be carried out by field workers. Approximately 2-3 full time employees would work on the site during operation.

Additional contractors local to the region would also be required for jobs such as weed and pest control.

3.1.5. Decommissioning

If the Project is not repowered at the end of its operational life, then it will be decommissioned. The decommissioning phase would involve removal of all above ground infrastructure and below ground infrastructure where possible and return of the:

- Areas subject to extensive excavation, such as the BESS and substation facility, to a safe, stable and non-polluting state.
- Broader solar array areas (and access tracks that will not be retained by the host landholders), to the same land soil capability class or better, allowing for continued agricultural operations.

Specific infrastructure would be retained permanently, including the substation. This would be gifted to TransGrid, continuing to operate as an asset within the broader electricity network. Some access tracks may remain, at the request of the host landholders.

3.2. Estimated Development Cost

The Estimated Development Cost (EDC) of the Project is estimated to be approximately $445 million. The final EDC figure would be subject to a detailed EDC report would be submitted to the assessment agency with the EIS. The EDC will consider the full cost of the Project, excluding the land value but including any biodiversity offset obligations and all mitigation measures necessary to construct, operate and decommission the Project.

3.3. Restrictions or covenants over the land

No relevant restrictions or covenants apply to the Project Site.

3.4. Analysis of alternatives

Alternatives considered below include statements regarding alternative site locations and alternative energy generating/storage technologies. Alternative technologies were not extensively considered as the site selected was done so on the grounds of solar capability and grid connection. As such, this section provides a deeper analysis of site selection than alternative technologies.

3.4.1. Alternative technologies or components

The critical components of a solar farm include:

- Solar panels to generate DC electricity from sunlight.
- Inverters to convert the DC electricity into AC electricity.
- Energy storage facility.

Over recent years, the underlying technology surrounding solar farm development has been evolving at an increasingly rapid rate. The Applicant would utilise the latest technical and cost-efficient technology available at the time of construction.

3.4.2. Generation technology

PV solar technology was chosen for electricity generation because it is cost-effective, low profile, durable, utilises non-toxic metal composition and flexible regarding layout and siting. It is a proven and mature technology which is readily available for broad scale deployment at the Project Site. Solar generation is well suited to the particular characteristics of the Project and can be rapidly deployed to assist in meeting both state and national climate change targets.

3.4.3. Site location

The site of the Project was selected on the basis of; ease of connection to the grid having a 330kV transmission line passing through the Project Site, being used over an extended period for grazing and will have the ability to retain grazing enterprises during operation.

The Project Site is also considered as being suitable for large scale solar due to the proximity of the key regional centres of Yass and Goulburn, as well as the relative proximity to Canberra, to support the development by providing labour, accommodation and supplies.

Once the general area was selected, the Applicant considered two options – either proceeding with the solar farm and BESS, or not continuing with the proposed development.

3.4.4. Options considered

Option 1: The ‘do nothing’ option

The do-nothing option considers the consequences of not carrying out the Project. The strategic need for the Project is outlined in Section 2 of this report. In summary, the Project is needed to address the state’s current need for new generation methods that address climate change commitments that are moving away from

reliance on fossil fuels. Not undertaken, the Project would not assist in the transition away from fossil fuel reliant energy production The Proposal is justified in Section 2.4 due to its potential to provide socio-economic benefits, environmental benefits in the form of CO_2 displacement and the suitability of the Project Site for solar energy production.

The do-nothing option would have the benefit of not having the environmental impacts of a solar farm project. Existing grazing within the Project Site would likely continue as well.

Option 2: Constructing the Langley Vale Solar Farm and BESS

The Project is proposed and designed to connect into the existing overhead 330kV transmission line via an onsite substation. The key advantages and disadvantages of this option are summarised in

Table 3-2. Mitigation measures were considered to avoid environmental impacts associated with the construction, operation and decommissioning of the Project.

Table 3-2 The advantages and disadvantages of constructing the Langley Vale Solar Farm and BESS

Advantages of Option 2	Disadvantages of Option 2
• Aligns with the strategic needs and Project justification. • At a 250MW_{AC} capacity this option could displace about 470,000 tonnes of CO2 emissions per year compared to a typical coal fired generator • Ability to avoid key environmental impacts such as high value biodiversity and traffic upgrades. • Broader benefits to the community through the community benefits fund to be developed in consultation with Upper Lachlan Shire Council. • Grazing enterprises can continue during operation.	• Select environmental impacts that will be minimised through mitigation measures to be developed in the EIS.

4. Statutory context

Relevant statutory considerations for the Project are presented in Table 4-1.

Table 4-1 Statutory requirements

Category	Statutory requirements	Relevance to Project
Power to grant consent	State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) *Environmental Planning and Assessment Act 1979* (EP&A Act).	Section 20 of Schedule 1 of the Planning Systems SEPP states that the following is considered an SSD: *Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:* *(a) has a capital investment value of more than $30 million…* 'Electricity generating works' as defined by the *Principal Local Environment Plan 2006* includes solar generation and electricity storage. The Project would have a capital investment cost estimate of more than $30 million. Therefore, the Project is classified as "State Significant Development" under division 4.7 of the EP&A Act. The Minister for Planning and Public Spaces is the consent authority for SSD, and SSD applications are assessed by DPHI (unless specific conditions occur e.g., where 50 or more people have objected to the application, the local council has objected to the application; and/or the applicant has disclosed a reportable political donation, whereby the Independent Planning Commission (IPC) would be the consent authority. The provisions of the EP&A Act are regulated by the control authority through the application of the Environmental Planning and Assessment Regulation 2021.
Permissibility	State Environmental Panning Policy (Transport and Infrastructure) 2021 (TISEPP)	The site is located within land zoned Rural Landscape (RU2) under the Upper Lachlan LEP. Electricity generation is permissible with consent in this land zone. Section 2.36(1)(b) of the TISEPP states development for the purpose of electricity generating works may be

	Upper Lachlan Local Environmental Plan 2010 (Upper Lachlan LEP).	carried out by any person with consent on any land in a non-prescribed residential zone. The land is zoned RU2 and under Section 2.35 of the TISEPP, a non-prescribed residential zone. Under the provisions of both the Upper Lachlan LEP and the TISEPP, the Project is permissible with consent.
Other approvals	*Roads Act 1993* (Roads Act), *Environmental Planning and Assessment Regulation 2021* (EP&A Reg), *Crown Lands Management Act 2016* (CLM Act), State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP), *Heritage Act 1977, Water Management Act 2000* (WM Act), *National Parks and Wildlife Act 1974* (NPW Act), *Fisheries Management Act 1994* (FM Act)	**EPBC Act approval** If a matter of national environmental significance is impacted by the Project an EPBC Act referral would be undertaken. At this stage of the assessment process no matters of national environmental significance have been identified as being impacted by the Project. **Consistent approvals** • Section 4.42 of the EP&A Act states "An authorisation of the following kind cannot be refused if it is necessary for carrying out State significant development that is authorised by a development consent under this Division and is to be substantially consistent with the consent": • Consent under section 138 of the Roads Act for road upgrades to the public road network. • Part 8 Division 5 of the EP&A Reg specifies the form and content of EISs, which provide the basis for the Secretary's Environmental Assessment Requirements (SEARs) issued for Projects. • Section 59 of the EP&A Reg addresses public participation for SSD. • Section 251 requires an 'estimated cost' of the EDC of a DA in order for the Planning Secretary to make their determination. **Other approvals** Approvals/licenses that will be required for the Project include: • A Preliminary Hazard Analysis (PHA) under the Resilience and Hazards SEPP for energy storage systems **Approvals note required** Section 4.41 of the EP&A Act excludes the following approvals when the project is an SSD:

Category	Statutory requirements	Relevance to Project
		• A Fisheries permit under the Section 201 and 219 of the *Fisheries Management Act 1994* • An excavation permit for detailed heritage surveys under Section 139 of the *Heritage Act 1977* • An Aboriginal heritage impact permit under Section 90 of the *National Parks and Wildlife Act 1974*[1] • The Project would not require a bushfire safety authority under Section 100B of the *Rural Fires Act 1997* • A water use approval (Section 89), a water management work approval (Section 90) and an activity approval (Section 91) under the *Water Management Act 2000* would not be required • Subdivision under the *Real Property Act 1900.*
Pre-condition to exercising the power to grant consent	State Environmental Planning Policy (Transport and Infrastructure) 2021	• In accordance with Section 2.119 The consent authority must not grant consent unless it is satisfied of certain matters relating to vehicular access to the classified road, impacts on the safety, efficiency and operation of the classified road and sensitivity of development fronting the classified road • Section 2.122 of the Transport and Infrastructure SEPP requires 'traffic generating development' to be referred to TfNSW.
Mandatory matters for consideration		The following key Commonwealth, State and Local legislative and policy instruments are applicable to the project: <u>Commonwealth</u> • Environmental Protection and Biodiversity Conservation Act 1999 • Native Title Act 1993 <u>NSW</u> • Environmental Planning and Assessment Act 1979

[1] Note that the Project will comprehensively assess impacts to Aboriginal heritage as part of an Aboriginal Cultural Heritage Assessment (ACHA) during the EIS.

Category	Statutory requirements	Relevance to Project
		• State Environmental Planning Policy (Planning Systems) • State Environmental Planning Policy (Traffic and Infrastructure) 2021 • State Environmental Planning Policy (Hazards and Resilience) 2021 • State Environmental Planning Policy (Primary Production) 2021 • State Environmental Planning Policy (Resources and Energy) 2021 • Roads Act • Contaminated Lands Act • National Parks and Wildlife Act • Water Management Act 2000 • Heritage Act 1977 • Biodiversity Conservation Act 2016 (BC Act). <u>Local instruments</u> • Upper Lachlan Local Environment Plan 2010 • Upper Lachlan Development Control Plan 2010
Matters of National Environmental Significance (MNES)	*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).	Where MNES have potential to be significantly affected, a Commonwealth approval is required. A desktop EPBC Act Protected Matters search within 10kms of the Project Site, as provided in Appendix D identified the following. • Matters of National Environment Significance – 4 wetlands of International Importance (Ramsar Wetlands) – 2 Threatened Ecological Communities – 48 Threatened Species – 2 Migratory Species • Other Matters – 23 Listed Marine Species – 9 Commonwealth lands

		• Extra information – 3 State and Territory reserves – 1 Regional Forest Agreement Preliminary biodiversity assessment indicates a number of threatened ecological communities or species occurring on or utilising the Project Site. At this stage, the Project expects that avoidance of MNES will be achievable, such that an EPBC referral and a Commonwealth approval would not be required. This decision will be revisited as the targeted survey programs continue.

5. Engagement

Early engagement has commenced for the Project with proactive engagement undertaken by the Applicant and NGH, as summarised below. A more detailed summary with supporting information can be found attached as Appendix B.

5.1. Community and stakeholder engagement

As outlined in the Engagement Summary Report (Appendix B), the engagement strategy aimed to achieve the following objectives:

1. Produce clear information on the Project, potential impacts (positive and negative) and benefits for the environment, community, and region by delivering high-quality communication channels across all targeted channels.
2. Endeavour to contribute towards positive impact in the region with shared local and broader regional social, economic and environmental benefits considered.
3. Develop a sense of local ownership in the Project by identifying local advocates where possible.
4. Work together with the community in a collaborative way by identifying issues and likely mitigations throughout Project phases.
5. Support an uplift in the regional economy and level of local prosperity via a regional economic assessment.
6. Demonstrate sharing of Project benefits.
7. Maintain a positive corporate image for the Applicant and the renewable energy industry with the management of social and reputational risks.
8. To inform the Social Impact Assessment (SIA) and potential benefit sharing schemes.

Community information has been gathered via phone, physical mail, posted newsletters, emails, an online survey, and face to face meetings.

In summary, this report has been informed by:

- An online meeting with Upper Lachlan Shire Council
- A face-face meeting with the Member for Riverina
- Three targeted SIA interviews. These were held with a representative of Gunning District Landcare, and two potentially impacted landholders
- 61 letters posted to residents within 4km of the site, introducing the Project, advising of upcoming information sessions, providing contact details and offering direct contact, and directing them to the Project website to complete an online survey
- 63 introductory emails to targeted stakeholders including a Fact Sheet and FAQ document
- A newspaper notice to introduce the Project, information on the drop-in community information sessions and how to provide feedback.
- 3 phone calls with non-associated receivers, First Nations Groups, and other identified stakeholders.
- 2 pop-up information sessions (Collector Memorial Hall and Old Hume Cafe)
- 7 responses to the online survey
- A Project poster pinned at 3 local venues, introducing the Project, advising on upcoming information sessions, providing contact details and directing them to an online survey
- A social media post shared via a local community Facebook page.

5.2. Results of community and stakeholder engagement

5.2.1. Upper Lachlan Shire Council

In August 2024, the Applicant and NGH met with Council officers online to discuss the proposed Project. Discussion focused on alignment with Council's plans and strategies; the community and Council's sentiment towards SSD, renewables; workforce and economic stimulus; and available technical information and potential impacts around traffic and visual amenity.

The site selection process was discussed, based on its proximity to available network capacity, ecological suitability, existing screening, and land agreements.

Key matters raised by Council included:

- Council raised Community Benefit Sharing (CBS) and Voluntary Planning Agreement (VPA) matters, noting their preference for funds to be administered under a new LGA-wide policy currently in development
- Council noted that there isn't appropriate waste facilities located within the LGA, and waste processes should be considered
- Council and the Applicant also discussed future approvals required for water and road upgrades, along with Council preferences
- Council also raised concerns on the impact on housing in the region, particularly noting cumulative impacts with other large-scale developments in the locality.

Other detailed discussions included:

- Workforce numbers and sources
- Traffic safety and haulage routes, with a request for coordination with Transport for NSW
- Noise and visual impacts.

5.2.2. Member for Riverina

An in-person meeting was held between a representative of NGH and the Commonwealth Member for Riverina on 2 October 2025. The Member was briefed on the Project's status and consultation efforts to date.

The Member expressed appreciation for the early engagement and acknowledged that the Project had been responsive to early feedback received from the community, particularly regarding the Project name change outlined below.

5.2.3. Non-associated receivers, community drop-in sessions and online survey

As part of Scoping engagement activities, the Applicant mailed project information to 63 nearby residents, received seven online survey responses, and engaged with approximately 46 attendees across two community information sessions.

Overall, the sentiment towards the Project was neutral trending positive, with consideration of potential negative impacts of the Project on nearby neighbours through items such as visual and noise impact, traffic and road distribution, and concerns regarding land value decrease or impacts to insurance.

Sentiment towards renewable energy developments in the ULSC LGA is unique as community members are already highly familiar with renewable energy projects due to the region's long-standing role in hosting large-scale developments. The area has been a focal point for wind energy, with projects such as the Collector Wind Farm and Gullen Range Wind Farm shaping local experience and dialogue around renewable infrastructure. Through these projects, residents have had exposure to consultation processes, construction impacts, community benefit sharing arrangements, and long-term operational considerations.

From this, the key opportunities identified include:

- Stakeholders and community members displayed a desire to capitalise on benefit sharing, highlighting a need for investment in facilities, services and programs
- Ongoing and transparent community consultation was also raised frequently, signalling an opportunity for positive engagement through regular engagement
- Employment and skills development was raised on a few occasions, with one stakeholder also querying employment opportunities through the online community feedback survey
- Early engagement was valued by community members and was seen as an opportunity to build trust and address concerns through transparent communication as the Project progresses.

Key concerns and/or challenges identified include:

- Confusion of Project name with local property/station, which resulted in the name of the Project changing to the *Langley Vale Solar Farm and BESS*, from the earlier *Lerida Solar Farm*
- Visual change was identified as a concern for stakeholders, particularly for non-associated receivers. Additionally, glint and glare experienced by road receivers was also raised as a concern
- Potential reductions in property values and changes to insurance coverage were raised by some non-associated receivers, often linked with expectations for fair and transparent compensation.
- The construction phase was highlighted as a particularly sensitive period with many stakeholders, with strong concern about heavy vehicle traffic, noise, and dust affecting non-associated receivers nearby communities such as Gunning. Several online community feedback survey responses specifically stressed that construction carries the most environmental and social risks. Road safety for users was also flagged several times throughout these conversations
- Fire risk was raised as a community concern, with stakeholders often reflecting the bushfire-prone nature of the region. Fire concerns were also raised regarding the BESS
- Questions were also asked about decommissioning, with stakeholders seeking clarity on who will be responsible for removing infrastructure and rehabilitating land at the end of the Project's life
- Environmental concerns were linked mainly to construction-phase risks such as erosion, dust, and biodiversity disturbance. One online community feedback survey respondent also raised specific technical concerns about the materials used in solar panels, asking for commitments to avoid hazardous substances such as antimony or cadmium telluride
- Concerns were raised regarding integrity systems linked to sheep and farming in the region, with concerns that livestock may not be able to be sold should they be run under solar panels and concern in relation to solar farm fencing and the impact on kangaroo movements and grazing pressure.

- Some comments/concerns were raised in relation to the total number of renewable energy developments in the region, however the solar project was viewed more favourably than wind for many respondents.

5.3. Agency engagement

5.3.1. DPHI

The Applicant and NGH met with DPHI representatives via videoconference on 16 September 2025 in the form of a pre-lodgement meeting. DPHI were provided with an overview of the Project and a summary of engagement undertaken to date, generally as explained in the sections above.

Discussion generally covered proposed battery technology and how key environmental considerations would proceed, noting traffic and accommodation matters should be solved in the EIS stage. Other matters discussed included biodiversity, noise, heritage, social impacts. The DPHI raised the importance of the strategic justification for the Project and delivery of supporting files, to assist the DPHI's assessment.

5.4. Future engagement activities

Future engagement activities for the EIS will continue to align with the Department's community engagement guidelines. Specifically, the continuation of engagement would include:

- Review this report thoroughly to assess the concerns identified and determine the necessary mitigation strategies
- Document and report all interactions and decisions made during the engagement process to provide transparency and a clear record for future stages of the Project
- Leverage local knowledge and expertise from affected stakeholders, including residents and First Nations groups, to inform the design and execution of the Project, particularly in relation to environmental impacts
- Communicate decisions on mitigations with all relevant parties, including non-associated receivers within 4km, ULSC, elected MPs, First Nations groups, and the broader Gunning and Collector communities
- Maintain ongoing dialogue with non-associated receivers throughout the SSD development application process, ensuring they are involved in specialist assessments and kept informed about the outcomes
- Continue to create relationships with the local First Nations community, working understanding their perspectives, and addressing their concerns in Project planning and implementation
- Engage with stakeholders continuously, ensuring their feedback is actively considered and integrated into aspects of the Project, including visual impacts, site and road access, and community benefits
- Commit to transparency by regularly updating stakeholders and sharing relevant information throughout the entire planning and development process
- Proactively cultivate positive relationships with neighbours, residents, and local community members to foster a collaborative environment
- Continue to explore CBS framework throughout the EIS phase, ensuring the program is transparent and accessible, with consideration of models such as that preferred by Council and the community
- Reflect upon community CBS suggestions such as support for Landcare, health services, education initiatives, recreation facilities, EV charging, and discounted power for impacted neighbours
- Address visual impacts collaboratively through the Landscape and Visual Impact Assessment (LVIA), with particular attention to non-associated receivers and road users.
- Engage openly on insurance and property value concerns, including communication of available evidence and mitigation options
- Respond to specific technical concerns raised (e.g., use of antimony-free glass, avoidance of cadmium telluride panels, livestock and farming integrity systems) to reassure community of compatibility of materials/Agri-solar operations

- Recognise that the community is already experienced with renewable projects, meaning engagement must be informed, technically robust, and respectful of lessons learned from projects like Collector and Gullen Range Wind Farms
- Implement and track mitigation measures, explore a CBS program, engage in ongoing discussions regarding a potential VPA with ULSC, and execute a detailed communications and engagement plan for the EIS phase that ensures broad and inclusive community participation.

5.4.1. Monitoring and evaluation

The effectiveness of community engagement efforts will be regularly assessed, reviewed, and refined to ensure comprehensive understanding of the Project and to improve participation where possible. This ongoing evaluation will align with the objectives outlined in the CSES.

The Applicant will capture community feedback through a Stakeholder Relationship Management (SRM) platform during the issuance of Secretary's Environmental Assessment Requirements (SEARs) and throughout the EIS phase. This process will enable the collection of valuable insights regarding the community's experiences and perceptions of the engagement process, allowing the Applicant to identify areas for improvement and refine strategies accordingly.

The engagement approach will remain adaptable, with updates made as necessary to the CSES throughout the Project's lifecycle. Key updates will occur at the beginning and end of each Project phase. Based on feedback analysis and monitoring outcomes, the Applicant will adjust engagement strategies as needed.

5.4.2. EIS Exhibition and Submissions Report

Once the EIS is completed and submitted to DPHI, the report will be placed on public exhibition for a minimum of 30 days, mandated by the EP&A Act. During the exhibition period, government agencies and the community (both individuals and organisations) will have the option to make a written submission to the DPHI for consideration in its assessment of the Project. Each submission can either be in support, objection, or a general comment about the EIS.

Once all the submissions are received, the Applicant prepares a Submissions Report that addresses the submissions. If any substantive changes to the Project occur following the consideration of submissions, then an Amendment Report may also be submitted. The Amendment Report would outline, and assess where required, the changes and include additional mitigation strategies where appropriate.

6. Environmental assessment

In accordance with the *State Significant Development Guidelines 2024* (DPHI, 2024) and the *State Significant Development Guidelines – preparing a scoping report: Appendix A* (DPE, 2022), the scale of impact, nature of impact and sensitivity of the receiving environment for the potential environmental issues has been evaluated in this Chapter and summarised in the scoping summary table in Appendix A. The scoping summary table stipulates the level of assessment required for each matter for the EIS phase. In summary, the table identifies nine matters requiring detailed assessment as per Table 6-1. Matters requiring a standard assessment are shown in Table 6-2.

Table 6-1 Matters requiring detailed assessment

Matter	Cumulative assessment	Engagement	Supporting chapters/ appendices
Socio-economic impacts	Yes	Specific	Section 6.1 Appendix C
Water – hydrology and groundwater	No	General	Section 6.2
Amenity – landscape and visual	Yes	Specific	Section 6.3
Amenity - noise and vibration	Yes	General	Section 6.4
Biodiversity	Yes	Specific	Section 6.5 Appendix D
Land – land use, soils and contamination potential	No	General	Section 6.6
Hazards and risks – hazardous materials	No	General	Section 6.10
Hazards and risks - bushfire	No	General	Section 6.10
Heritage - Aboriginal	No	Specific	Section 6.7
Access – traffic	Yes	Specific	Section 6.9

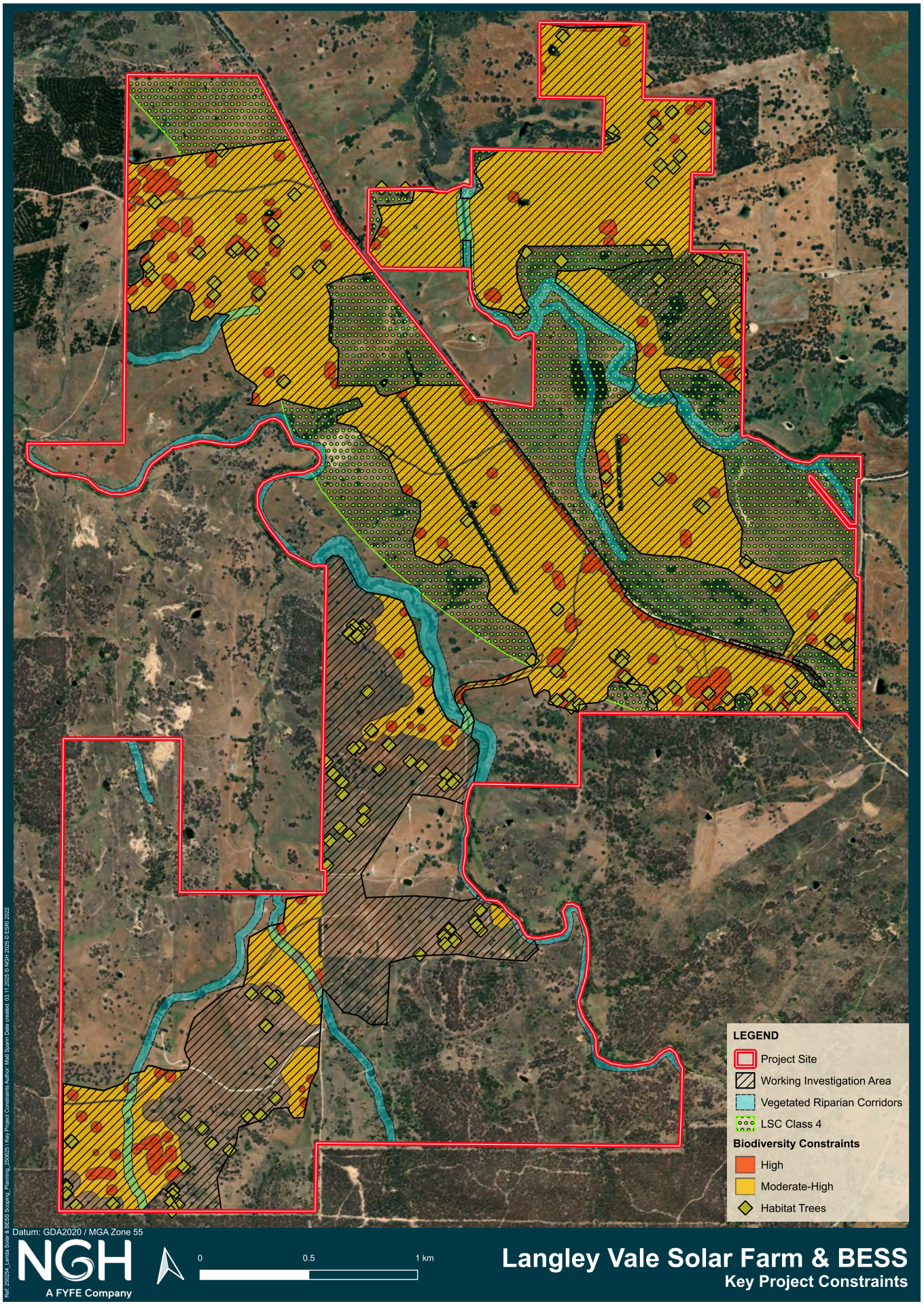
Table 6-2 Matters requiring standard assessment

Table 6-3 Matters requiring standard assessment

Matter	Cumulative assessment	Engagement	Supporting material appended
Hazards and risks - EMF	No	General	Section 6.10
Historic heritage	No	General	Section 6.8
Waste management	No	General	Section 6.11
Cumulative impacts	Yes	General	Section 6.12

Figure 6-1 has been provided to show the key mapped features of the Project Site. The notable key project constraints at this preliminary stage have been identified as:

- Existing woodland vegetation remnants and specifically, potential threatened ecological communities and SAII candidate species
- Hollow bearing trees and other habitat features
- Waterways and vegetated riparian corridors.


LEGEND
Project Site
Working Investigation Area
Vegetated Riparian Corridors
LSC Class 4
Biodiversity Constraints
High
Moderate-High
Habitat Trees
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Key Project Constraints

6.1. Social and economic impact

A Preliminary Social Impact Assessment (PSIA) has been undertaken by social impact specialists at NGH Pty Ltd (NGH) to gain initial insights into the potential social impacts and benefits of this Project. The full report is included as Appendix C.

6.1.1. Existing environment and results of the preliminary investigations

The Project is situated in Southern Highland and South East and Tablelands (SET) region in New South Wales and, more specifically, in the Southern Tableland subregion and the strategic Capital subregion. The SET region is geographically diverse containing urban, rural and natural landscapes, encompassing several major centres, including Canberra, Goulburn, Young, Bateman's Bay, Bega and Moss Vale (NSW Department of Planning and Environment, 2021).

The Southern Tablelands region had a total population of 57,863 in 2021 (Department of Regional NSW, 2023). The Goulburn Mulwaree LGA is the most populous, with 32,053 residents, followed by Yass Valley LGA with 17,281 residents and ULSC LGA with 8,514 residents (Australian Bureau of Statistics, 2021). The region has experienced a 3.5% population growth since 2018, indicating a trend of increasing residency. Notably, there has been an increase in the proportion of residents aged 55 and older, demonstrating an ageing demographic trend with potential to influence future community services and infrastructure needs.

The economy of the Southern Tablelands is diverse, with several key industries driving growth. Agriculture is a significant contributor, generating $291 million in gross value added (GVA) in 2020, with a year-on-year growth rate of 7.6% from 2011 to 2020. Health care is another vital sector, contributing $261 million GVA and experiencing a growth rate of 5.4% over the same period. Tourism also plays an essential role in the economy, with visitors spending $204 million in 2021 (Department of Regional NSW, 2023)

Recently, the Southern Tablelands region has seen a substantial investment in energy generation, particularly in renewable energy projects around ULSC LGA, amounting to over $1.7 billion (Department of Regional NSW, 2023).

The region benefits from its geographical proximity to Canberra and its diverse industry base that contributes to workforce capacity and the regional economy's resilience during economic shocks and tourist industry known for its iconic produce and a range of natural attractions (Department of Regional NSW, 2023). This is particularly true for the southern parts of the region, where the Project site is located. In 2021, 11.1% of ULSC residents travelled to Canberra and 19.4% travelled to Goulburn for work.

Consultation showed that stakeholder interests were largely focused on potential impacts on visual change, noise, traffic, fire safety, property values, and farming impacts. Adjacent and near neighbours were particularly concerned about visual impacts, heavy vehicle traffic, noise, and dust, which often were linked to broader concerns around social and environmental risks, distribution of community benefits and costs, and quality of life. There was also strong interest in community benefit sharing and transparency in governance. The community's existing familiarity with large-scale infrastructure was also seen as a factor that may increase local acceptance and participation in the development of locally appropriate mitigation and benefit sharing.

Concerns raised during consultation were primarily directed at localised and cumulative effects rather than outright opposition to the Project. Key issues included visual change, noise, traffic, fire safety, property values, and farming impacts. Community members also highlighted the potential for additional traffic along Collector Road during construction.

6.1.2. Potential impacts and the need for further assessment

The PSIA has identified potential social impacts and benefits arising from the Project. The key potential benefits and impacts of this Project and their associated level of assessment to be undertaken as part of the full SIA within the EIS Phase of the Project are summarised in the table below. Further assessment will be undertaken in the following EIS phase with a more detailed focus on these impacts raised in the Scoping phase.

The PSIA also recommends draft enhancement and mitigation measures, directly responding to the identified potential social impacts arising from the Project. Further work is required as part of the full SIA within the EIS to refine, develop, add to, and test these suggested mitigation measures.

In consultation with Council, it was noted that housing in the region, particularly cumulative impacts with other large-scale developments in the locality, is of concern. A draft Accommodation and Employment Strategy (AES) would be developed during the EIS phase of the Project. The AES would be prepared in consultation with Upper Lachlan Shire Council, as well as other adjacent councils where accommodation and employment may be sourced, including both Yass and Goulburn Councils.

Consultation with these councils would be undertaken early in the EIS phase to understand if the Project would require an accommodation camp to support the construction of the solar farm.

Table 6-4 Social impact level of assessment required in full SIA.

Potential impact	Assessment level in full SIA
Livelihoods	
Increased local employment opportunities	Standard
Increased local economic activities (diversification of income stream)	Standard
Potential devaluation of properties	Detailed
Community	
Potential changes to community cohesion	Standard
Potential increased community investment	Standard
Potential to offer lower energy prices	Standard
Accessibility	
Potential pressure on housing and accommodation	Detailed
Potential traffic impacts on road access and safety	Standard
Way of life and health and wellbeing	

Potential impact	Assessment level in full SIA
Potential impact on ecosystems due to chemical hazards and pollutants	Standard
Potential bush fire risks	Detailed
Potential changes to ecosystems and their impact on endangered species and community identity	Standard
Potential to reduce fossil fuels	Not relevant
Perceived impacts of chemical hazards	Standard
Change in landscape character and visual amenity	Detailed
Potential way of life impacts (noise, dust and air quality)	Standard
Decision-making systems	
Equitable distribution of impacts Potential impact on procedural fairness and exclusion from decision-making	Detailed

6.2. Water

6.2.1. Existing environment

The Project Site contains a number of named and unnamed watercourses. Under the Strahler Stream Order classification, these watercourses, ranked in order of Strahler classification, are:

- Meadow Creek
  - Meadow Creek is a 4th order stream that roughly delineates the two project landholdings and flows in a general northwestern direction. Meadow Creek is joined by Sandy Creek and continues north, adjacent to the Gunning township, eventually flowing into the Lachlan River.
- Lerida Creek
  - Lerida Creek is a 3rd order stream that flows in a general north-westerly direction through the northern part of the Project Site. Outside the Project Site, Lerida Creek continues in a northerly direction, eventually joining the Cullerin Creek and the Lachlan River.
- Bushman Jims Creek
  - Bushman Jims Creek is a 2nd order stream that flows through the southwestern corner of the Project Site, merging with another unnamed 2nd order stream, before entering Meadow Creek. From aerial imagery, the Creek appears to be largely ephemeral.

There are also a number of 1st and 2nd order unnamed streams within the Project Site that form tributaries of the above, named waterways. Additionally, there are multiple dams throughout the Site that occur along drainage lines, or are standalone, and likely artificial. Refer to Figure 6-2 for surface water hydrology.

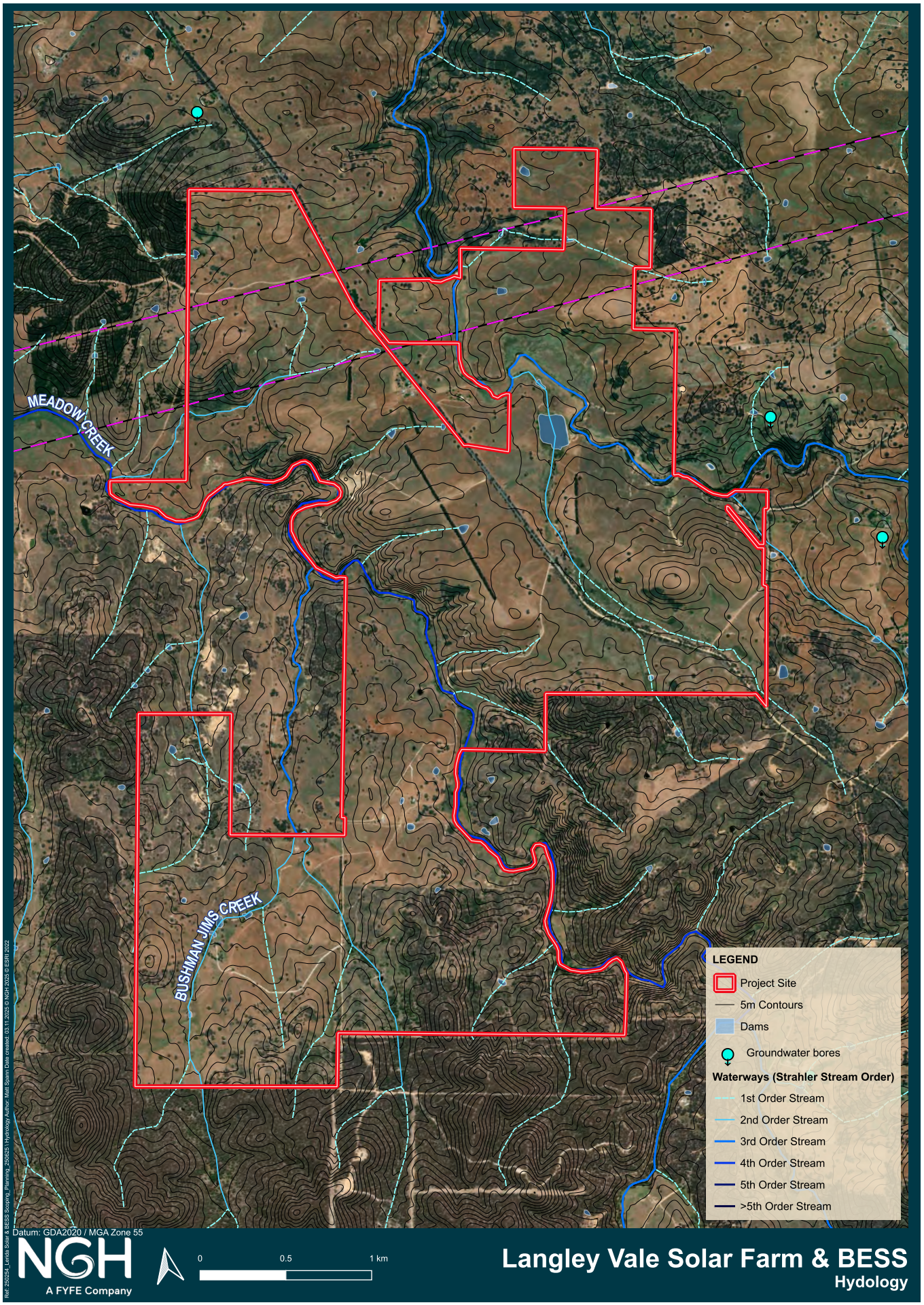
A review of local flood studies and management plans suggest that the Project Site is unlikely to be flood prone. The Site is also not mapped under any flood planning areas as per the NSW Planning Portal Spatial Viewer.

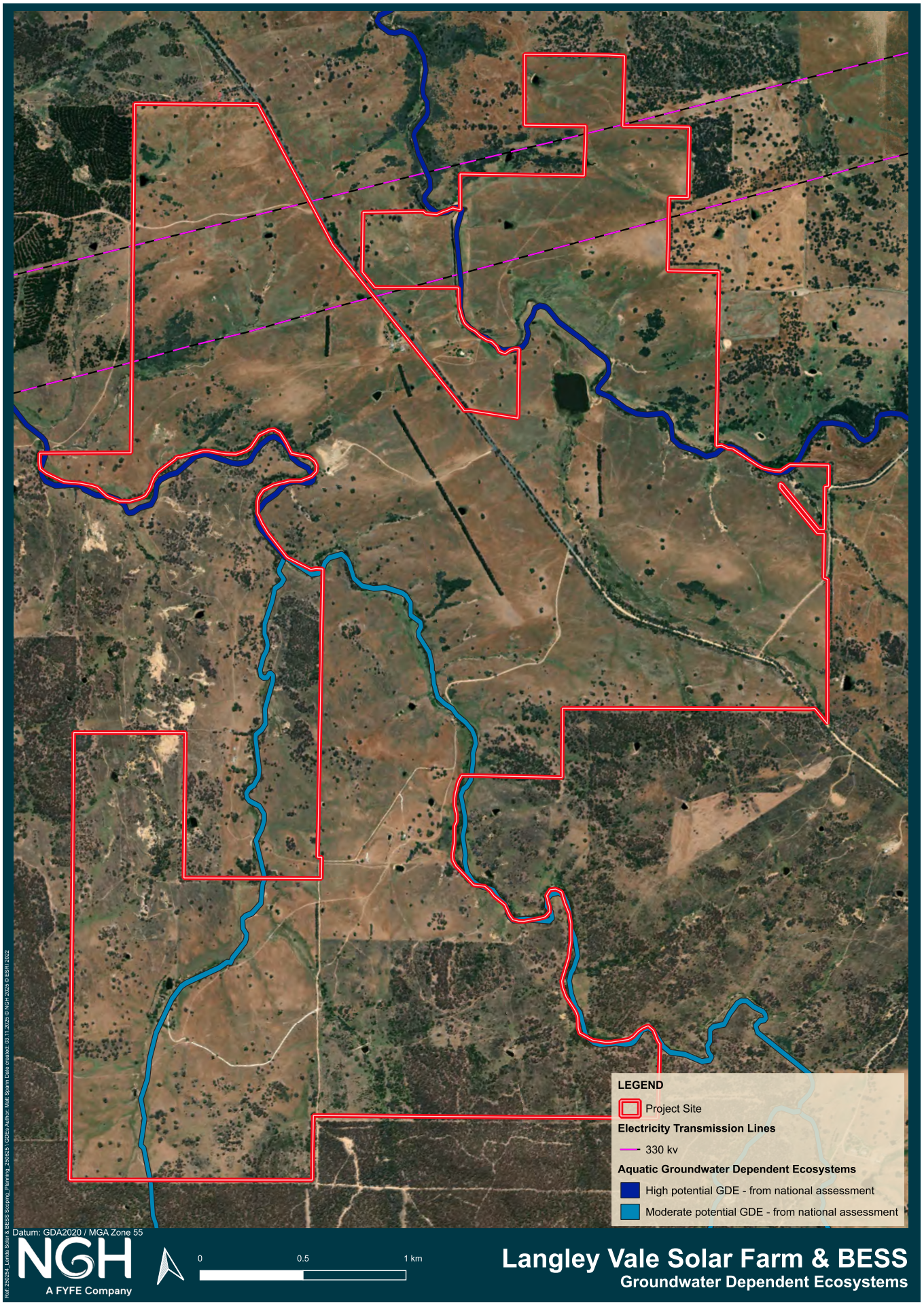
The Bureau of Meteorology's (BOM) Australian Groundwater Explorer shows there are no groundwater bores within the Project Site. There are bores located on neighbouring properties to the north and northeast, of which are used for stock-related or domestic water supply.

The BOM Groundwater Dependant Ecosystem Atlas shows that there are no terrestrial Groundwater Dependant Ecosystems (GDEs) within Project Site, but aquatic GDEs are present along the abovementioned named waterways, as shown in Figure 6-3 and described below:

- Meadow and Bushman Jims Creeks are both associated with a moderate potential GDE
- Lerida Creek is associated with a high potential GDE

The Project Site is not mapped within an area of known groundwater vulnerability, acid sulphate soil presence or notable salinity.


MEADOW CREEK
BUSHMAN JIMS CREEK
LEGEND
Project Site
5m Contours
Dams
Groundwater bores
Waterways (Strahler Stream Order)
1st Order Stream
2nd Order Stream
3rd Order Stream
4th Order Stream
5th Order Stream
>5th Order Stream
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Hydology


LEGEND
Project Site
Electricity Transmission Lines
330 kv
Aquatic Groundwater Dependent Ecosystems
High potential GDE - from national assessment
Moderate potential GDE - from national assessment
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Groundwater Dependent Ecosystems

6.2.2. Potential impacts and the need for further assessment

Suitable setback distances to waterways within the Project site will need to be maintained. These setbacks – Vegetation Riparian Corridors (VRCs) are given by the magnitude of a Strahler order, as per Table 6-5 below. VRCs for 2nd order streams and above are shown in Figure 6-1.

Table 6-5 Riparian corridor guideline (DPE, 2022)

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st order	10 metres	20 m + channel width
2nd order	20 metres	40 m + channel width
3rd order	30 metres	60 m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width

In the EIS, detailed assessment including hydrological hazard modelling would guide infrastructure placement and mitigation measures, to protect the hydraulic function of waterways and prevent erosion. Assessment and confirmation of flooding hazard on site would be undertaken in the form of a hydrology impact assessment undertaken by a suitably qualified hydrologist. Flood hazard would be assessed pre- and post-construction to ensure the development does not negatively affect offsite flood behaviours.

Construction of the Project would require water supply for different activities in the form of both potable and non-potable water.

Water quantities and sources required for construction and operation would be detailed in the EIS as part of the Project description. Council and the Applicant have discussed future approvals required for sourcing water and Council preferences.

Groundwater extraction is unlikely to be required for the construction of the Project.

The EIS would include an assessment of potential impacts related to surface water and water quality and recommend mitigation measures to manage surface water, erosion, groundwater resources and riparian lands.

6.3. Landscape and visual amenity

Visual amenity impacts are assessed in terms of the change in visual character they produce (contrast) and the likely sensitivity of the landscape and receivers to the change. Important factors that elevate the impacts include the potential to:

- Create a dominant or surrounding view
- Create an elevated view or one that is otherwise difficult to screen
- Impact on important views, such as the entrance to a town, recreational areas, residential views.
- Contribute to cumulative impacts.

A Preliminary Visual Impact Assessment (PVIA) was prepared by Moir Studio (Moir) to provide a preliminary assessment of the potential visual impacts arising from the Project. The PVIA took a conservative approach, modelling visibility of the Project based on the indicative development footprint shown in Figure 3-1. The PVIA was prepared in accordance with *Large-Scale Solar Energy Guideline: Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2022).

6.3.1. Existing environment and results of the preliminary investigations

The landscape surrounding the Project Site is characterised by the land used predominantly for stocking and grazing of cattle and sheep. The terrain is undulating (a minimum of 580 m AHD) along waterways where Meadow Creek exits the site, with steeper terrain (up to an elevation of 710 m AHD) occurring towards the southern and western extents of the Project Site. The area is also interspersed by rocky outcrops and areas of both planted and remnant vegetation.

The nearest nature reserve is Belmount Nature Reserve, located approximately 3km south of the Project Site.

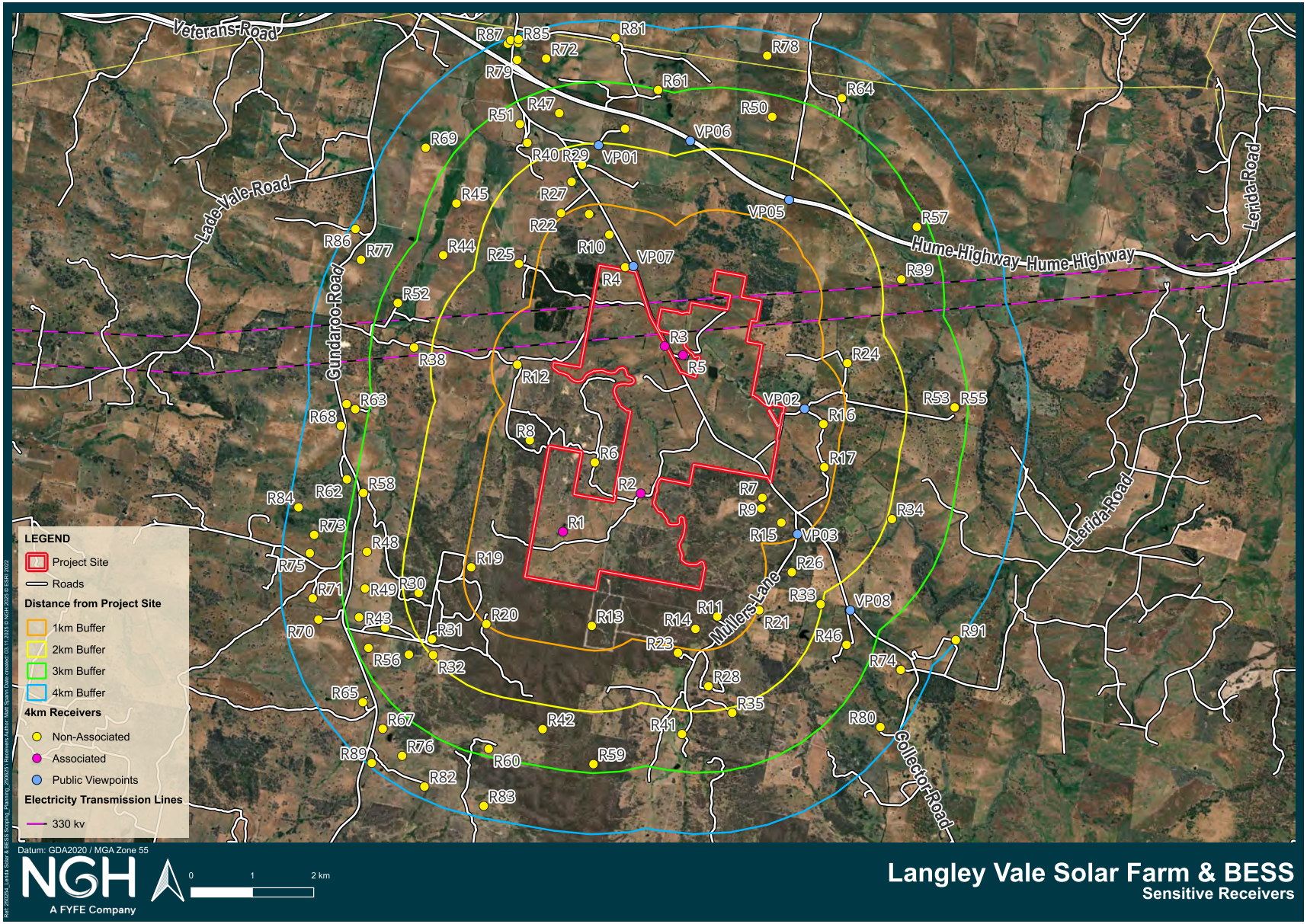
There is minimal built form in the vicinity of the Project Site, with some nearby receivers present, as shown in . The locality also consists of the two-way Collector Road, which is sealed from the nearby township of Gunning to the eastern extent of the Project site. There are other, unsealed local roads and the existing overhead 330 kV transmission present within the locality of the Project Site.

Desktop analysis of aerial imagery indicates that a total of approximately 91 sensitive receivers currently exist within 4km of the Project site:

- 4 ‘associated receivers’ within or adjacent to the Project Site – these do not require assessment.
- 16 receivers within 1km of the Project Site
- 13 receivers between 1km and 2km of the Project Site
- 58 receivers between 2km and 4km of the Project Site.

The PVIA also identified eight public viewpoints from which to assess visual impacts, as per the Technical Supplement.

Refer to Figure 6-4 below for the locations of all identified receivers and public viewpoints.


Veterans Road
Lade Vale Road
Gundaroo Road
Hume Highway–Hume Highway
Lerida Road
Millers Lane
Collector Road
LEGEND
Project Site
Roads
Distance from Project Site
1km Buffer
2km Buffer
3km Buffer
4km Buffer
4km Receivers
Non-Associated
Associated
Public Viewpoints
Electricity Transmission Lines
330 kv
Datum: GDA2020 / MGA Zone 55
0 1 2 km
NGH
A FYFE Company
Langley Vale Solar Farm & BESS
Sensitive Receivers

Preliminary viewshed analysis

The PVIA undertaken by Moir includes a preliminary viewshed analysis, which identifies all areas from which the indicative development footprint may be viewed. It is considered a theoretical worst case, being based purely on topography; screening by intervening structures or existing vegetation is not considered at this early stage. The preliminary viewshed analysis results are shown in Figure 6-5.

This tool helps to define the areas that may be screened by topography and those areas with theoretical visibility. In reality, at distance and with the effects of intervening vegetation and other structures, the visibility would be much less than portrayed in this figure.

The preliminary viewshed assumed a scenario that a consistent solar panel height of 3.5m would be present across the entire Project site.

Preliminary assessment estimates 34 of the above identified non-associated residences may have views of the Project, and of these, 17 would require further visual assessment during the EIS Phase. Three of the identified public viewpoints would also require further assessment.

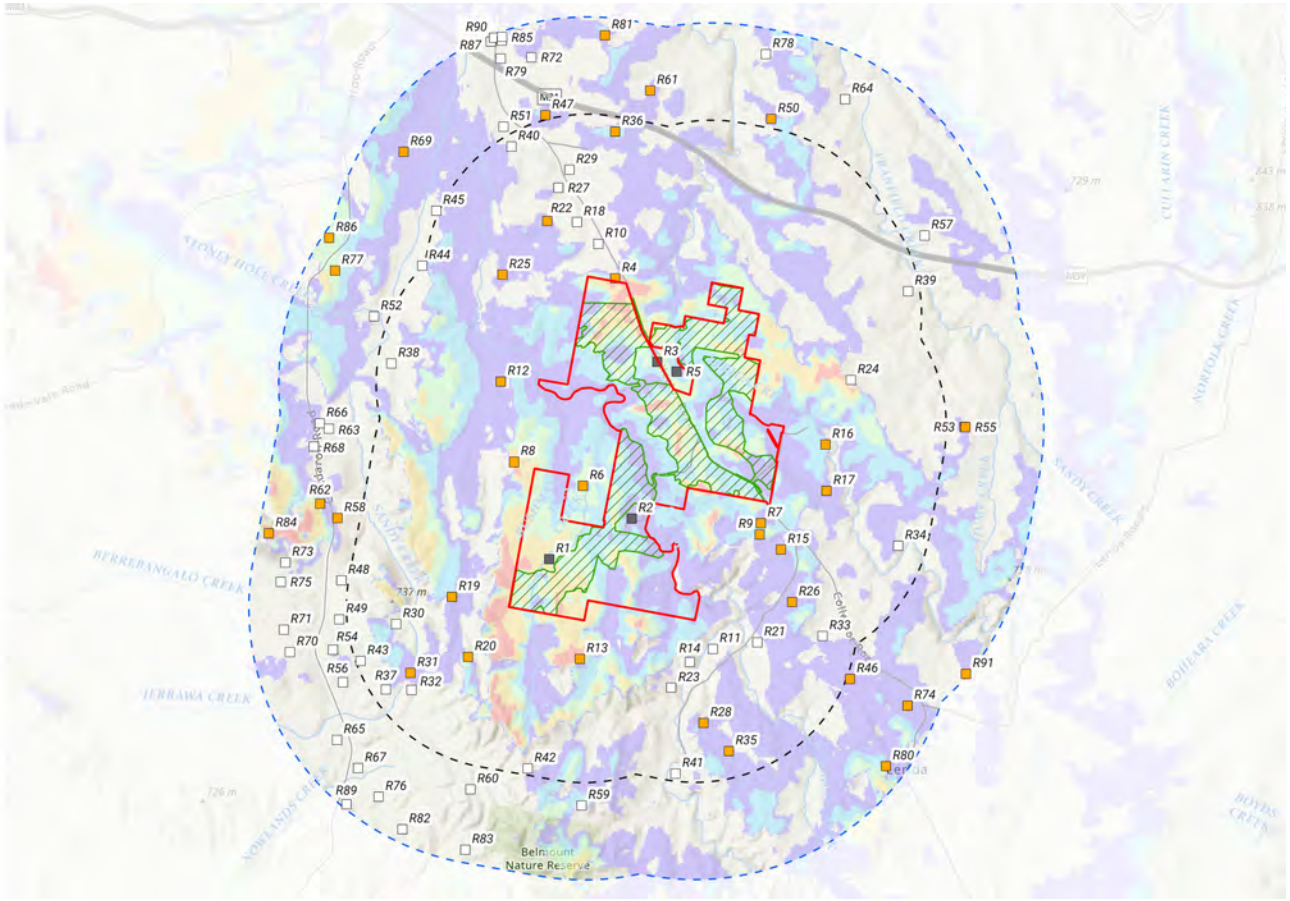
To further identify potential impacts, and de-risk the Project, intermediate visual impact assessment was undertaken. Intermediate assessment includes the preparation of wireframes determine the visual magnitude of a Project more accurately. This involves using 3D modelling, which can account for many factors that influence visual impacts, including intervening topography, the different distances at which the PV Array will be visible, and spacing between panels.

Of the 17 receivers requiring detailed assessment, the preliminary modelling predicted 10 may have a ‘high’ visual impact. These 10 receivers were subjected to intermediate assessment. Results now indicate that only 3 receivers have a ‘moderate’ impact potential. It is noted that the wireframes prepared for these residences do not take into account intervening vegetation, so are a conservative estimate of visual impact, which would be refined further during detailed assessment.

No ‘high visual impacts’ are anticipated, and the detailed assessment stage will consider mitigation options for any receivers where moderate visual impacts are anticipated.

The modelling undertaken in the PVIA also indicates that most of Collector Road would not have line of site to the infrastructure located in the Development Footprint. There may be some visibility at points along approximately 3 km of the Hume Highway between Gunning and Goulburn.

Reverse viewshed mapping was also undertaken by Moir in the PVIA. Reverse viewshed mapping provides a guide as to what parts of the Development Footprint would be visible to the most sensitive receivers. This may guide refining of the Project to reduce overall impacts. Results of the reverse viewshed mapping are shown below in Figure 6-6.



Viewshed Map

LEGEND

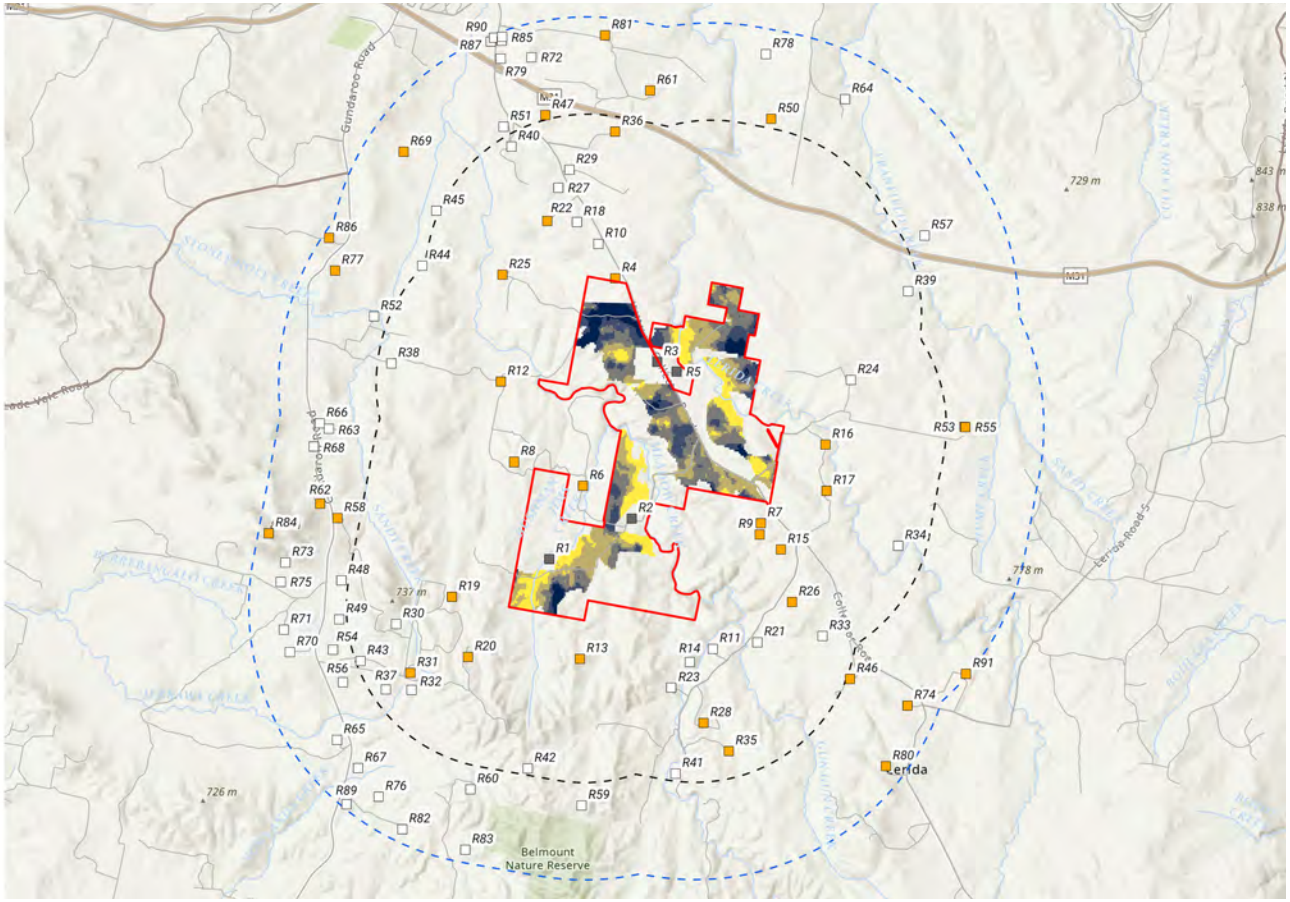
- Project Boundary
- Development Footprint
- Non-Associated Dwelling
- Associated Dwelling
- Non-Associated Dwellings with No Visibility (Based on Viewshed Mapping)
- 2.5km from Project Boundary
- 4km from Project Boundary
- Roads
- Watercourse

Viewshed Legend

- 1 - 20% of the project visible
- 21 - 40% of the project visible
- 41 - 60% of the project visible
- 61 - 80% of the project visible
- 81 - 100% of the project visible

0 1 3 5 km

Figure 05 Viewshed Map
Basemap Source - ArcGIS, 2025



Reverse Viewshed Map

LEGEND

- Project Boundary
- Non-Associated Dwelling
- Associated Dwelling
- Non-Associated Dwellings with No Visibility (Based on Viewshed Mapping)
- 2.5km from Project Boundary
- 4km from Project Boundary
- Roads
- Watercourse

Reverse Viewshed Legend

- 1 - 4 Dwellings
- 3 - 7 Dwellings
- 8 - 10 Dwellings
- 11 - 13 Dwellings
- 14 - 20 Dwellings

0 1 3 5 km

Figure 06 Reverse Viewshed Map
Basemap Source - ArcGIS, 2025

6.3.2. Potential impacts and the need for further assessment

Potential impacts on local visual amenity was a key issue raised by near neighbours and community members during consultation. As documented above, detailed assessment will be required for specific private dwellings and local viewpoints.

The preliminary modelling shows the Project could be intermittently visible to commuters along the Hume Highway. Generally, these views would be considered of limited duration for passing motorists and broken due to the existing vegetation and would not be considered a high impact in the site's context and thus not detract from the region's amenity values.

There is potential for cumulative visual and landscape character impacts associated with the existing large-scale energy generation sites in the locality, however, these impacts are unlikely to extend beyond 10 km from the Project Site, due to intervening elements such as vegetation, topography and built forms. Collector Wind Farm is located approximately 800 m west (at the closest point) and Cullerin Wind Farm is located approximately 6 km northwest of the Project Site. The former is considered to contribute significant impacts to the general landscape character and is very likely to be the dominant visual element within the region.

An assessment of the level of visual impact would be analysed in more detail as part of the EIS process and would include consideration of the effectiveness of mitigation options. The VIA would be in accordance with the with *Large-Scale Solar Energy Guideline: Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2022). The VIA would include detailed assessment of:

- Landscape character impacts
- Visibility from:
    - Private dwellings (constructed or approved) and other sensitive receivers
    - Key public viewpoints
- Glint and glare potential on receivers and public viewpoints
- Cumulative impacts.

6.4. Noise and vibration

6.4.1. Existing environment

The proposed Project is located in a rural setting with moderate to low relief and undulating topography. Some topographical noise barriers may exist to the south and southeast.

The main sources of existing background noise would include traffic noise from Collector Road and the Hume Highway, including heavy vehicles, and other noise from the routine use of agricultural machinery.

It is possible that under certain conditions there may be some noise from nearby wind farms, contributing to existing background noise levels.

Of the receivers identified in Figure 6-4, five are located within 500m. The closest non-associated receiver (R4) is located 47 m north of the Project Site boundary, and 387 m from the Development Footprint.

6.4.2. Potential impacts and the need for further assessment

Construction vehicles and machinery during the construction phase of the Project would be the most relevant in contributing to noise and vibration impacts. During operation, noise would primarily be generated at road upgrades sites and the BESS and substation sites, with the solar tracker units and PCUs located throughout the array area also being a relatively minor contributor to noise outputs.

Given the rural area, background noise levels would be expected to be relatively low, but noise logging will account for existing noise sources such as road traffic.

A detailed Construction and Operational Noise and Vibration Assessment would be undertaken as part of the EIS to model the impact of potential noise impacts for nearby residential receivers. The assessment would be undertaken in accordance with:

- *Interim Construction Noise Guideline* (Department of Environment & Climate Change, 2009),
- *NSW Noise Policy for Industry* (NSW Environment Protection Authority, 2017),
- *Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation NSW, 2006)
- *NSW 'Road Noise Policy'* (Department of Environment, Climate Change and Water, 2011).

The Assessment would also consider cumulative noise impacts where relevant.

6.5. Biodiversity

6.5.1. Approach

The Project Site was investigated using desktop searches and onsite surveys undertaken from 1 September to 5 September 2025. Searches included:

- BioNet species sightings search of flora and fauna and communities listed as threatened under the NSW *Biodiversity Conservation Act 2016* (BC Act).
- Protected Matters Search Tool (PMST) for species and populations listed as threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- Biodiversity Values Map (BVM).
- Areas of Outstanding Biodiversity Value.
- NSW Department of Planning State Vegetation Type Mapping (SVTM).
- Key Fish Habitat (KFH).

Field surveys included 13 rapid assessment points, 34 step point transects, recording of key habitat features and incidental sightings of threatened species.

6.5.2. Existing environment

Desktop results

BioNet

A BioNet search was completed on 17 June 2025 and again on 11 September 2025. A total of 30 species have been recorded within the locality (within 10km of the Project Site), however none occur within the Project Site itself. A total of five records of three species occur within 1km of the Project Site being:

- Brown Treecreeper
- Gang-gang Cockatoo
- Superb Parrot.

The full list of species returned from the BioNet search is included in Appendix D.

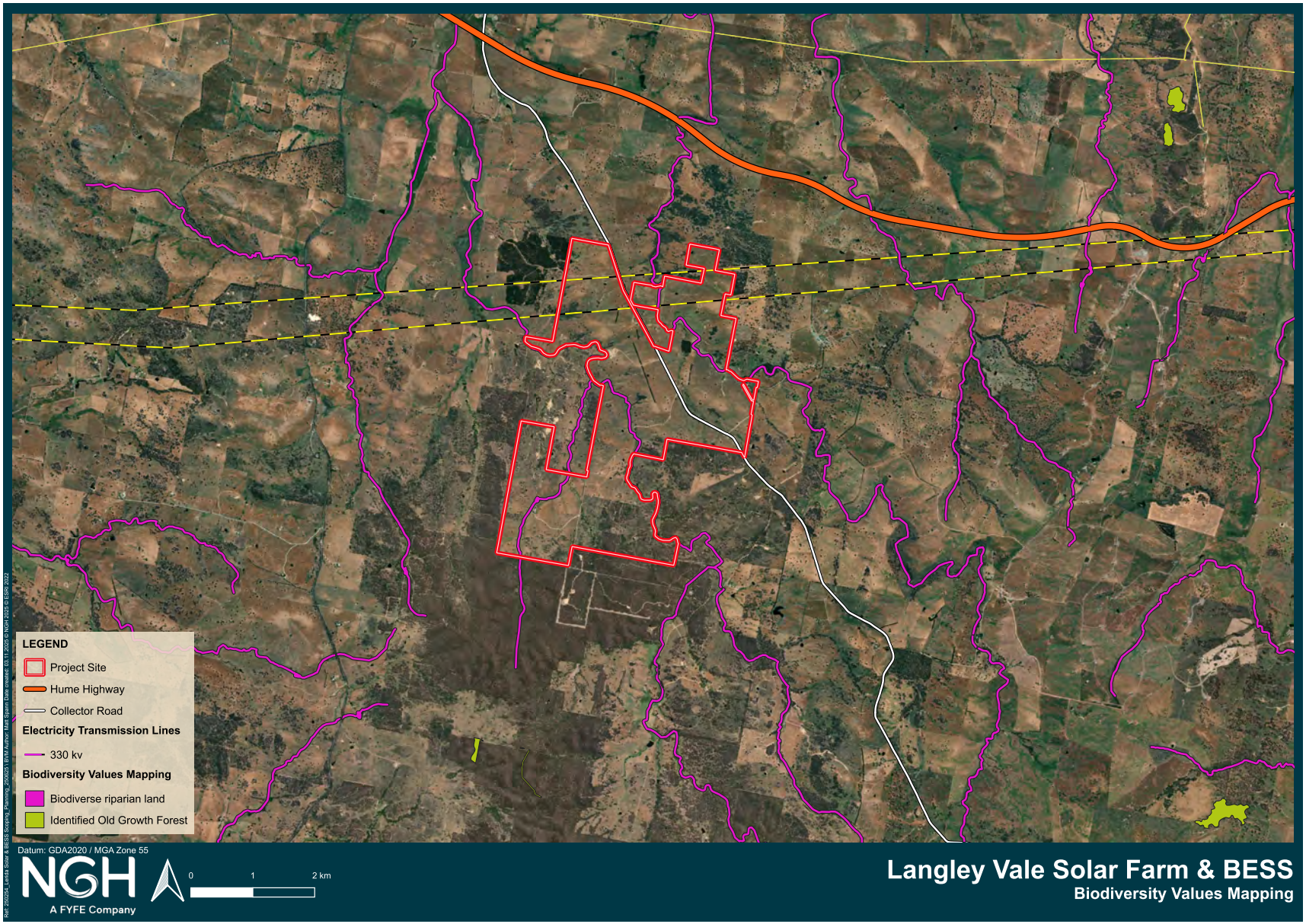
Matters of National Environmental Significance

A PMST search was completed on 17 June 2025 and again on 11 September 2025 to determine Matters of National Environmental Significance (MNES) which have the potential to occur within the locality. The below results were yielded from the search:

- Four wetlands of International Significance
- Two listed threatened ecological communities
- 49 listed threatened species
- Nine migratory species

Biodiversity Values

The desktop assessment of the Biodiversity Values Mapping (BVM) (NSW DCCEEW, 2025c) identified Biodiverse Riparian Land to be present within the Project Site. Areas of Identified Old Growth Forest occurs within 10km of the Project Site, with the closest area being located approximately 3km to the south of the Project Site boundary. Refer to Figure 6-7. There are no Areas of Outstanding Biodiversity Value mapped within the Project locality.


LEGEND
Project Site
Hume Highway
Collector Road
Electricity Transmission Lines
330 kv
Biodiversity Values Mapping
Biodiverse riparian land
Identified Old Growth Forest
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
1
2 km
Langley Vale Solar Farm & BESS
Biodiversity Values Mapping

6.5.3. Site inspection and vegetation mapping

State Vegetation Type Mapping

The NSW SVTM (NSW DCCEEW, 2025b) predicted eight Plant Community Types (PCTs) to occur within the Project Site:

- PCT 3370 *Central Tableland Red Stringybark Grassy Forest*
- PCT 3372 *Dalton Hills Grassy Stringybark Forest*
- PCT 3373 *Goulburn Tableland Box-Gum Grassy Forest*
- PCT 3376 *Southern Tableland Grassy Box Woodland*
- PCT 3540 *Southwest Foothills Stringybark-Box Grassy Forest*
- PCT 3747 *Southern Tableland Western Hills Scribbly Gum Forest*
- PCT 4063 *Central and Southern Tableland River Oak Forest*
- PCT 4085 *Southwest Tableland Gorges Riparian Shrubland*.

Vegetation verification

Four NGH ecologists conducted a five-day (1–5 September 2025) preliminary site assessment of the Development Footprint by vehicle and on foot. The survey aimed to broadly classify Plant Community Types (PCTs), assess groundcover condition, and identify potential Threatened Ecological Communities (TECs) under the BC and EPBC Acts. Groundcover assessments were undertaken using the step-point transect method consistent with OEH (2018), supported by floristic surveys within 0.1 ha plots to characterise secondary grasslands and assess potential *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Box-gum Woodland) presence. Broad PCT mapping and groundcover data were combined to evaluate the likelihood of TEC occurrence. Hollow-bearing trees were also mapped and assessed for suitability as habitat for hollow-dependent species, including the South-eastern Glossy Black-Cockatoo.

The Project Site has undergone historical clearing as part of ongoing agricultural activities. In most areas north of Meadow Creek, native overstory and midstory have been removed, with exceptions to remnant scattered paddock trees. There are areas of existing native vegetation to the far south of the Project Site. Much of the area used for grazing is dominated by exotic pasture species. Remnant native vegetation is also present along the Collector Road corridor.

The site assessment confirmed four PCTs occurred onsite. These are described in Table 6-6 and shown in Figure 6-12 and Figure 6-13. PCT associations with TECs, listed under the BC Act and/or the EPBC Act are also shown. Additionally, some small areas have relied on the State Vegetation Type Mapping (SVTM) to assign provisional PCTs at this stage. PCT 4085 has been applied to a riparian area based on SVTM data, as field data could not be collected in this location during the preliminary survey due to time constraints.

Both PCT 3376 and 3387 are associated with the BC Act and EPBC Act listed *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Box-gum Woodland), which is listed as a Serious and Irreversible Impact (SAII) entity (OEH, 2025) and Critically Endangered Ecological Community (CEEC). Due to the preliminary nature of the work undertaken to date, accurate delineation of TECs has not yet been completed. Although it is likely that areas within the Project Site correspond to both NSW- and Commonwealth-listed TECs, further vegetation integrity (VI) plots conducted in accordance with the Biodiversity Assessment Method (BAM) 2020 during future Biodiversity Development Assessment Report (BDAR) surveys will be required to more accurately delineate PCTs, TECs, and condition zones to confirm which areas meet the relevant TEC criteria.

Areas of planted native and exotic vegetation were present within the Development Footprint. Exotic vegetation consisted of Radiata Pine (*Pinus radiata*) and are sparsely scattered throughout the Development Footprint. Two patches of planted native vegetation consisting of Manna Gum (*Eucalyptus viminalis*) were present within the Development Footprint. One patch consisted of approximately 30 individuals planted next to a patch of Radiata Pine and the other patch occurred in the southeastern part of the Development Footprint. These have not been assigned to a PCT.

Of the 34 Step Point Transects undertaken, 21 were comprised of predominantly native groundcover. In line with the NSW Scientific Determination for the BC Act listed Box-Gum Woodland (DPE, 2020), the BC Act form of Box-Gum Woodland is likely to occur where:

- The ground layer is predominantly grassy and in degraded areas, if assisted natural regeneration would occur if disturbance is removed (e.g. grazing).

It is therefore likely that certain areas of derived grassland within the Project Site would qualify as the NSW listed Box-Gum Woodland TEC. Additionally, five transects may qualify as Derived Native Grasslands linked with the Commonwealth Box-Gum Woodland TEC (either PCT 3376 or 3387). The flowchart out of the Commonwealth Conservation Advice for Box-Gum Woodland (Cwth DCCEEW, 2011) classification was applied to determine likelihood of each transect qualifying as Box-Gum Woodland Derived Native Grassland. The percentage of native cover versus exotic cover was assessed at every 1m interval with a 100m tape and a full list of native and exotic species was collected within a 0.1ha patch (i.e. 100m by 10m). If the PCT corresponded with a Box-Gum Woodland and has a predominantly native ground layer, showing diversity of understory species (i.e. greater than 12 understory species), then the site is likely to qualify as a Box-Gum Woodland Derived Native Grassland.

Locations of each step-point transect are shown on Figure 6-14, along with an indication of whether each transect was predominantly native or exotic in composition. Further survey effort will be required to accurately determine the extent and boundaries of areas that meet the criteria for each TEC.

Table 6-6 Verified PCTs and associated TECs

PCT Number	PCT Name	Associated TEC	Likelihood of TEC occurrence
3376	Southern Tableland Grassy Box Woodland	**BC Act – Critically Endangered** White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions **EPBC Act – Critically Endangered** White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	**High –** areas of woodland dominated by Yellow Box and/or Blakely's Red Gum are present. Further surveys will be required to delineate these areas. It is estimated that >50% of the Development Footprint might classify as this TEC and will be the biggest biodiversity constraint to development.
3370	Central Tableland Red Stringybark Grassy Forest	Nil	Nil
3747	Southern Tableland Western Hills Scribbly Gum-Forest	Nil	Nil
3387	Central West Creekflat Grassy Woodland	**BC Act – Critically Endangered** White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions **EPBC Act – Critically Endangered** White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	**High –** areas of woodland dominated by Yellow Box and/or Blakely's Red Gum are present. Further surveys will be required to delineate these areas. Only very small areas of this PCT exist onsite and are confined to creeks where snow grass is dominating the site and are not likely to be buffered from direct impacts being a watercourse.

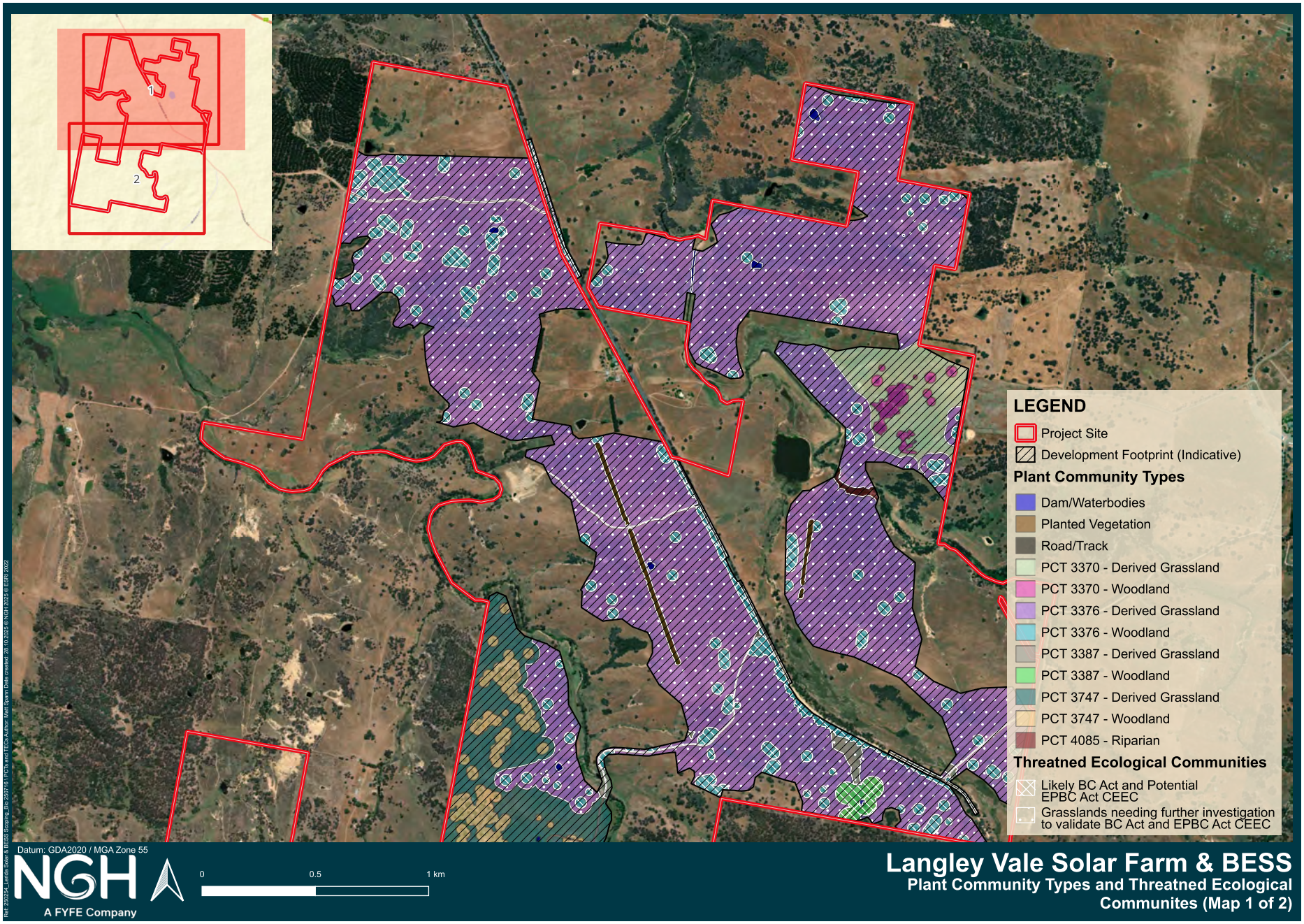
PCT Number	PCT Name	Associated TEC	Likelihood of TEC occurrence
4085	Southwest Tableland Gorges Riparian Shrubland	Nil	Nil

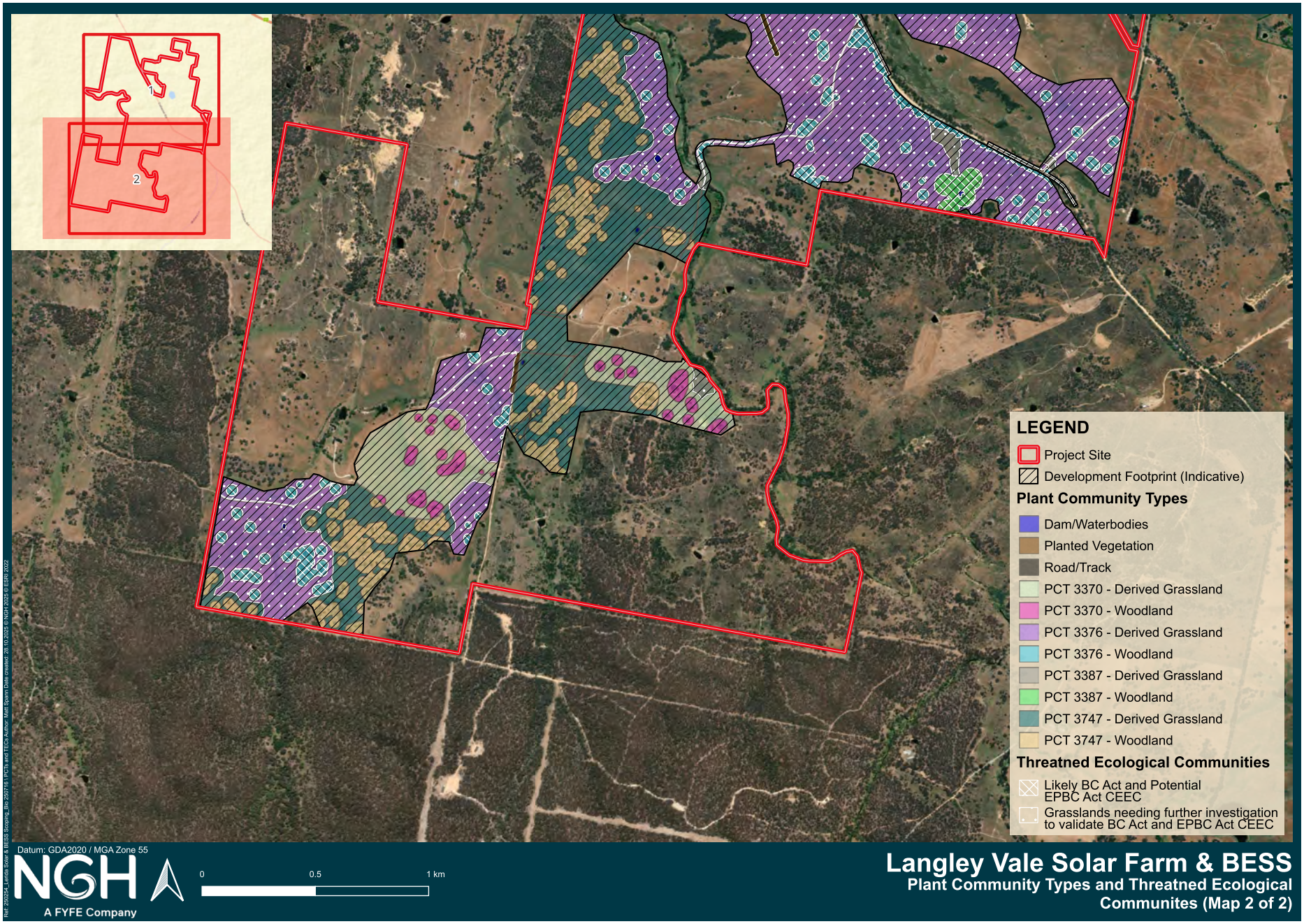
Figure 6-8 Example of PCT 3376 Woodland

Figure 6-9 Example of PCT 3747 Woodland

Figure 6-10 Example of PCT 3370 Woodland

Figure 6-11 Example of PCT 3387 Grassland


1
2
LEGEND
Project Site
Development Footprint (Indicative)
Plant Community Types
Dam/Waterbodies
Planted Vegetation
Road/Track
PCT 3370 - Derived Grassland
PCT 3370 - Woodland
PCT 3376 - Derived Grassland
PCT 3376 - Woodland
PCT 3387 - Derived Grassland
PCT 3387 - Woodland
PCT 3747 - Derived Grassland
PCT 3747 - Woodland
PCT 4085 - Riparian
Threatned Ecological Communities
Likely BC Act and Potential EPBC Act CEEC
Grasslands needing further investigation to validate BC Act and EPBC Act CEEC
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Plant Community Types and Threatned Ecological Communites (Map 1 of 2)


LEGEND
Project Site
Development Footprint (Indicative)
Plant Community Types
Dam/Waterbodies
Planted Vegetation
Road/Track
PCT 3370 - Derived Grassland
PCT 3370 - Woodland
PCT 3376 - Derived Grassland
PCT 3376 - Woodland
PCT 3387 - Derived Grassland
PCT 3387 - Woodland
PCT 3747 - Derived Grassland
PCT 3747 - Woodland
Threatned Ecological Communities
Likely BC Act and Potential EPBC Act CEEC
Grasslands needing further investigation to validate BC Act and EPBC Act CEEC
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Plant Community Types and Threatned Ecological Communites (Map 2 of 2)

Habitat for threatened species

Habitat

The following habitat features were identified during onsite surveys:

- Sixteen farm dams, all of which contained water and fringing native vegetation. Dams may provide habitat for native frog species
- Meadow Creek and Lerida Creek are mapped as containing Key Fish Habitat, as indicated in Figure 6-15 below.
- Areas of fallen timer and rocky habitat were sparsely recorded throughout the Project Site. Rocky habitat has the potential to provide habitat for threatened reptiles such as the Pink-tailed Legless Lizard (*Aprasia parapulchella*) and Striped Legless Lizard (*Delma impar*)
- 154 hollow-bearing trees were recorded with hollows ranging from small (<5cm diameter) to large (>40cm diameter). These hollows have the potential to provide habitat for threatened arboreal mammals such as the Squirrel Glider (*Petaurus norfolcensis*) and threatened birds such as Powerful Owl (*Ninox strenua*), cockatoos and parrots, as well as microbat species. Hollow-bearing trees are mapped in Figure 6-14
- One medium sized stick nest (approximately 40cm diameter) was incidentally recorded
- Six species of Koala feed trees were recorded within the Project Site. These were:
  - *Eucalyptus blakelyi* (Blakely's Red Gum)
  - *Eucalyptus bridgesiana* (Apple Box)
  - *Eucalyptus macrorhyncha* (Red Stringybark)
  - *Eucalyptus mannifera* (Brittle Gum)
  - *Eucalyptus melliodora* (Yellow Box)
  - *Eucalyptus rubida* (Candlebark).

Threatened species

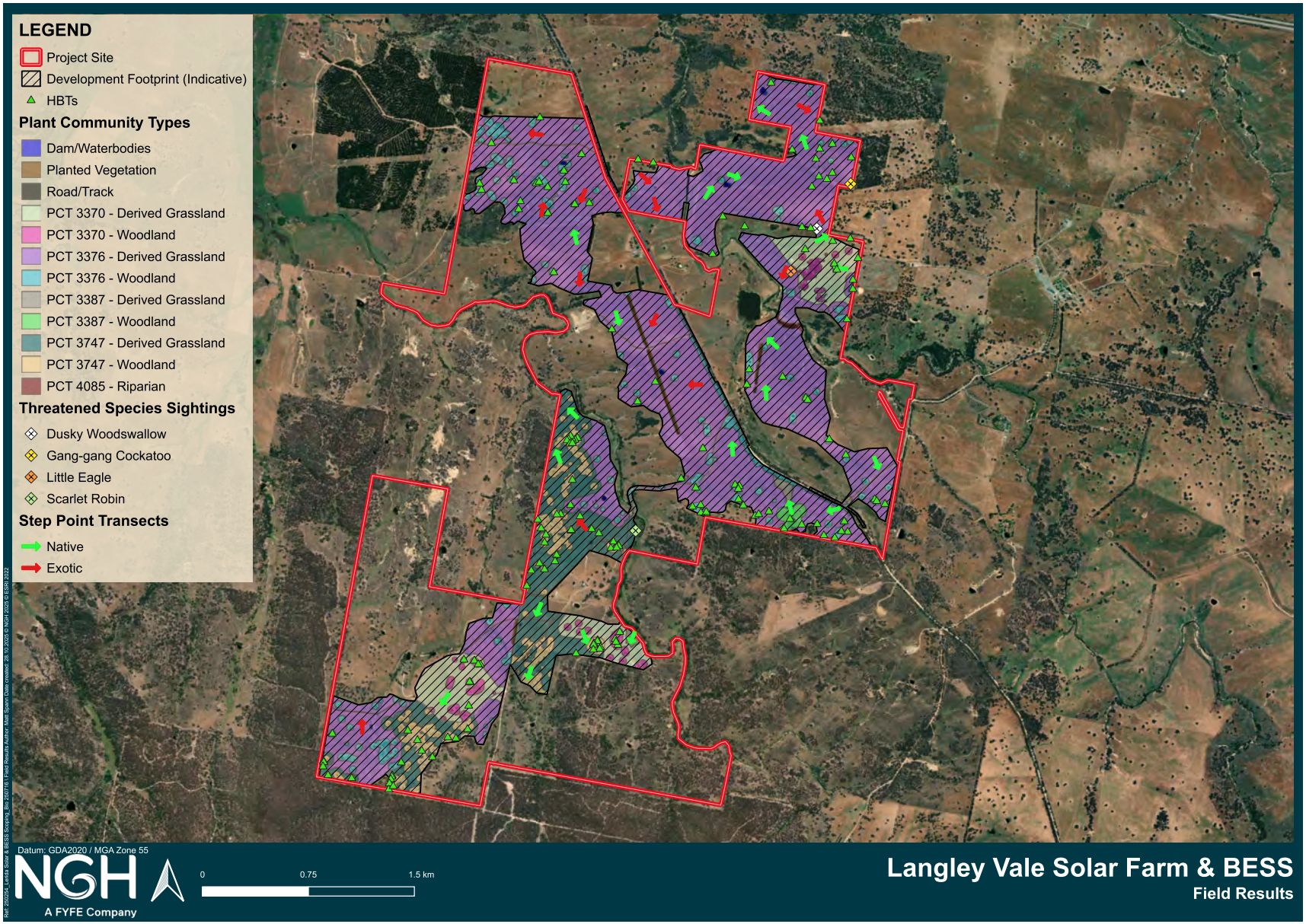
During site surveys, some threatened species were incidentally sighted. These species, and their respective status under the BC Act and EPBC Act are shown below in Table 6-7 and are mapped in Figure 6-14.

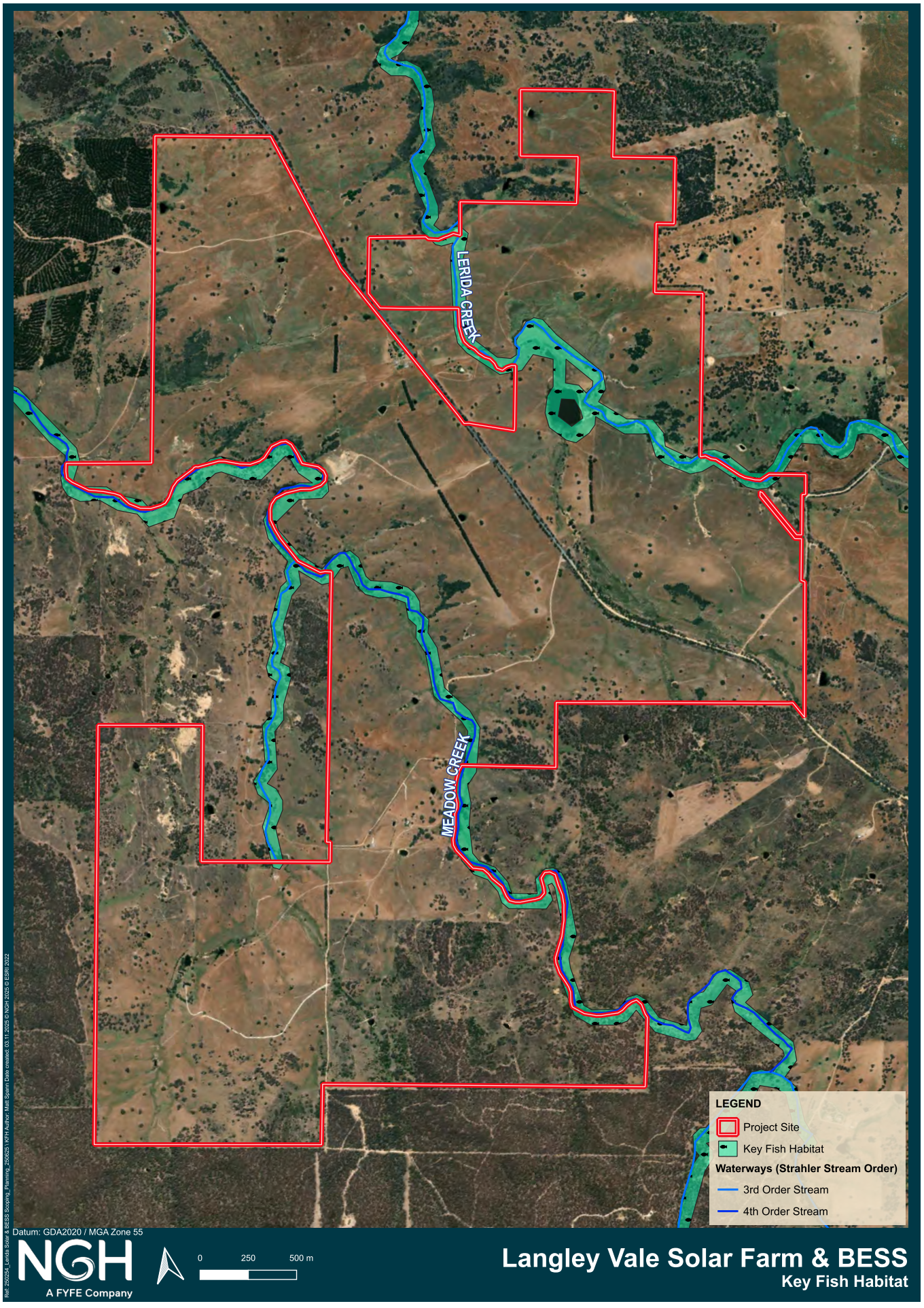
Table 6-7 Incidental threatened species sightings

Species	BC Act status	EPBC Act status
Dusky Woodswallow (*Artamus cyanopterus cyanopterus*)	Vulnerable	N/A
Gang-gang Cockatoo (*Callocephalon fimbriatum*)	Endangered	Endangered
Scarlet Robin (*Petroica boodang*)	Vulnerable	N/A
Little Eagle (*Hieraaetus morphnoides*)	Vulnerable	N/A

None of the above observed species are considered Serious and Irreversible Impact (SAII) entities (considered unable to withstand further loss). It is noted that targeted species surveys have not been undertaken at this stage, with these to occur during the EIS phase.

Other potential threatened species that may occur within the Project Site that are considered SAII entities include Swift Parrot, Regent Honeyeater, Large Bent-winged Bat, *Pomaderris pallida*, Yellow-spotted Tree Frog and the Canberra Grassland Earless Dragon.


LEGEND
Project Site
Development Footprint (Indicative)
HBTs
Plant Community Types
Dam/Waterbodies
Planted Vegetation
Road/Track
PCT 3370 - Derived Grassland
PCT 3370 - Woodland
PCT 3376 - Derived Grassland
PCT 3376 - Woodland
PCT 3387 - Derived Grassland
PCT 3387 - Woodland
PCT 3747 - Derived Grassland
PCT 3747 - Woodland
PCT 4085 - Riparian
Threatened Species Sightings
Dusky Woodswallow
Gang-gang Cockatoo
Little Eagle
Scarlet Robin
Step Point Transects
Native
Exotic
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.75
1.5 km
Langley Vale Solar Farm & BESS
Field Results


LERIDA CREEK
MEADOW CREEK
LEGEND
Project Site
Key Fish Habitat
Waterways (Strahler Stream Order)
3rd Order Stream
4th Order Stream
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
250
500 m
Langley Vale Solar Farm & BESS
Key Fish Habitat

6.5.4. Biodiversity constraints

Preliminary biodiversity constraints have been identified for the Project through desktop review and site inspection as discussed above. Potential constraints have been classified into four categories:

Low

- Farm dams with no emergent vegetation or fringing native vegetation
- Exotic planted or observed cultivated or cropped areas
- Established public roads and farm access tracks that do not contain any live groundcover

Moderate

- Grassland PCTs not associated with TECs but require additional validation to determine their condition
- Native planted vegetation
- Rocky habitat
- Farm dams with fringing or emergent native vegetation
- Watercourse buffers in accordance with Strahler stream order buffers

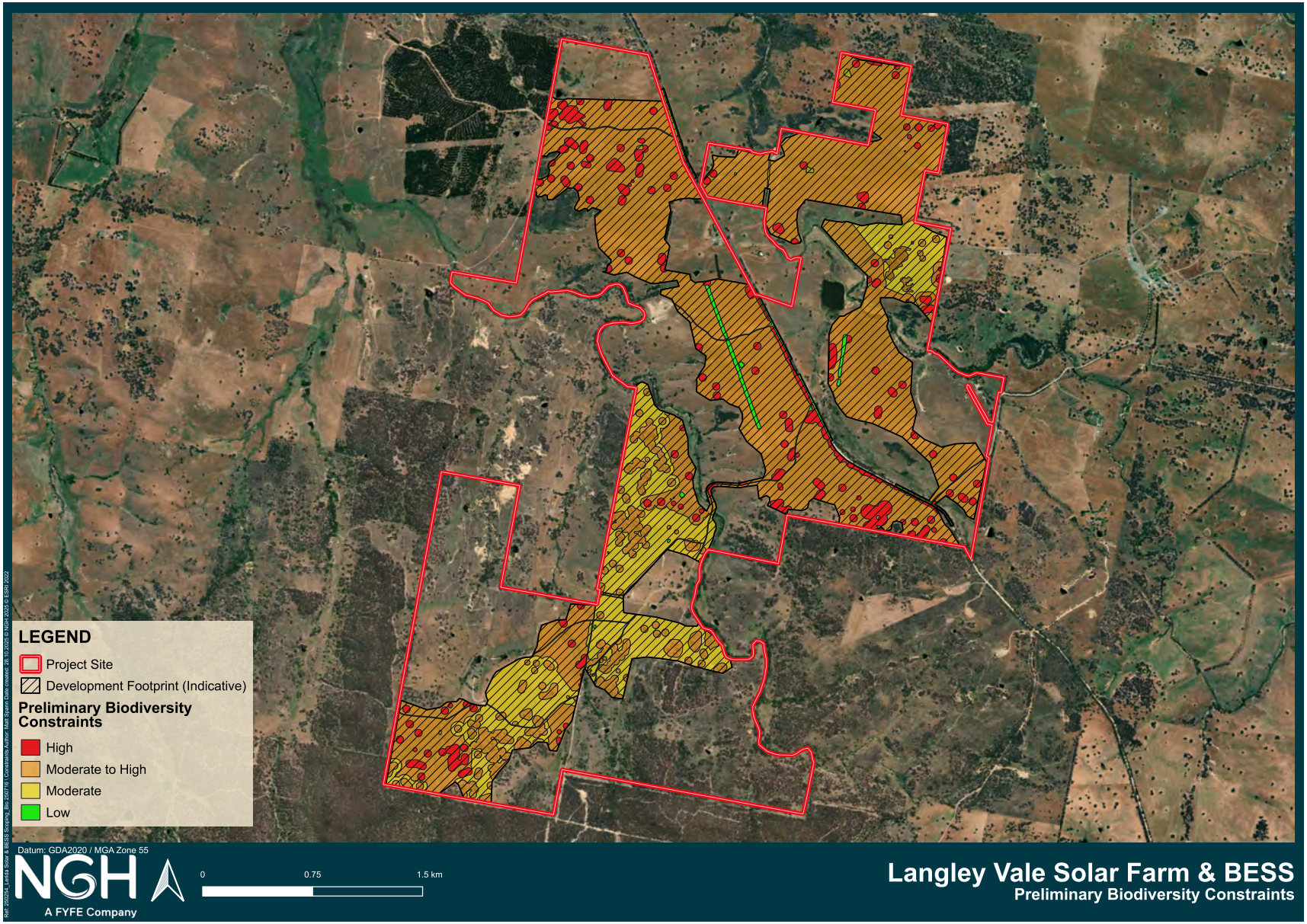
Moderate to High

- Remnant woodland that is not associated with TECs
- Grassland that may be associated with Box-Gum Woodland CEEC. **These areas have been conservatively mapped as a Moderate to High constraint because Vegetation Integrity (VI) plots have not yet been undertaken to confirm native species cover and diversity. While they have been mapped conservatively*, it is considered unlikely that the entire extent of these areas meets the diagnostic criteria for the Box-Gum Woodland CEEC and therefore likely that the constraint level will reduce through the EIS*.**

High

- Verified Box-Gum Woodland Critically Endangered Ecological Community (BC Act and EPBC Act). SAII entity. i.e. PCTs 3376 and 3387 where it occurs as a woodland zone
- Creeks and flats containing PCT 3387
- Hollow-bearing trees (live or dead)

These constraints are shown in Figure 6-16. At this preliminary stage, the results should be regarded as high-level guidance only. They will be refined through more detailed field assessments, including vegetation integrity (VI) plots, as part of the Biodiversity Development Assessment Report (BDAR) to be prepared during the Environmental Impact Statement (EIS) phase of the Project.


LEGEND
Project Site
Development Footprint (Indicative)
Preliminary Biodiversity Constraints
High
Moderate to High
Moderate
Low
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.75
1.5 km
Langley Vale Solar Farm & BESS
Preliminary Biodiversity Constraints

6.5.5. Potential impacts and the need for further assessment

The Project has the potential to negatively impact biodiversity, where avoidance measures aren't undertaken. The primary sources of impact through the construction and operation of the Project are likely to include:

- Clearing of native vegetation and the associated impacts to native species, in particular threatened entities and migratory species.
- Increased habitat fragmentation.
- Injury and mortality to fauna from vegetation clearing and vehicle strikes.
- Changes to riparian hydrology and function.

Avoidance of areas of high biodiversity value is a requirement of the NSW Biodiversity Conservation Act's *Biodiversity Assessment Method*; impacts must first be avoided where possible. Only then can mitigation and offsets be considered. The design of the Project to date has shown consideration of biodiversity values, including:

- Excluding larger native vegetation remnants
- Avoidance of areas with a greater distribution of TECs
- Avoidance of areas with higher numbers of paddock trees and hollow-bearing trees, as far as practicable.

The Development Footprint currently shown is considered a 'worst-case' area, likely to be refined as further surveys and assessments are undertaken at the EIS stage. This will allow the Project to continue to be responsive to ecological constraints as the Project progresses through the EIS phase in consultation with relevant experts, stakeholders and agencies.

As the project is classified as SSD, the Biodiversity Offset Scheme (BOS) is triggered and a BDAR would be required as part of the EIS phase. The BDAR will be prepared in line with the *NSW Biodiversity Conservation Act 2016* requirements.

A biodiversity offset credit obligation is anticipated to be generated, which may be retired through various options including payment into the Biodiversity Conservation Fund (BCF), establishment of a stewardship site to generate credits or the purchase of credits from the Biodiversity Credits Market. This mechanism is intended to create long term (in perpetuity) conservation improvements, to offset the clearing required by the Project.

Land Category Assessment

In NSW, development or clearing proposals on Native Vegetation Regulatory map (NVR map) category 1 – Exempt land may not require biodiversity assessment within the NSW Biodiversity Offsets Scheme or may have reduced biodiversity assessment requirements (DPE, 2023).

In accordance with the Draft NVR Map, extensive areas of the Development Footprint are identified as Category 1 – Exempt Land. Additionally, large areas within the Development Footprint showed signs of extensive agricultural use including cropping and grazing. A Land Category Assessment is required to categorise the areas within the Development Footprint as Category 1 – Exempt Land and would consist of demonstrating a history of cleared land and agricultural use. This is likely to reduce the biodiversity assessment effort, including targeted survey requirements. Therefore, it is recommended that a Land Category Assessment is undertaken as the next step of this project.

6.6. Land use

6.6.1. Existing environment

Land use

Land use within the Project Site is currently mapped on the NSW Land Use database as grazing native vegetation and modified pastures, with smaller areas of farm infrastructure, mining (owing to an old gravel pit) and waterways (refer Figure 6-17).

Surrounding land use is dominated by the adjacent transmission lines, Collector Road and the Hume Highway and grazing of native vegetation and modified pastures. Rural properties are also present in the surrounding area; their amenity is discussed further in Section 6.3 and Section 6.4.

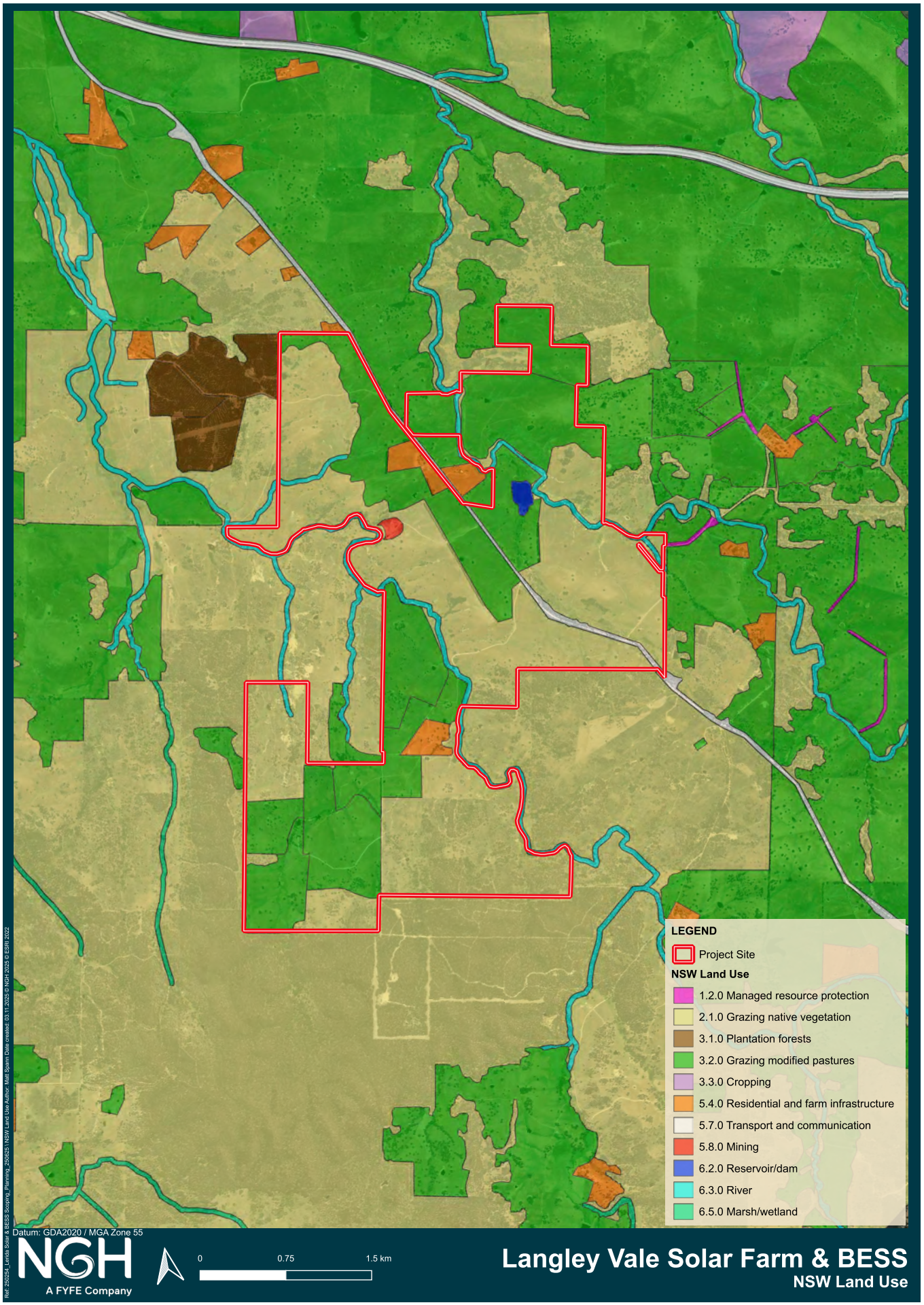
Belmount Nature Reserve occurs approximately 3 km to the south of the Project Site, with areas to the south and southeast of the Site dominated by remnant native vegetation.

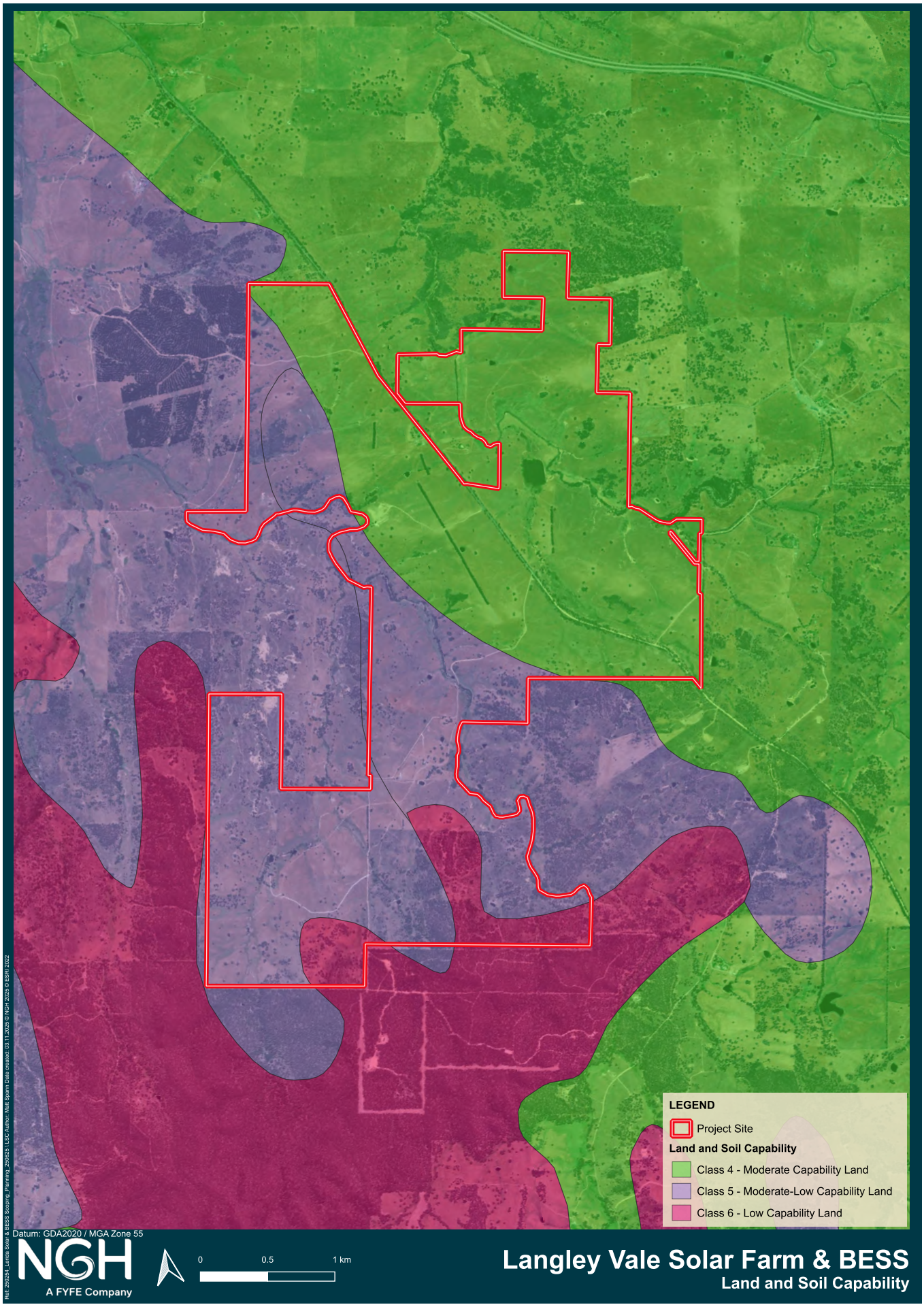
There are no mineral exploration licenses held over the site.

The Project Site occurs across three classifications under the Land and Soil Capability (LSC) Assessment scheme (refer Figure 6-18). Generally, the north of the Project Site is mapped as Class 4 (moderate capability land), the south as Class 5 (moderate-low capability land), and the far south (generally where there are areas of existing woodland) is Class 6 (low capability land). The definitions of each Class, as per the scheme (OEH, 2012), are:

- Class 4 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. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology
- Class 5 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
- Class 6 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.

There is no State Significant Agricultural Land (SSAL) or Biophysical Strategic Agricultural Land (BSAL) mapped within or near the Project Site.


LEGEND
Project Site
NSW Land Use
1.2.0 Managed resource protection
2.1.0 Grazing native vegetation
3.1.0 Plantation forests
3.2.0 Grazing modified pastures
3.3.0 Cropping
5.4.0 Residential and farm infrastructure
5.7.0 Transport and communication
5.8.0 Mining
6.2.0 Reservoir/dam
6.3.0 River
6.5.0 Marsh/wetland
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.75
1.5 km
Langley Vale Solar Farm & BESS
NSW Land Use


LEGEND
Project Site
Land and Soil Capability
Class 4 - Moderate Capability Land
Class 5 - Moderate-Low Capability Land
Class 6 - Low Capability Land
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Land and Soil Capability

Soils and contamination

The Project Site is located within the Murrumbateman Subregion of the wider South Eastern Highlands Bioregion.

Landforms of the Murrumbateman subregion are typified by undulating plateaus with rounded hills and peaks and entrenched meandering streams with chain of ponds tributaries. Soils exhibit yellow mottling and brown texture contrasts with strongly bleached topsoils. Organic loams and clay loams occur on valley floors (NSW National Parks and Wildlife Service, 2003). Soil salinity is present in the subregion; however, mapping does not indicate a soil salinity risk within the Project Site.

More localised soil data from eSPADE places the Project Site across four Soil Landscapes, being:

- Garland Soil Landscape
- Blakney Creek Soil Landscape
- Wyangala Soil Landscape
- Midgee Soil Landscape

A search of the Section 58 of the *Contaminated Land Management Act 1997* (CLM Act) on the 9th of September 2025 for the suburbs of Lerida, Cullerin and Bellmount Forest returned no records of Notices. Similarly, there are no notified sites within the Upper Lachlan LGA under section 60 of the CLM Act with regards to the Duty to Report Contamination. Therefore, there are no contaminated sites nearby the Project Site that would affect the Project.

The Project Site is not mapped as at risk of Acid Sulfate Soils as per NSW Government online mapping tool.

6.6.2. Potential impacts and the need for further assessment

Land use

The Project would involve earthworks, ground disturbance, and a change of the current land use to energy generation. The impact of the Project on all adjacent land uses, such as residential areas and agricultural and grazing areas, would be assessed in detail in the EIS including conducting a Land Use Conflict Risk Assessment (LUCRA).

As the site is zoned RU2 and contains laned mapped as LSC Class 4, onsite verification of soils would be required, and a level 2 reduced Agricultural Impact Assessment will be completed in the EIS.

The Agricultural Impact Assessment will follow the requirements included in Appendix A of the Large-Scale Solar Energy Guideline (DPHI, 2022). The Agricultural Impact Assessment will consider mitigation measures appropriate to the sensitivity of the site's soils and solar development impact.

Soils and contamination

Soil surveys would provide further detailed analysis of the soils at the site, including the erosion potential of the soils. Based on the soil assessment best practice soil and erosion mitigation and management strategies will be developed for the construction, operational and decommissioning phases of the Project. Mitigation measures to manage dust, vehicle and machinery emissions would also be detailed in the EIS.

Assessment of potential contamination existing at the site and potentially a Preliminary Site Investigation would be required as part of the EIS to identify potential sources of contamination and any remediation measures that would be necessary.

The EIS would also include commitments to ensure the site is rehabilitated for a suitable alternative land use at the end of the project's life.

6.7. Aboriginal cultural heritage

This section is intended to provide initial insight into the Project's possible impacts on Aboriginal objects and identify appropriate assessment pathways forward based on industry codes of practice which set guidelines for assessing Aboriginal Heritage NSW and the relevant legislation requirements. As part of this approach appropriate database searches were undertaken for this preliminary desktop assessment.

In NSW, Aboriginal heritage is principally protected by two legislative acts:

- *National Parks and Wildlife Act* 1974 (NSW) (NPW Act) and its subordinate legislation, the National Parks and Wildlife Regulation 2019; and
- *Environmental Planning and Assessment Act* 1979 (NSW) (EP&A Act)

All Aboriginal objects have blanket protection under the NPW Act. An Aboriginal object may not be harmed (including movement) without approval from heritage NSW.

6.7.1. Existing environment

A search was undertaken of the Native Title Vision database on 30 July 2025 to determine whether a Native Title determination or claim exists over the Project Site and there are no active Native Title claims in the area.

Searches were undertaken of the relevant heritage registers to determine whether there are any previously recorded Aboriginal sites within the Project Site boundary. A search of the NSW Heritage Inventory (SHI) database was conducted which indicated that there are no previously recorded Aboriginal Places listed under the NPW Act within the Upper Lachlan LGA.

An extensive search of the AHIMS (Aboriginal Heritage Information System) database was conducted over the following search area centred on the Project Site on 28 July 2025.

- **Client Service ID:** 1027970
- **Zone:** 55
- **Eastings:** 689107.0 – 722765.0
- **Northings:** 6126831.0 – 6154888.0
- **Aboriginal Sites:** 87 (no Aboriginal Places)

The Aboriginal Heritage Information Management System (AHIMS) is a database of previously recorded Aboriginal heritage sites in NSW. A search provides basic information about any Aboriginal sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been provided to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area.

The results of the above search show that there are no Aboriginal sites within 1km of the Project Site and no previously recorded sites are located within the Project Site. The closest site is an artefact scatter located approximately 1.1km west of the Project Site boundary. The locations of AHIMS sites are shown in Figure 6-19. A summary of AHIMS site types are listed within Table 6-8 below.

Table 6-8 AHIMS search results breakdown.

Site Type	Number of sites	% of items in the search area
Artefact	73	83
Potential Archaeological Deposit (PAD)	6	9
Modified Tree (Carved or Scarred)	4	4
Artefact and PAD	1	1
Grinding Groove	1	1
Stone Quarry, Artefact and Stone Arrangement	1	1

In addition to the above searches there is a range of landscape features within NSW which are generally accepted to have higher potential to contain Aboriginal objects. It is therefore necessary to consider whether there are landscape features of undisturbed land that may contain Aboriginal objects within the Project Site. Landforms with increased Aboriginal heritage potential include:

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

Some of these landforms, such as areas located within 200m of waterways and areas located on a ridge top, ridge line or headland, are relevant to the Project Site. Additionally, there is some remnant vegetation along the waterways and in the southern section of the Project Site that might contain culturally modified trees. Furthermore, a large number of sites with stone artefacts have been recorded in the surrounding area. Therefore, there is potential for Aboriginal objects to exist within the Project Site. These objects are most likely to be stone artefacts especially along ridge lines with potential for PAD close to waterways.

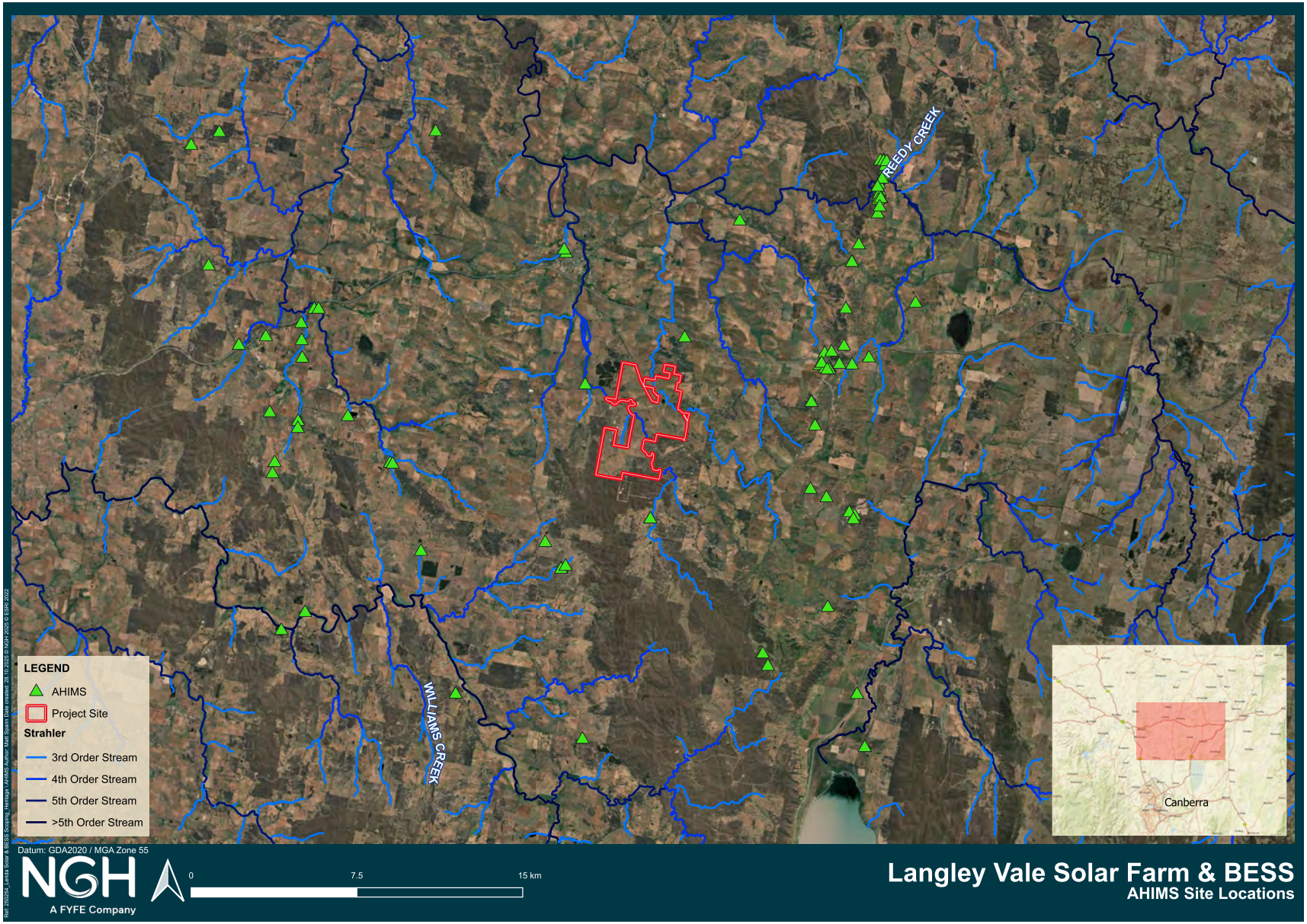
A search of the Native Title Vision online database identified no active claims across the Project Site.

6.7.2. Potential impacts and the need for further assessment

Given the presence of known Aboriginal objects within the region it is probable that other sites may also be present within the Project Site, especially given that it has not previously been subject to an archaeological survey. Risks in relation to Aboriginal heritage will be confirmed based on the results of a field inspection and the assessment of the area proposed to be impacted within the Project Site.

An Aboriginal Cultural Heritage Assessment (ACHA), which includes Aboriginal community consultation with registered stakeholders must be undertaken in conjunction with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010) and the *Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage, 2011) to appropriately assess any proposed impacts on Aboriginal objects or places within the Project Site.

An ACHA and its associated Aboriginal community consultation will be required to be completed as part of the EIS.


REEDY CREEK
WILLIAMS CREEK
LEGEND
AHIMS
Project Site
Strahler
3rd Order Stream
4th Order Stream
5th Order Stream
>5th Order Stream
Canberra
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
7.5
15 km
Langley Vale Solar Farm & BESS
AHIMS Site Locations

6.8. Non-Aboriginal heritage

6.8.1. Existing environment

Desktop searches were undertaken on 30 July 2025 of the relevant historical heritage registers to identify any heritage items or places in proximity to the Project Site. This included searches of the Australian Heritage Database, the State Heritage Inventory and Section 170 registers, as well as LEP maps to identify any items that are currently listed within or adjacent to the Project Site. The Australian Heritage Database (AHD) includes items on the World, National and Commonwealth Heritage Lists while the SHI includes items on the State Heritage Register and items listed by state agencies and local government.

The results of the search of the State Heritage Inventory (SHI) database indicates that there are 143 historical heritage items listed in the Local Environmental Plan (LEP) in the Upper Lachlan Local Government Area (LGA) and no Aboriginal Places. There are no items of local heritage significance located within or adjacent to the Project Site. The closest locally listed heritage item is Frankfield Homestead (#I98) located approximately 3km northeast of the Project Site.

The results of the NSW SHI database search also indicated that there are five (5) historical heritage items listed within the Upper Lachlan LGA. There are no state heritage items located within the Project Site. The closest state listed heritage item is Gunning Railway Station and Yard Group (#01162) located 5.4km northwest of the Project Site.

There are 32 sites listed on the Australian Heritage Database with 29 listed on the Register of the National Estate which is a non-statutory archive. The Greater Blue Mountains Area is on the National Heritage List as both a listed place and a nominated place and is located in the northeastern portion of the LGA approximately 79km northeast of the Project Site. This place is also listed on the World Heritage List. There are no Commonwealth listed items within the Upper Lachlan LGA.

There are no recorded sites in close proximity to the Project Site.

6.8.2. Potential impacts and the need for further assessment

No known heritage places or items were identified through a desktop search of the Australian Heritage Database or State Heritage Inventory. Therefore, there are no listed historical heritage places or items within the Project Site. The probability of finding unrecorded by significant historical heritage items in the Project Site is low but possible. Further investigation as part of the EIS may be required to confirm that there is no impact to significant historical heritage. An assessment of the historical heritage presence within the Project Site can be assessed during the field assessment for the Aboriginal Cultural Heritage Assessment.

6.9. Access and traffic

6.9.1. Existing environment

Access to the Project Site during is proposed via existing access points from Collector Road. Collector Road is a two-way local road that is sealed between Gunning and the eastern extent of the Project Site. It is likely to have suitable width to accommodate the construction traffic. Although more significant roadside vegetation occurs in the southern section of the Project site.

Access to Collector Road would primarily be from the Hume Highway, which is a state highway linking Sydney and Melbourne, with a sign posted speed limit of 110 km/hr.

Collector Road is primarily used for local and agricultural traffic, while the Hume Highway is a significant transport link used for travel, commuting and haulage.

TfNSW's Traffic Volume Viewer (TfNSW, 2024) located on the Hume Highway, approximately 25km west of Gunning (station ID: HHW006) shows a daily average traffic count of 9,538 vehicles, with 45.6% being heavy vehicles. This is the closest traffic counter along the Highway from the Project Site.

The majority of key components for the Project would be imported. There are two ports of origin that would be considered for the Project:

- Port Botany – 241 km
- Port of Newcastle – 380 km

The Port of Newcastle is the most likely port that would be accessed for delivery of international freight and components, and in particular, large components required Oversize-Overmass (OSOM) transport. Port Botany is also likely to be accessed for delivery of international freight and components required by the Project. The final haulage route(s) would be investigated further in the EIS phase.

6.9.2. Potential impacts and the need for further assessment

The Project would result in increased traffic on the road network during the construction phase. Activities that would increase the number of vehicles on the road include:

- Construction of the PV array, hardstands for the substation and BESS container units
- Delivery of the key infrastructure components, including PV array components, BESS containers, HVAC units, switch gear rooms, control room, cabling, fencing, sand and fill
- Delivery of site personnel.

OSOM vehicles would be required for transportation of substation and BESS infrastructure during construction, in addition to heavy and light vehicles.

During operation, low numbers of light vehicle movements are anticipated to deliver operational staff and maintenance crews to site. The occasional heavy vehicle may be required to deliver replacement components to the site over the lifetime of the Project.

Turn treatments from the Hume Highway onto Collector Road, and from Collector Road into the Project Site may be required to ensure safe access to the Project Site during construction. Intersection upgrades, surface improvements and other enhancements to existing roads may also be necessary. A detailed assessment will be needed to determine the impacts on road infrastructure and traffic safety.

A traffic impact assessment (TIA) will be prepared by a specialist in consultation with the road's authorities as part of the EIS to determine if intersection or road upgrades are necessary to meet the best practice guidelines for road and intersection design which are:

- Austroads Guide to Traffic Management Part 12 and TfNSW supplement
- Austroads Guide to Road Design and TfNSW supplements
- TfNSW Guide to Traffic Generating Developments
- Unsealed Roads Manual: Guidelines to Good Practice (2009).

The TIA will also include a haulage route assessment as well as an assessment of cumulative impacts that would arise in conjunction with nearby projects, as per the *Cumulative Impact Assessment Guidelines for State Significant Project*s (DPIE, 2022)

6.10. Hazards

An environmental hazard is a thing or situation which can threaten the environment or human health. Hazards may be natural or artificial or result from the interaction between human activity and the natural environment. Hazards relevant to the Project include risks associated with hazardous materials, electromagnetic fields, and fire.

6.10.1. Existing environment

The Project site contains limited environmental hazards; however, the existing transmission lines and surrounding vegetation represent existing hazards. Agricultural activities and roadsides can also contain contaminants.

Electromagnetic Fields (EMFs) are produced within the vicinity of existing powerlines.

The Project Site is located within the Southern Tableland Bush Fire Management Committee (STBFMC) area, and contains areas mapped as Category 1 vegetation which is the highest category for bush fire prone land and represents a high risk of fire (refer Figure 6-20). This category is associated with woodlands in the within the Project Site and surrounds, particularly to the south.

The STBFMC area experiences a temperate to cool climate, characterised by warm to hot summers and cool winters. Rainfall is generally variable and unreliable, and lowest during the summer months. Lighting strikes are frequent during the bushfire season, which runs from October to March/April.

The STBFMC area has on average 265 bush fires per year, of which 5 could be considered to be large fires. Major fires occur sporadically with about 3 in a 5-year period. The frequency of significant or major fires has varied between the districts comprising the area. Generally, Goulburn-Mulwaree has a history of major fires occurring in a cycle of 5 to 7 years, whereas Upper Lachlan has an approximately 7-to-10-year cycle and Yass Valley has a 2.5-year cycle of major fires.

6.10.2. Potential impacts and the need for further assessment

Hazardous materials

A BESS with a capacity up to 500MW/2000MWh is proposed at the Project Site which is classed as being potentially hazardous under the State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP).

A Preliminary Hazard Analysis (PHA) would be prepared by a specialist as part of the EIS in accordance with *Hazardous Industry Planning Advisory Paper No. 6 'Hazard Analysis'* (NSW Department of Planning, 2011) and *Multi-level Risk Assessment* (NSW Department of Planning and Infrastructure, 2011). The PHA would detail the potential hazards, such as fire and hazardous chemicals, and controls to mitigate these hazards.

The mitigation and control measures afforded by the Applicant and the proposed construction contractor will reduce the likelihood of these events to manageable risk levels and contain the effects on-site.

Electric and magnetic fields

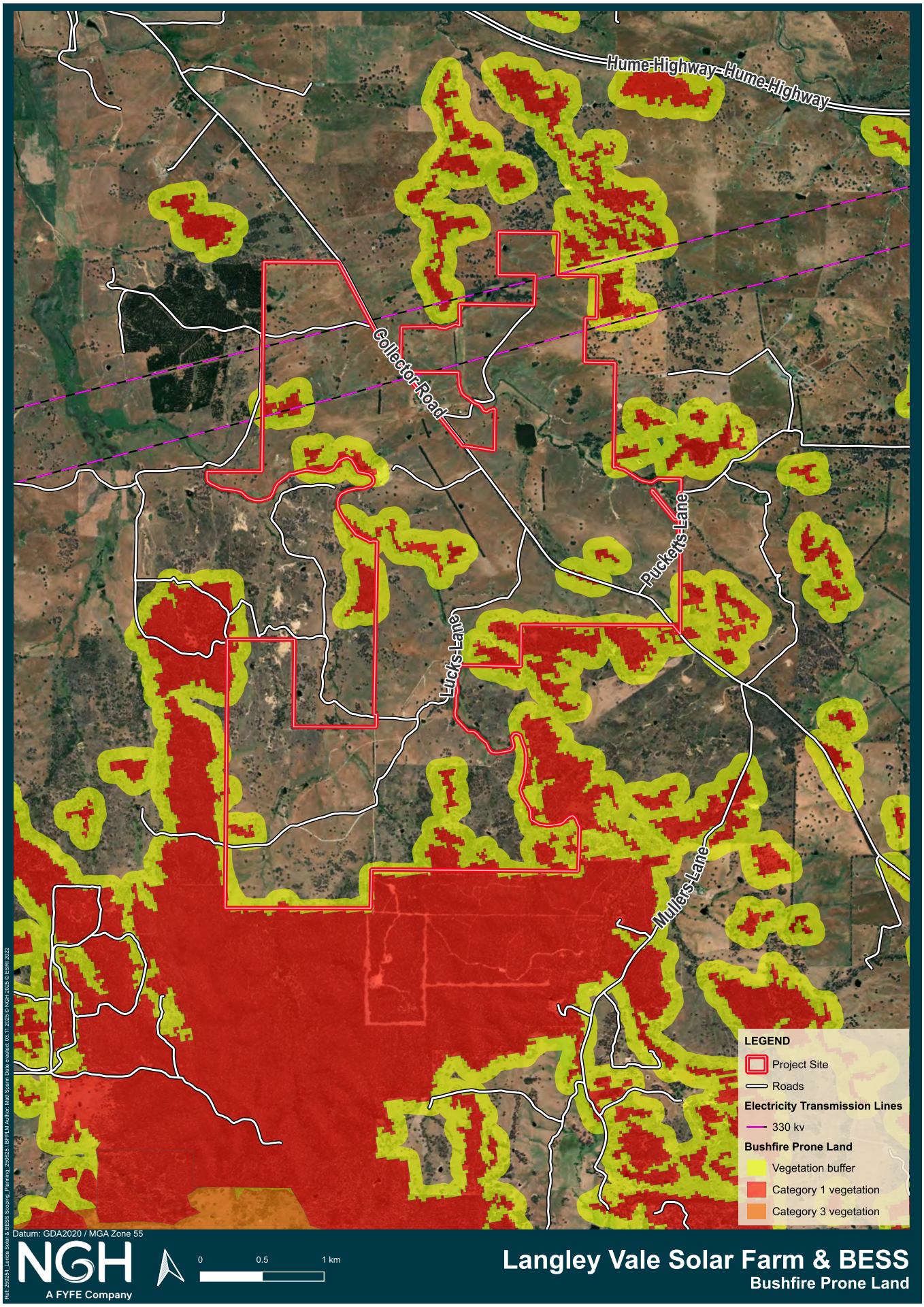
Substations and BESS do produce electric and magnetic fields (EMF), but these are generally low and are not considered a health risk. EMF levels associated with infrastructure would be well below the guideline for public exposure and would not be expected to have any adverse impact on human health. However, there can be perceived impacts for nearby residents.

EMF levels of the proposed infrastructure would be considered as part of the EIS. Standard design provisions are expected to ensure impacts comply with relevant guidelines together with communication of potential issues as required.

Bushfire

A Bushfire Assessment Report would be undertaken as part of the EIS assessment, which would consider the requirements of the NSW RFS Planning for Bush Fire Protection 2019 (PBP) guide (NSW RFS, 2019) and the results of the PHA, in terms of fire management.

At this early stage the Project can readily accommodate the minimum 10m Asset Protection Zone buffer from buildings on site, and these APZs would be refined further in the EIS by the Bushfire Assessment Report. The emergency protocols set out in the EIS would reflect advice from relevant agencies.


Hume-Highway-Hume-Highway
Collector-Road
Puckers-Lane
Lucks-Lane
Mullers-Lane
LEGEND
Project Site
Roads
Electricity Transmission Lines
330 kv
Bushfire Prone Land
Vegetation buffer
Category 1 vegetation
Category 3 vegetation
Datum: GDA2020 / MGA Zone 55
NGH
A FYFE Company
0
0.5
1 km
Langley Vale Solar Farm & BESS
Bushfire Prone Land

6.11. Waste management

6.11.1. Existing environment

Current waste streams arising from the Project Site include:

- Agricultural wastes
- General municipal/household waste

6.11.2. Potential impacts and the need for further assessment

The Project would generate several waste streams and utilise a variety of materials during the construction phase, including:

- Excavated materials (soil)
- Packaging from BESS and PV array components and associated infrastructure
- Vegetation
- Wastewater
- Domestic waste (site facilities).

A Waste Management Plan would be incorporated into the Construction Environmental Management Plan (CEMP), applying the principles to avoid, re-use and recycle to minimise waste.

All waste produced by the Project will be classified, handled and managed in accordance with the Waste Classification Guidelines – Part 1 Classifying Waste (NSW EPA, 2014) and Resource Recovery Orders and Exemptions issued by EPA guided by the Waste Classification Guidelines Part 1: Classifying waste and Resource Recovery Orders and Exemptions issued by NSW EPA.

Priority will be given to reusing materials on site or recycling if reusing is not possible.

During the Project's operational stage, there would be minimal waste, likely only being general municipal waste generated by onsite staff. Any waste generated during operation would be dealt with according to relevant guidelines.

Decommissioning and replacement of equipment during operation would generate a large volume of waste. The waste would involve solar panels, batteries, inverters, cabling and any other items used for construction of the solar farm. Recycling opportunities and lawful waste disposal will be investigated in the EIS phase. The EIS will also study waste management in detail and advise on mitigating impacts resulting from this waste.

In consultation with Council, it was noted that there isn't appropriate waste facilities located within the LGA, and waste processes should be considered carefully. A draft Waste Management Plan would be developed in consultation with Council and included in the EIS.

6.12. Cumulative impacts

Cumulative impacts relate to the combined potential effects of different impact areas of the Project as well as the potential interaction with other Projects in the local area. They may occur concurrently or sequentially.

The relevant cumulative impacts are those associated with other known or foreseeable developments occurring in proximity to the Project.

Major Projects undergoing assessment or determined since 1 January 2020 are listed on the Major Projects Register. The major projects in the region which may lead to cumulative impacts (and their current planning status as of 9 September 2025) are shown in Table 6-9 below.

Potential cumulative impacts will be considered in the EIS.

It is unlikely that that the listed projects would cause major impacts due to respective distances, though there may be cumulative socio-economic impacts, which would be assessed further in the EIS.

Table 6-9 Nearby Major Projects

Project	Stage	Status	Description	Distance from Project	Specific cumulative impacts to consider in the EIS	Project Overlap
Wattle Creek Solar Farm	Prepare EIS	Response to submissions	Development of a 265 MW solar farm, 100MW BESS and associated infrastructure	69.3 km northeast	Social and economic	Potential construction and operation overlap
Crookwell 3 Wind Farm	Approved	Not constructed	Construction and operation of up to 16 individual wind turbines standing up to 157 metres at top of blade tip with a capacity of up to 3.4MW each	37.3 km northeast	Social and economic	Potential construction and operation overlap
Barina Hard Rock Quary – Mod 3	Prepare Mod Report	Exhibition	Extension of the project life to allow operations to continue.	16.2 km southeast	Social and economic	Operation overlap
Wattle Creek BESS	Prepare EIS	Response to submissions	Development of a 350MW/1400MWh battery energy storage facility with associated infrastructure.	69.3 km northeast	Social and economic	Potential construction and operation overlap
Gunning Solar Farm	Approved	Construction	Development of a 250 MW solar farm and associated infrastructure, including 600MWh BESS and grid connection	15 km west	Social and economic Traffic (regional)	Construction and operational overlap

Project	Stage	Status	Description	Distance from Project	Specific cumulative impacts to consider in the EIS	Project Overlap
Rye Park Wind Farm	Approved	Operational	Construction and operation of 126 turbines with a total generation capacity of up to 378MW	27.8km northwest	N/A	Operation overlap
Conroy's Gap Wind Farm	Approved	Not constructed	Construction and operation of 15 turbines with a total generation capacity of up to 30MW	52 km west	N/A	Operation overlap
Gullen Range Wind Farm	Approved	Operational	Construction and operation of 73 turbines with a total generation capacity of up to 165MW	29 km northeast	N/A	Operation overlap
Yass Valley (Coppabella) Wind Farm	Approved	Construction	Construction and operation of 152 turbines with a total generation capacity of up to 284MW	54.1km west	N/A	Operation overlap
Cullerin Range Wind Farm	Approved	Operational	Construction and operation of 15 turbines with a total generation capacity of up to 30MW	6.2 km northeast	N/A	Operation overlap

6.13. Matters not requiring further assessment

The environmental matters below require no further assessment in this Project. These additional matters have been considered in reference to the matters included in Appendix B of the State significant development guidelines – preparing a scoping report (DPE, 2022). Refer to Table 6-10.

Table 6-10 Impact matters requiring no further assessment

Impact	Description
Marine Port facilities	The Project does not propose a modification to port or airport facilities. It is noted that material deliveries via ports will be assessed under Traffic and access (refer to Section 6.9)
Rail facilities	The Project does not propose a development that directly impacts rail facilities.
Odour	The Project does not propose a development that would be likely to produce odours.
Coastal hazards	The Project is not located nearby any coastal areas and as such does not address coastal hazards.
Dams safety	The project does not propose to construct, maintain or decommission a dam.

7. Conclusion

This Scoping Report has outlined and established the planning and general environmental context of the proposed Langley Vale Solar Farm and BESS. The Project would be assessed under Part 4 of the EP&A Act and classed as SSD under the Planning Systems SEPP.

The Project Site is zoned RU2 – Rural Landscape under the Upper Lachlan Council LEP. The Project is not within a Renewable Energy Zone but is located in proximity to other approved and operating large-scale renewable energy projects.

The site location is considered highly suitable for a solar farm, given terrain, aspect, existing clearing and compatibility with surrounding land uses and that it would avoid the need for third-party easements and long transmission lines to connect to the grid.

Through the EIS, some matters identified in Section 6 will require detailed assessment, while for others, a standard assessment would be suitable. These are outlined below in Table 7-1.

Table 7-1 EIS Assessment Matters

Matters requiring detailed assessment	
• Socio-economic issues	• Land
• Hydrology, water quantity	• Hazardous materials
• Visual	• Aboriginal heritage
• Noise and vibration	• Traffic
• Biodiversity	• Bushfire
Matters requiring standard assessment	
• EMF	• Historic heritage
• Waste	• Cumulative

The SEARs are now requested to guide the preparation of the detailed assessment within the EIS.

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Appendix A Scoping Summary Table

Group	Matter	Level of assessment	Cumulative Impact Assessment	Engagement	Scoping report reference	Key government plans, policies and guidelines
Social	Socio-economic	Detailed	Yes	Specific	Section 6.1	• Social Impact Assessment Guidelines for State Significant Projects (Department of Planning Industry and Environment, 2021) • Undertaking Engagement Guideline for State Significant Projects (Department of Planning Industry and Environment, 2021).
Water	Hydrology, water quantity	Detailed	Yes	General	Section 6.2	• Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) • Floodplain Risk Management Guidelines (Department of Environment and Climate Change, 2016) • Floodplain Development Manual: The management of flood liable land (NSW Government, 2005) • Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) • Managing Urban Stormwater: Soils and Construction Volume 2 (Department of Environment and Climate Change, 2008) • NSW Government's Floodplain Development Manual (2005).
Amenity	Visual	Detailed	Yes	Specific	Section 6.3	• DPHI Large-Scale Solar Energy Guideline (DPHI, 2022)
Amenity	Noise and vibration	Detailed	Yes	General	Section 6.4	• *Interim Construction Noise Guideline* (Department of Environment & Climate Change, 2009), • *NSW Noise Policy for Industry* (NSW Environment Protection Authority, 2017), • *Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation NSW, 2006) • *NSW 'Road Noise Policy'* (Department of Environment, Climat Change and Water, 2011).
Biodiversity	Terrestrial flora and fauna	Detailed	Yes	Specific	Section 6.5	• NSW Biosecurity Strategy 2013-2021 • Biodiversity Assessment Method (BAM) (NSW Government, 2020).
Land	Land capability	Detailed	Yes	General	Section 6.6	• Agricultural Land Use Mapping Resources in NSW • The Land and Soil Capability Scheme (Office of Environment and Heritage, 2012). • LEP land zoning

Group	Matter	Level of assessment	Cumulative Impact Assessment	Engagement	Scoping report reference	Key government plans, policies and guidelines
Heritage	Aboriginal	Detailed	No	Specific	Section 6.7	• Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011 • Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 • Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010.
Heritage	Non-Aboriginal	Standard	No	Specific	Section 6.8	• Commonwealth EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (Commonwealth of Australia, 2013) • Commonwealth EPBC 1.2 Significant Impact Guidelines – Actions on, or impacting upon, Commonwealth Land and Actions by Commonwealth Agencies (Commonwealth of Australia, 2013)
Access	Traffic	Detailed	Yes	Specific	Section 6.9	• Austroads Guidelines for Road Design (Austroads) • Austroads Guidelines for Traffic Management (Austroads) • Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2013).
Hazards and risks	Hazardous materials (BESS)	Detailed	No	General	Section 6.10	• State Environmental Planning Policy (Resilience and Hazards) 2021 • Hazardous Industry Planning Advisory Paper No. 6 'Hazard Analysis' (DoP 2011)
Hazards and risks	EMF	Standard	No	General	Section 6.10	• NSW Large-scale solar energy guideline for State Significant Development (Department of Planning and Environment, 2018). • Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields.
Hazards and risks	Bushfire	Standard	No	Specific	Section 6.10	• Planning for Bushfire Protection (NSW Rural Fire Service, 2019).
Waste	Waste	Standard	No	General	Section 6.11	• Waste Classification Guidelines – Part 1 Classifying Waste (NSW EPA, 2014)
Cumulative impacts	Cumulative impacts	Standard	No	General	Section 6.12	• *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE, 2022).

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12 December 2025

NSW Department of Planning and Environment

Energy Assessments

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12 Darcy Street

PARRAMATTA NSW 2150

Dear Rachel,

Re: Request for Statement Environmental Assessment Request – Langley Vale Solar Farm (SSD-100679208)

Council appreciates the opportunity to comment on the Scoping Report for the proposed Langley Vale Solar Farm and BESS. Council requests that the following matters be formally included in the Secretary's Environmental Assessment Requirements (SEARs).

It should be noted strong concerns have emerged regarding the cumulative impacts and absence of State-level coordination associated with the growing number of large-scale renewable energy projects that have been approved or are currently under assessment within the LGA and neighbouring LGAs.

While individual projects may appear manageable in isolation, their combined effects on housing availability, health services, workforce supply, road networks, landfill, water and waste services, and the environment can be substantial and compounding.

The EIS for this project must assess its contributions to region-wide pressures comprehensively and propose concrete strategies to mitigate them. Regional infrastructure and community wellbeing will be under unsustainable strain without a coordinated and transparent cumulative impact assessment process.

Council requests that the proponent and the NSW Government provide clear responses to the following two questions within the EIS:

a. What are the cumulative environmental, social, and economic costs - and who bears them?
b. What are the cumulative environmental, social, and economic benefits - and who reaps them?

Council seeks assurance that Upper Lachlan Shire Council communities do not disproportionately bear the costs of energy transition infrastructure while the benefits flow elsewhere.

It should not fall to individual councils or proponents to resolve region-wide challenges that are clearly structural and interlinked. The impacts of concurrent development - including dilapidation of roads, workforce shortages, housing displacement, and community fatigue - are not within the control or remit of a single proponent, nor can they be effectively mitigated through bilateral agreements alone.

A formalised regional impact framework, in line with its statutory obligations, is urgently required to manage cumulative impacts across the Southeast Region. Without this, regional communities will continue to shoulder disproportionate burdens while broader energy transition goals are pursued.

The scale and pace of development within the Southeast Region demands more than isolated, project-by-project assessment; it requires coordinated oversight. Upper Lachlan Shire Council urges the State Government to explain how it intends to take an active leadership role in orchestrating the rollout of concurrent renewable energy developments. Without a centralised coordination framework, cumulative impacts will remain poorly managed, placing undue pressure on regional communities. The State Government must ensure that agencies, proponents, and local councils are aligned through regional planning mechanisms, shared data platforms, and clear governance arrangements to avoid repeating planning failures.

1. Social and Economic Impacts

Council acknowledges the economic benefits outlined in the Scoping Report, including construction employment and local economic stimulus.

However, Council request that the EIS must address the following in detail:

1.1 Workforce, Housing & cumulative impacts

The region is already experiencing pressure from multiple concurrent renewable projects (wind, battery and solar). The EIS must provide:

a. A cumulative workforce accommodation assessment (including all other SSDs in ULSC and neighbouring LGA's).

b. Impacts on local rental availability, short-term accommodation, and housing stress.

c. Strategies to avoid displacement of residents or essential workers.

d. Feasible commitments for worker accommodation locations and management.

Accommodation Requirements

Council strongly opposes the use of tourist and visitor accommodation for the construction workforce, as this infrastructure is critical to the region's visitor economy.

Publicly available accommodation is already limited; access to it must remain prioritised for tourists, service providers, and existing community needs.

Similarly, the Regions private rental market must not form part of the accommodation solution due to affordability pressures.

Council's preference is that temporary worker accommodation be aligned with Council's broader Housing Strategy and regional development goals, with options including:

a. Legacy housing opportunities, such as medium-density housing.
b. Trunk infrastructure investment to unlock greenfield housing supply.
c. Dedicated workers' camps on Council-owned land, established near existing urban areas or villages

1.2 Community sentiment and social risk

The community has raised concerns about visual change, traffic, decommissioning responsibility, livestock interactions, and potential insurance/property value impacts.

Council requests that the EIS must address the following in detail:

a. A full Social Impact Assessment (SIA), including social risk mitigation, engagement commitments, and ongoing monitoring.

b. Assessment of project naming/identity issues to avoid confusion with local property names.

c. Clear commitments regarding land rehabilitation, long-term asset ownership and decommissioning responsibilities.

d. Whether it is appropriate a bond and or security remains in place to ensure decommissioning.

1.3 Community Benefit Sharing (CBS)

Council has a preferred policy framework under development for CBS and VPA administration. The Council requests that the EIS must:

a. Outline the proponent's contribution options.

b. Discuss alignment with Council's LGA-wide CBS program to ensure long term benefits.

c. Engage in preliminary VPA discussions to ensure long term community outcomes.

The financial value of community benefit will vary from project to project, however, the minimum community benefit threshold for Upper Lachlan is:

• $850 per megawatt per annum for solar energy development for the life of the development (including future modified or recommissioned projects).

• $1050 per megawatt per annum for wind energy development for the life of the development (including future modified or recommissioned projects).

• $850 per megawatt of capacity for energy storage developments.

Note: Projects that do not deliver community benefits above these thresholds are likely to be considered not in the public interest.

2. Traffic and Transport

Council notes community concerns about heavy vehicle movements, dust, and road safety during construction.

The EIS must provide:

a. A Traffic and Transport Impact Assessment (TTIA) addressing haulage routes, construction traffic volumes and cumulative project impacts.

b. Road safety impacts on Collector Road and local intersections.

c. Required upgrades under s138 of the Roads Act.

d. The opportunity for Consultation with Transport for NSW and Council regarding standards, maintenance and cost responsibilities.

e. Dust control, driver behaviour management, and construction timing protocols.

Roads

The proponent must also submit pre- and post-construction dilapidation reports for all affected public infrastructure. The initial report is to be completed after any road upgrades are finalised, with a follow-up report required once construction is concluded.

Any damage or defects identified must be rectified by the proponent prior to Council assuming responsibility for the upgraded infrastructure.

The TIA must also identify whether transport of over-dimension vehicles will require the removal and reinstatement of roundabout medians, centre islands, signage, or street furniture. Strong controls must be in place to ensure all such infrastructure is fully reinstated to its original condition and to Council's satisfaction.

Council further notes that some access roads may be inadequate for transporting large equipment or materials and may require widening, upgrades, or structural assessment of bridges and creek crossings for over-mass loads. Early engagement with Council and TfNSW is essential in this regard.

3. Visual and Landscape Impact

Given the Project's proximity to non-associated receivers, Council requires:

a. A detailed Landscape and Visual Impact Assessment (LVIA) with cumulative scenarios.

b. Assessment of glint and glare impacts for road users and neighbouring properties, as identified in community feedback.

c. Visual simulations from key public viewpoints including Collector Road and Gunning Landscaping treatments, buffer zones, and screening measures.

Council requests that the visual and landscape assessment include a comprehensive photomontage of the development from all relevant viewpoints, prepared by a suitably qualified consultant.

The full visual impact of the project cannot be properly assessed without such visualisation Council also requests that the visual and landscape assessment include photomontages showing cumulative visual impacts.

These should include all approved and proposed projects in the area and be prepared by a qualified consultant.

4. Biodiversity, Land and Agricultural Impacts

Council notes the site contains woodland remnants, potential threatened ecological communities, hollow-bearing trees, riparian corridors, and SAII candidate species

Council request that the EIS must:

a. Provide a full Biodiversity Development Assessment Report (BDAR).

b. Address impacts to native vegetation, habitat connectivity and hollow-bearing trees.

c. Ensure fencing does not increase kangaroo pressure or inhibit wildlife movement as raised by landholders.

d. Assess suitability of agri-solar models for sheep grazing, addressing community concerns about livestock product integrity.

e. Provide erosion, dust, and soil disturbance mitigation plans.

5. Water, Hydrology and Soil

Council request that the EIS must include:

a. Assessment of surface water flows, riparian impacts and waterway protections.

b. Construction-phase erosion and sediment control plans.

c. A water supply strategy identifying sources, volumes and any requirements for licensing.

d. These matters align with the general assessment need identified in the Scoping Report.

Water

Council requests that the EIS clearly identify the proposed source of construction water, along with the total volumes required for all construction phases.

Council advises that it currently has limited capacity to supply potable or construction water for this project, and no capacity during periods of drought.

If the proponent intends to access any of Council water sources, either directly or via third parties, this must be formally negotiated and agreed with Council in advance.

6. Noise and Vibration

Council request that the EIS must include:

a. Construction noise impacts on nearby communities, especially Gunning Village.

b. Operational noise from inverters, transformers and BESS cumulative noise impacts with other renewable energy projects.

7. Hazards and Risks (incl. Bushfire & BESS Safety)

The community has raised strong concerns regarding fire risk and BESS safety.

Council request that the EIS must include:

a. A Preliminary Hazard Analysis (PHA) for the BESS.

b. A Bushfire Risk Assessment consistent with RFS guidelines.

c. Fire management strategies, access requirements, and emergency response planning.

d. Confirmation of panel materials, addressing avoidance of cadmium telluride or antimony-containing panels as requested by community members.

8. Heritage (Aboriginal and Historical)

Council request that the EIS must include:

a. A full Aboriginal Cultural Heritage Assessment, including meaningful engagement with First Nations groups as outlined in Section 5.4 of the Scoping Report.

b. A European heritage assessment, including any relics or landscape heritage values.

9. Waste Management

As Council advised during preliminary engagement, the LGA does not contain suitable facilities for large-scale infrastructure waste management.

The EIS must therefore include:

a. A detailed construction and operational waste strategy.

b. Evidence of access to appropriate licensed waste facilities outside the LGA.

c. Clear protocols for waste minimisation, recycling and hazardous material handling.

If toilet facilities are required during the construction or operational phases, an On-Site Sewage and Wastewater Management (OSWWM) system must be installed. This system may also need to be decommissioned at the end of the operational period. A Section 68 Application is required for both the installation and operation of the OSWWM system.

10. Decommissioning and Rehabilitation

Community members have expressed concern about long-term responsibilities and rehabilitation expectations.

Council request that the EIS must include:

a. A Decommissioning and Rehabilitation Plan.

b. Clarification of obligations during and after the 50-year project life, including asset transfer arrangements (e.g., substation handover to TransGrid).

c. Commitments for soil capability restoration and infrastructure removal.

11. Cumulative Impact Assessment

In line with the Scoping Report and Council's concerns, the EIS must:

a. Provide cumulative impact assessment across social, economic, traffic, visual, biodiversity and accommodation matters, consistent with the DPIE cumulative impact guidelines.

12. Engagement Requirements

Given the region's extensive experience with renewable energy development, Council expects:

a. A detailed engagement plan with clear mechanisms for feedback, issues tracking, and ongoing communication.

b. Continuous engagement with non-associated receivers, First Nations groups, Councillors, and local community groups as outlined by the proponent.

c. Transparent updates on mitigation commitments and CBS/VPA negotiations.

Conclusion

Council requests that the proponent work closely with Council officers throughout preparation of the EIS, particularly in the areas of traffic, cumulative impacts, community benefit sharing, and land use compatibility. If you have questions please contact, **Hugh Waters - Manager of Planning and Regulatory Services.**

Simon Arkinstall
Director Environment & Planning