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- CIVIL ENGINEERS
- LAND SURVEYORS
- URBAN & REGIONAL PLANNERS
- PROJECT MANAGERS

Approved Company – ISO 9001 – Quality Management Systems

Statement of Environmental Effects

4.95MW Solar Farm

Tabbita Lane, Goolgowi (Lot 5/-/DP1210276)

ACENERGY

October 2022 Ref: 22127

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1 Introduction

1.1 Overview

This report and Statement of Environmental Effects (SEE) has been prepared by Chris Smith & Associates for **Greentech Solar Project No. 3 Pty. Ltd**., as a subsidiary of ACEnergy Pty. Ltd. The proposal is for a 16.5-hectare solar facility on a property with a total area of approximately 1146 hectares at Lot 5 on DP1210276 Tabbita Lane, Goolgowi.

The proposed facility is designed to provide approximately 4.95MW (megawatts) of electricity to the local distribution network. To generate this electricity, the proposal would occupy approximately 16.5 hectares of land in the south-east corner of the subject site, while leaving the remainder of the 1146-hectare parcel for ongoing agriculture, in an area that is typified by intensive agricultural operators such as feed lots and broiler farms.

The proposal also includes four (4) battery containers that will provide on-site energy storage that will ensure the renewable energy generated is able to be used within the local region to provide affordable and reliable energy for regional NSW.

The Carrathool Shire presents an excellent opportunity to capitalise upon and become a key player in the growth of the renewable energy industry – due to its strategic geographical location and availability of grid connections.

This report is prepared in accordance with the various planning Instruments and other planning controls that are relevant to the proposal. Consequently, this report and SEE provides an assessment and response under each of the respective sub-headings throughout this report.

Key reference documents used to guide the site selection and design process for this proposal are:

- Carrathool Local Environmental Plan 2012
- Carrathool 2040 Local Strategic Planning Statement
- Riverina Murray Regional Plan

The proposal is supported by the below-listed assessments, plans and documents:

- **Certificate of Title**
- **Development Plans** by ACEnergy
- **Glint and Glare Assessment**, by Environmental Ethos
- **Traffic Impact Assessment**, by Traffic Works
- **AHIMS Search Result,** by Chris Smith & Assoc.
- **Ecological Assessment**, by Habitat Environmental
- **Noise and Vibration Assessment**, by Assured Environmental

1.2 Development Classification under EP&A Act

The proposed development *does not* comprise Integrated Development pursuant to the provisions of Section 4.46 of the Act.

Development that is state and regionally significant is identified in *SEPP (Planning Systems) 2021*. Private infrastructure, including electricity generating facilities that have a capital investment value of over $5 million, is declared regionally significant. The proposed solar facility has a CIV of approximately $6.5 million and is therefore identified as **Regionally Significant Development**.

The proposed development *is not* classified as Designated Development under Section 4.10 of the Act.

1.3 Scope of Statement of Environmental Effects

This Statement of Environmental Effects (SEE) accompanies a development application for the proposed development. It has been prepared on behalf of the applicant and includes the matters referred to in Section 4.15 of the *Environmental Planning and Assessment Act 1979* and the matters required to be considered by the consent authority.

When considering the application, the consent authority will have regard to Section 4.2 of the Act which states:

"4.2 Development that needs consent

(1) General

If an environmental planning instrument provides that specified development may not be carried out except with development consent, a person must not carry the development out on land to which the provision applies unless:

(a) such a consent has been obtained and is in force, and
(b) *the development is carried out in accordance with the consent and the instrument."*

The purpose of this SEE is therefore to:

- Seek Development Consent from the relevant consent authority;
- Describe the land to which the DA relates and the character of the surrounding area;
- Outline the scope and intention of the proposed development;
- Define the statutory planning framework within which the DA is to be assessed and determined; and,
- Assess the proposed development in the light of all relevant considerations.

2 Developer Overview

ACEnergy Pty. Ltd. (ACEnergy), as the parent company of Greentech Solar Project No. 3, specialises in renewable energy development, they have extensive experience with post renewable projects across most of Australia. In addition to conventional solar farms, ACEnergy has been heavily involved in other renewable projects across regional NSW, as well approvals for several micro solar farms across northern and central Victoria.

The Micro Solar Farm Project

In a parallel timeframe to this application, ACEnergy have been rolling out several micro solar farms across regional Australia. These smaller facilities are typically designed and located to ensure that sites can be located to avoid land considered to be highly-productive for agriculture.

The micro solar farms have been approved for sites across the Goulburn Valley, Mallee and western districts of Victoria, across the Riverina and western NSW, in addition to other upcoming projects including this application.

The intention of these facilities is to functionally generate the equivalent output of the larger conventional farms, through a network of smaller facilities that can be rolled out in a site-sensitive manner and deliver renewable energy directly to the local community.

This is opposed to the larger facilities which generate energy that will typically be transmitted out of the region for use in larger urban centres.

Mugga Lane Solar Park in Canberra
ACEnergy's first solar farm in Australia, drone imagery from north-east of facility

2.1 Solar Farm Facility Overview

ACEnergy has extensive project experience with renewable energy projects – including several operational solar farms within regional Victoria and NSW. The proposed 4.95MW solar farm at Goolgowi will deliver renewable energy to regional Australia, where it is most needed, at a scale responsive to the surrounding environment, including nearby agriculture and sensitive uses.

The proposed solar farm contains the following specifications:

Fenced compound area	**16.5 Ha (approx.)**
Proposed tenure	**31-Year Lease**
Project AC size	**4.95 MW (AC)**
Individual solar panel wattage	**550W panels (DC)**
Connection Type	**33 kV**

The site has been deliberately located on a property adjacent to overhead power lines, ensuring that electricity is efficiently connected to the surrounding grid without extensive connection works and potential off-site impact that could occur.

The proposed equipment, including the panels and supports are pre-fabricated and would be transported to the proposed site, as needed.

Consequently, there would be very limited manufacture/construction on the land – reducing the impact and potential degradation of agricultural land as part of the installation process.

The proposed compound will be surrounded by a fully-secured chain mesh 1.8-metre-high fence, as well as landscaping in accordance with the attached plans. The ongoing security of the compound, and identification of any issues will be managed by a local security company – providing additional employment within the region.

The facility contains a central inverter, as illustrated in the below figure. It will be located within the compound and will be located as the primary conduit for electricity from the facility prior to being transferred via overhead lines into the nearby transformer.

The proposed solar farm will have remote monitoring in real-time, allowing for constant surveillance and monitoring of the facility without the requirement for ongoing staffing.

Typical Solar Tracking Arrays

The compound contains key infrastructure that requires a high degree of security. Therefore, the abovementioned control centre will remotely monitor inverters in real-time to ensure that systems function as intended, and that security is not compromised. Upon identification of any potential issues, action can be taken indirectly from control centre or directly by call out to the local contractor.

Site Features

- Maximum height of arrays to be 2.2 metres (at peak elevation, only)
- Cutting edge mounting kits – environmentally-friendly, designed and supplied by world-leading manufacturers.
- Low-maintenance – the site will be unattended, periodical maintenance will be carried out by local contractors.

Benefit to Municipality, Ratepayers and Residents:

- More employment opportunities: local electrical and construction companies will be hired for the installation and ongoing operation and maintenance jobs are required as well in the next 31 years. Batteries will charge in off-peak hours and discharge during times of peak demand.
- Reliable power supply to the local households – the proposed facility will support the Carrathool Shire economy, providing not only immediate renewable energy, but also providing storage for off-peak usage.

- The proposal will place very little burden on the electricity network in the area – there would be limited impact to existing power assets. This will ultimately pass savings on to electricity consumers in costs. As such, with the installation of local electricity generation, the electricity price can remain affordable.

3 Strategic Context

Australia has the highest average solar radiation per square metre of any continent in the world. NSW has an abundance of excellent solar resources and established electricity infrastructure that, along with declining technology costs, makes it an attractive location for solar energy development.

In the strategic context, large-scale solar energy projects provide an opportunity to:

- Contribute to NSW achieving net-zero emissions by 2050 as set out in the NSW Climate Change Policy Framework
- Deliver on commitments in the NSW Renewable Energy Action Plan
- Support Australia's commitments to reduce greenhouse gas emissions
- Contribute to any Commonwealth renewable energy targets
- Assist in meeting energy demand and improving energy security for NSW.

3.1 NSW Renewable Energy Action Plan 2018

The *NSW Renewable Energy Action Plan* outlines a comprehensive framework to achieve renewable energy targets by 2030 and details the opportunities and actions underway for renewable energy technologies in NSW.

The Plan also details three (3) goals and twenty-four (24) actions to facilitate the emergence of renewable energy generation most efficiently in NSW:

- Attract renewable energy investment and projects
- Build community support for renewable energy
- Attract and grow expertise in renewable energy technology

The Renewable Energy Plan identifies, NSW has a range of competitive advantages as a location for solar power investment, including excellent solar resources and world-class solar research institutions.

The proposed development represents a step for NSW toward a renewable energy future, on land that is currently used for moderate agricultural use and contains limited identifiable biodiversity value. The development has been sited to limit any impacts on significant habitat in order to provide a regional municipality with access to affordable renewable energy.

3.2 Riverina Murray Regional Plan 2036

The NSW Government states that the Riverina Murray Regional Plan (the 'Regional Plan') provides a 20-year blueprint for the future of the Riverina Murray, the current version of the plan was adopted in 2022.

In practice, the Regional Plan provides a broad framework and direction for development across southern NSW, which encapsulates twenty (20) municipalities extending from the southern NSW border along the Murray River to central-west NSW north of Wagga Wagga. The Regional Plan is designed to be read in conjunction with more prescriptive frameworks that relate to local municipalities and ensure that local directions remain consistent with the overarching Regional Plan.

To guide development and growth within the Riverina Murray region, the Regional Plan sets out twenty-nine (29) key directions for planning that are divided into four (4) distinct goals relating to economy, environment, infrastructure and community considerations.

Land to which the Riverina Murray Regional Plan applies (shaded green)
Figure originally extracted from Riverina Murray Regional Plan and altered for illustrative purposes

For the purposes of this development application, the proposal has been assessed against the directions relevant to agriculture, environment and infrastructure, which are outlined in the below table:

Direction	Response
Direction 1: Protect the region's diverse and productive agricultural land	The proposed use and development is to be undertaken for a fixed leasing period of thirty (30) years. The use of the land for a solar farm will require limited earthworks and would be capable of being fully remediated upon conclusion of the leasing period. The area of the proposed solar farm (16.5ha) represents a small proportion of the region's expansive agricultural land. Consequently, the proposed development would not lead to any meaningful loss to agriculture to allow for investment in renewable energy.
Direction 2: Promote and grow the agribusiness sector	The proposal is considered a compatible land use with agriculture, which implements the relevant action which seeks "to protect agricultural land and manage the interface with other (non-agricultural) land uses."

Direction 3: Expand advanced and value-added manufacturing	Similar to the above response to direction 3, the proposal would not unduly impact further investment in agricultural operations – either on the subject land or the surrounding properties. The co-location of a solar farm with agriculture is considered a complementary land use that will allow for the farmer to supplement their farm income and further invest in on-farm improvements for the remainder of the property.
Direction 11: Promote the diversification of energy supplies through renewable energy generation	The proposed utility-scale development is directly supported by all facets of this direction. The proposal is a smaller scale facility that has immediate access to the existing electricity network.
Direction 15: Protect and manage the region's many environmental assets	The subject site has been historically cleared and managed for ongoing agriculture. The site is not mapped as being of high biodiversity value.
Direction 16: Increase resilience to natural hazards and climate change	The development avoids any adverse environmental impacts that would lead natural hazards. The proposal also directly facilitates the transition to renewable energy to reduce the broader impacts of climate change.
Direction 21: Align and protect utility infrastructure investment	The proposal represents a private funded utility investment that will directly uphold direction 21, whilst also providing battery storage for electricity so that it will be directly available for the local communities.

4 Design Considerations

The Large-Scale Solar Energy Guideline (LSEG) was published in December 2018, in response to the NSW's transition to renewable solar energy sources. *These Guidelines apply to* ***State Significant Development****, only*. Accordingly, it does not apply to this application. Nevertheless, the general themes of the Guidelines are useful for informing the site considerations and have therefore been responded to – as appropriate – in the following subsections.

With many projects under way and many others being planned, the NSW Government has been proactive in providing a framework for the assessment, design and operation and determination of State significant large-scale solar energy projects under the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Guideline aims to ensure that:

- impacts are assessed with best practice methods and in a consistent manner
- effective stakeholder engagement is undertaken that encourages community input on solar energy development
- there is a balance between attracting investment and considering the interests of the community.

These Guidelines set out best practice advice for developers of solar energy facilities in NSW, including recommendations for community consultation, design, consideration of off-site impacts, construction, operation and decommissioning. In addition to the details throughout this report, the considerations and application requirements set out in the Guidelines have been grouped and responded to under the following themes.

4.1 Identifying Suitable Locations

ACEnergy has extensive past project experience across Australia – having commissioned a series of solar energy facilities in NSW and Victoria – typically small-scale solar generation facilities, similar to the current proposal. Most of these facilities have been built and are currently providing clean and cheap renewable energy to the immediately surrounding local community.

New South Wales has been identified as having excellent solar irradiance and the Gooogowi region is a prime candidate to see local renewable electricity generation for the use and benefit of its local residents. Accordingly, ACEnergy embarked on a process of securing suitable sites in NSW.

Factors such as land availability, proximity to the electricity network, accessibility, topography and site constraints are all key considerations when first looking for potential sites.

4.2 Visual Impacts and Site Context

The proposal is for a sub-5MW facility that will occupy approximately 16.5ha of land, a relatively small portion of agricultural land; particularly in comparison to some of the larger renewable energy facilities.

Accordingly, in consideration of the nature of the proposed facility and physical separation to any nearby facilities, the development would not lead to any undue cumulative visual impact on the surrounding area as a result of the proposed solar panels.

The Goolgowi locale contains several commercial-scale intensive agricultural uses in the immediate vicinity of the proposed solar farm, and there are very few dwellings in the area as a consequence. Therefore, the development of a solar farm is considered an ideal use of land with regard to the site context.

The visual impact of the facility is to be further softened through the use of landscape screening and the existing vegetation along active/visible frontages. Accordingly, it is submitted that when viewed in the context of their surrounds the cumulative impact of the approved and proposed solar facilities, in terms of both land use and visual impact, is minimal.

4.3 Construction and Facility Lifespan

The proposed solar farm is a largely pre-fabricated facility – with on-site construction largely limited to assembly and connection of components. The typical solar panel is readily transportable via the established arterial road network, as detailed in the below construction management guide.

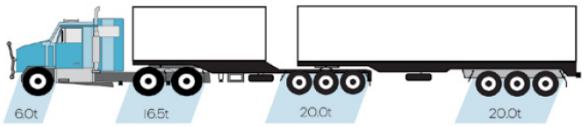
For this site, where the access roads are all-weather roads, it is considered that the use of smaller trucks (i.e. typically a 3 or 4-axle rigid, with larger loads by semitrailer to be undertaken as outlined in the below construction schedule). It is assumed that suitable DA conditions would stipulate appropriate hours and conditions during construction, that

would reduce off-site impacts such as noise, dust and damage to roads during this period.

Traffic to the site during the construction site at peak times is anticipated to be a **maximum peak** of *three (3) trucks per day*, in addition to a forecast of *ten (10) light vehicles*. It is stressed that this is only anticipated during the absolute peak construction times during months three and four of construction.

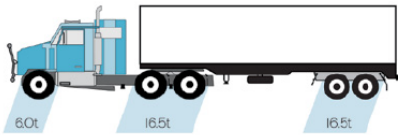
Common 9 Axle B-double

#26m is available for eligible vehicles.
#Combination must meet mass limits relating to axle spacing's for the full mass entitlement.



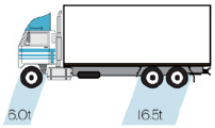
Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	25.0m#	62.5t	6.0t*	N/A	N/A	16.5t	20.0t per tri axle group
CML	25.0m#	64.5t	6.0t*,a	N/A	N/A	17.0t	21.0t per tri axle group
HML	25.0m#	68.0t	6.0t*	N/A	N/A	17.0t	22.5t per tri axle group

Common 5 Axle Semitrailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	39.0t	6.0t*	N/A	N/A	16.5t per tandem axle group	N/A
CML	19.0m	40.0t	6.0t*,a	N/A	N/A	17.0t per tandem axle group	N/A
HML	19.0m	40.0t	6.0t*	N/A	N/A	17.0t per tandem axle group	N/A

Common 3 Axle Rigid Truck



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	12.5m	22.5t	6.0t*	N/A	N/A	16.5t	N/A
CML	12.5m	23.0t	6.0t*,a	N/A	N/A	17.0t	N/A
HML	12.5m	23.0t	N/A	N/A	N/A	17.0t	N/A

Typical dimensions of proposed haul vehicles (Source: NHVR)
Subject to contractor preference / capability

Over the course of the six-month construction period, it is worth noting that construction traffic will arrive and leave the site during off-peak times and therefore avoid peak hour traffic. Installation will involve relatively shallow earthworks, which would include site scrape for weed removal and preparation for hardstand areas and underground cabling within the proposed compound – the balance of the land will remain untouched during this period.

For the most part, all equipment will be shipped to the site via smaller rigid trucks, with only the inverter / transformer / power station being required to be brought in by a semitrailer. This unit is designed to share dimensions with a shipping container and will be a standard cargo that will be readily de-mounted and located on-site.

Construction Delivery Schedule

Period	Type	Left In	Right In	Left Out	Right Out	Total
AM Peak	Light	0	10	0	0	10
	Heavy	0	1	0	0	1
	TOTAL	0	11	0	0	11
PM Peak	Light	0	0	10	0	10
	Heavy	0	0	1	0	1
	TOTAL	0	0	11	0	11

Construction Traffic Volumes
Source: Traffic Works Traffic Impact Assessment Report, Table 2: Direction split of peak traffic flow

Operation

The operation and management of the proposed facility is detailed comprehensively throughout other sections of this report, thus, has not been repeated within this section.

Decommissioning

The proposed use is based on a thirty-one year lease. Upon completion of this leasing period, assuming that the lease is not renewed, it will be incumbent upon the operator of the facility to decommission the facility, remove all installations, and remediate the site back to its pre-existing state. Upon approval of this application, the responsible authority may stipulate a requirement for a decommissioning and rehabilitation plan to be submitted for endorsement.

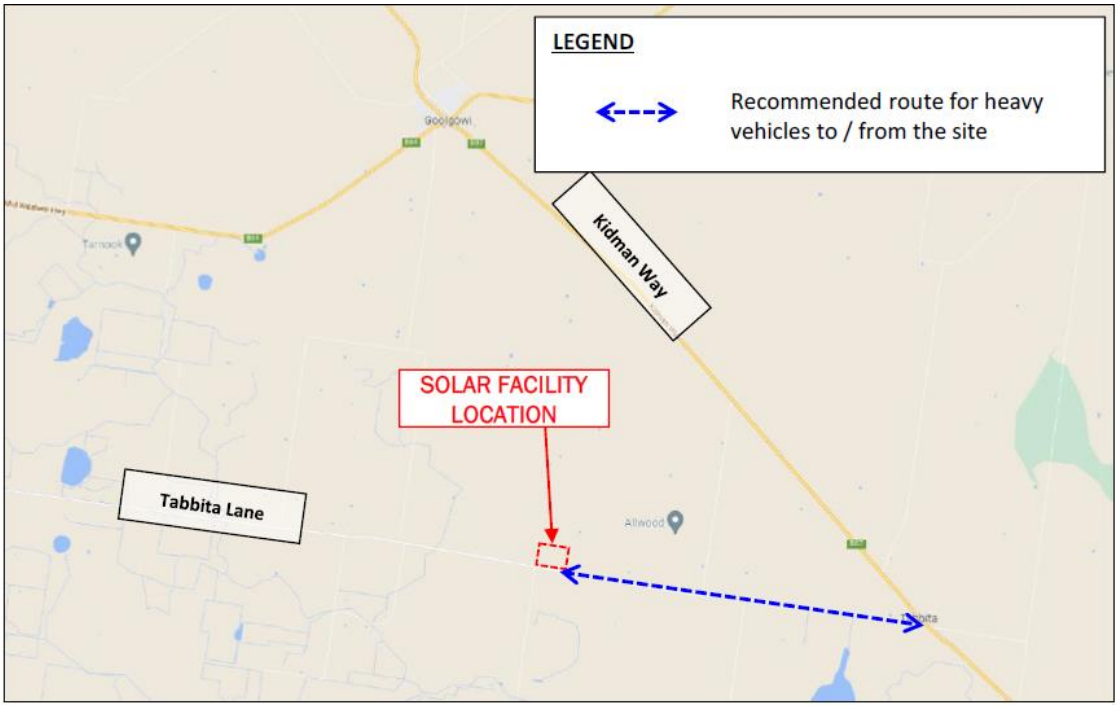
4.4 Traffic Impact

Traffic Works was engaged to undertake a Traffic Impact Assessment (TIA) of the proposal to inform site design and construction management practice. The TIA Report has been attached as **Appendix B** to this report, which upon assessment of the existing site conditions and the proposed construction, concluded that:

- *The peak traffic generation is likely to occur during the construction phase of both facilities, where ten light vehicles (generating 20 trips per day) and three heavy vehicles (generating six trips per day) will access the subject site during a peak construction day.*
- *The minimum Safe Intersection Sight Distance requirements would be satisfied at the proposed common property site access location with Tabbita Lane.*
- *No turn lane treatments are required at the subject site access intersection with Tabbita Lane for the construction phase of the development.*
- *Proposed security gates will be located off the shared property driveway and will not impact the Tabbita Lane carriageway.*
- *The car parking demand for the subject site during the construction phase of the development is likely to be ten spaces, and the car parking demand for the subject site during the operational phase of the development is expected to be one space.*
- *The development plan indicates a designated car parking area within each proposed solar facility to accommodate the car parking demand during construction. Furthermore, the subject site has sufficient space if additional car parking is required.*

The proposed development would largely use the arterial road network for construction access (as illustrated in the below figure) and not adversely impact on the safety or

operation of the local road network, provided the recommended mitigation works are undertaken.



Recommended Construction Route
Extracted from Figure 4 of Traffic Impact Assessment

Owing to the un-manned nature of the solar farm, peak traffic would be generated during the six-month construction period. Permanent turning lane upgrades are not considered to be appropriate and would amount to overinvestment that would serve limited benefit for the duration of the 31-year lifespan of the facility. Should the roads authority stipulate any requirements for this construction period, it is submitted that this could be easily achieved through the abovementioned traffic management plan as a condition on the sought DA.

Consequently, the key **Recommendations of the TIA** are:

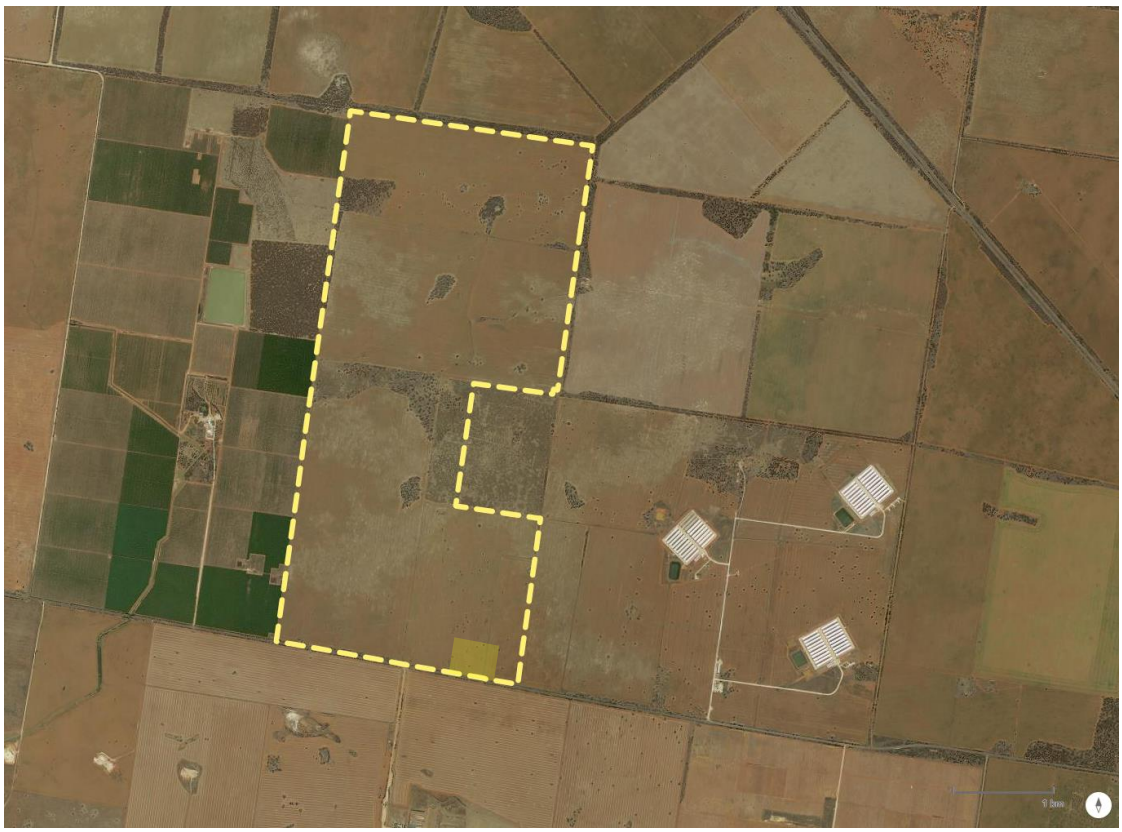
- *Consider clearing vegetation to satisfy Safe Sight Distance requirements measured 5.0 m from the carriageway.*
- *to mitigate the risk of interaction between construction vehicles and school buses, no heavy vehicles will arrive to / depart from the subject site during the following times:*
  - *8.00 am to 9.30 am*
  - *2.30 pm to 4.00 pm.*
- *that the subject site access is constructed as per Figure 7.4 in Austroads Guide to Road Design Part 4.*
- *Swept path assessment be undertaken for a 19.0 m semi-trailer to ensure these vehicles can access the proposed facilities.*

As per the recommendations of the Traffic Impact Assessment, it is considered that the effect of the proposal on the operation of the road and on public safety would be negligible – subject to the above recommendations being implemented.

5 Site and Context Description

5.1 Subject Site

The proposed solar facility is to be built on a portion of an existing farming property addressed as Tabbita Lane, Goolgowi. The subject site has an area of approximately 1146 hectares and is cadastrally defined as **Lot 5 on DP1210276**.



Tabbita Ln, Goolgowi (Lot 5, DP1210276) – Source: ePlanning Spatial Viewer
Extent of proposed lease area shaded yellow

The applicant has agreed to terms with the current farmer to lease the south-eastern corner of the property to develop it for a solar farm (see below figure) – for a period of approximately thirty-one (31) years. Consequently, 98% of the property will be retained for continued agricultural use.

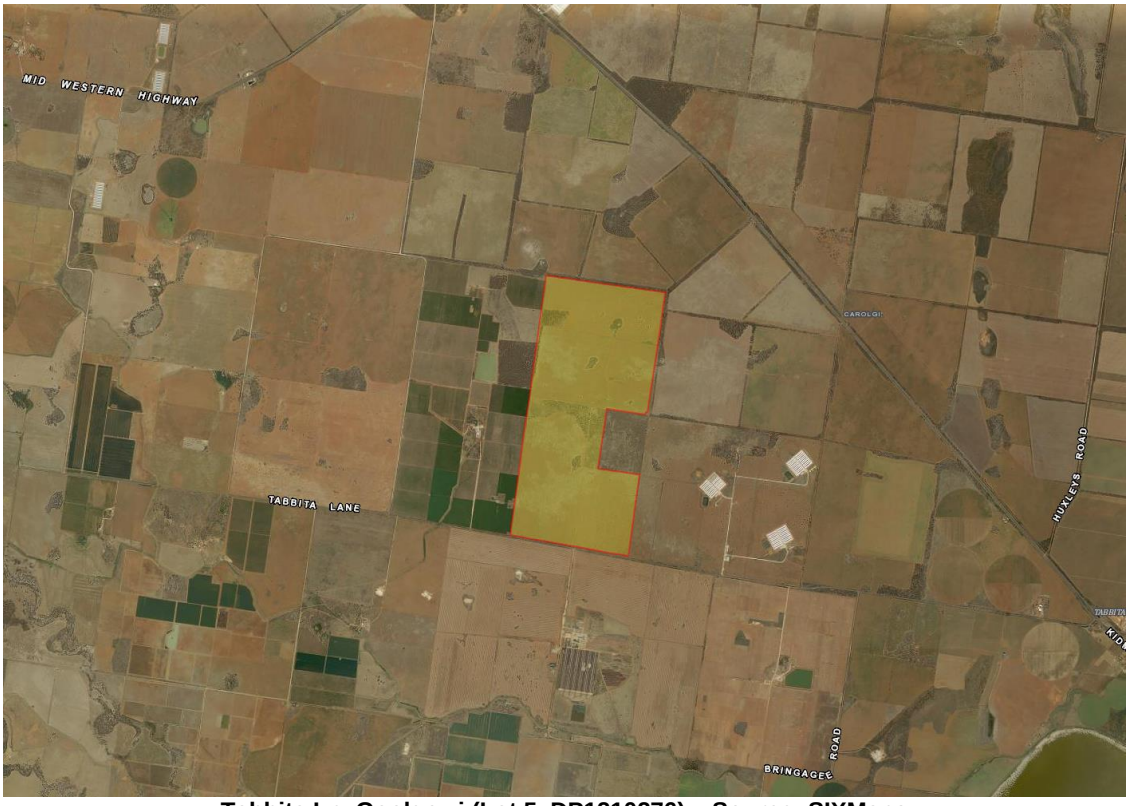
This lot has a frontage of approximately 2.4km to Tabbita Lane along the northern boundary, with a maximum depth of approximately 5.2km. The property is largely open, cleared land, with the exception of some large patches of remnant vegetation, to the north of the proposed development site. There are several scattered remnant vegetation patches, which are consistently interspersed across the actively farmed areas of property.

Access to the site is provided via Tabbita Lane from the south, an all-weather sealed road that would be capable of supporting vehicle traffic during construction of the solar facility. Arterial road access to this road is from the Kidman Way to the east.

5.2 Surrounding Context

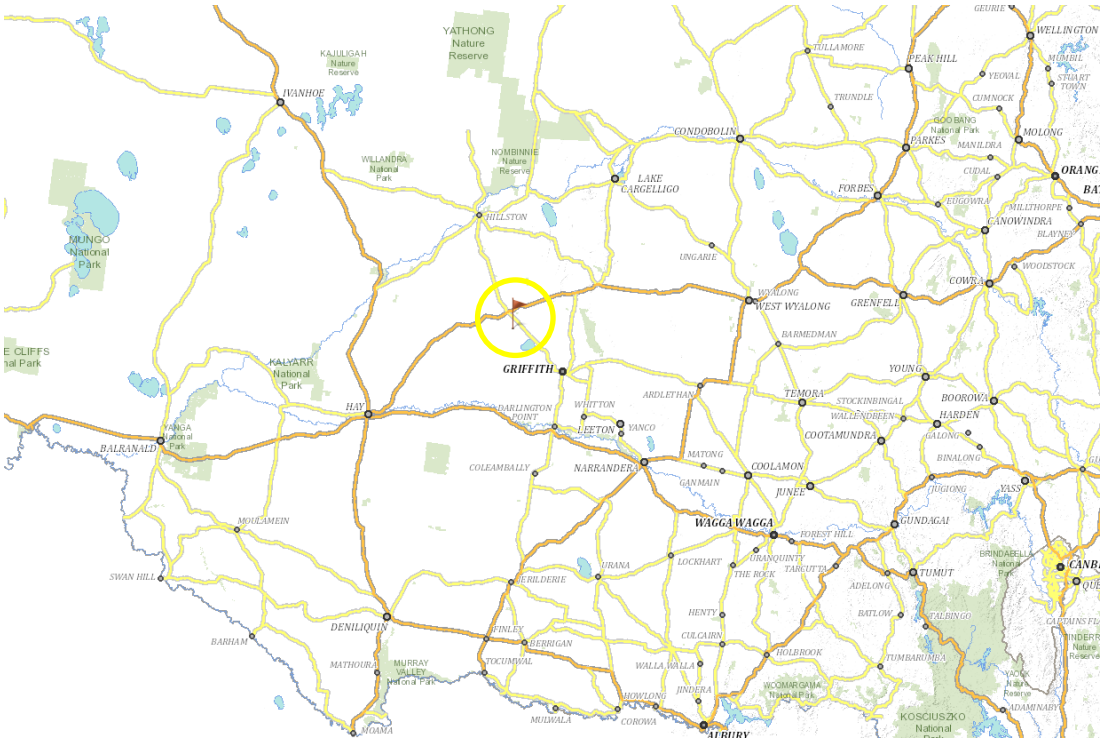
The broader surrounding area is predominantly a mix of conventional dryland agriculture and intensive agricultural uses such as broiler farms. The subject land is generally

abutted by farming land on all sides, with broiler sheds, cattle feedlot, large-scale almond and walnut farms being notable rural uses in the immediate locality.



Tabbita Ln, Goolgowi (Lot 5, DP1210276) – Source: SIXMaps
Property shown in yellow – relative to surrounding land uses

The site is proximate to existing overhead powerlines which run south of the proposed facility – which will provide an immediate "plug-in" connection to the Essential Energy grid.



South-west NSW – Source: SIXMaps
Subject site shown be red flag

5.3 Land Use Conflict Risk Assessment

Elements of a Land Use Conflict Risk Assessment (LUCRA) have been incorporated within this SEE, which expands upon the aforementioned site constraints and the likely impact on the surrounding rural area.

Locality Plan by ACEnergy
Nearby dwellings marked in red (nearest dwelling approximately 1.8km south of proposal)

Although a LUCRA is not a mandatory requirement for regionally significant development applications, the considerations have been used to provide in an abbreviated format to inform best practice design and site selection.

For consistency, the scale associated with the probability of risk from the LUCRA Assessment Guide has been used to quantify the degree of risk, which ranges from "Almost Certain" to "Rare" in a 5-step scale.

In considering the gravity of these potential land use conflicts; where a potential risk warrants formal assessment, specialist advice has been sought and appended to this report.

Potential Conflict	Response	Risk
Land Use/Zoning Change	The surrounding area is similarly within the RU1 zone, which would continue to be used consistent with the current land use changes. It is unlikely that any non-rural uses would be envisaged for the locale. The site remains over 5km from the nearest urban zoned land, which will ensure that suitable	*Rare*

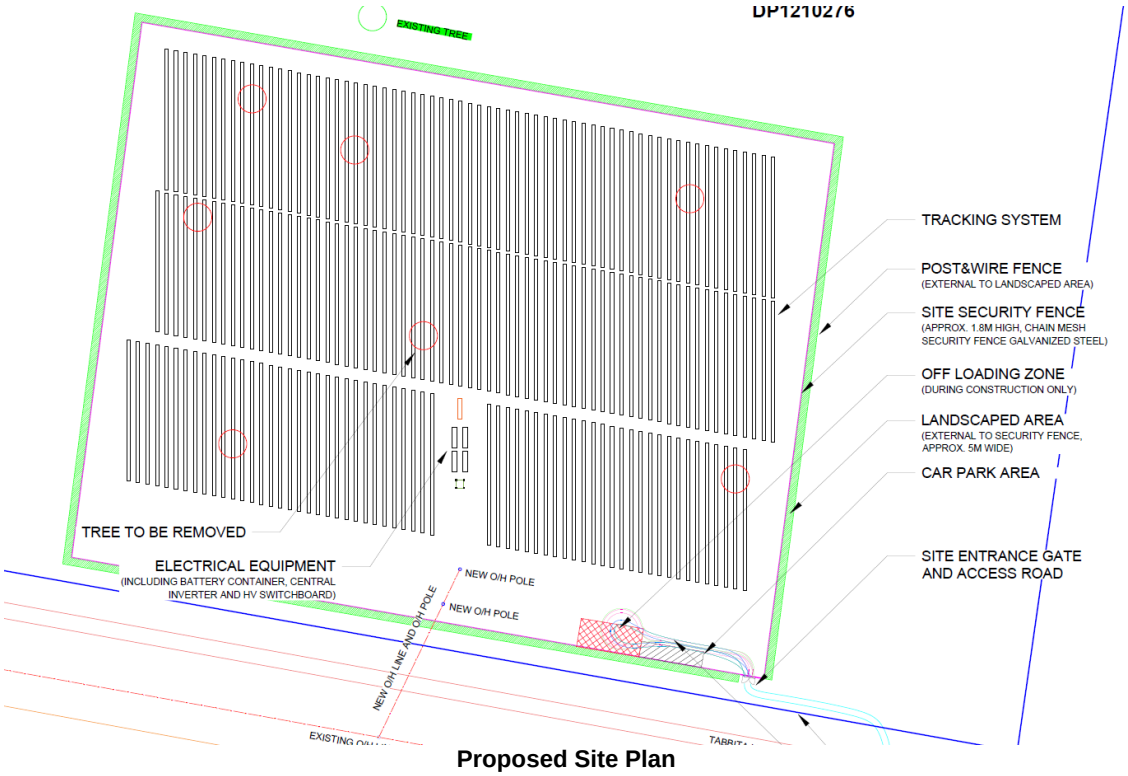
	separation from more sensitive land uses will continue for the foreseeable future.	
Impact on Agriculture	The site has historically been used for prolonged agriculture and does not exhibit any environmental issues that would require remediation or consideration prior to the development of the site. The development would not impact groundwater, soil quality or any natural resources that would impact the ongoing or future agricultural use of any neighbouring properties. The Tabbita/Goolgowi area has a range of high-impact agricultural land uses that require separation from habitable uses. As a solar farm is an un-manned use, it is considered an optimal and use in the context of the site.	*Unlikely*
Dwellings	There are no dwellings within a one-kilometre radius of the site, the nearest dwelling to the site is located over 1800m south of the proposed facility. The appended acoustic assessment and glint and glare assessment demonstrate that these dwellings would not be unreasonably impacted by the proposal.	*Unlikely*
Environment	The proposal limits any vegetation removal that would unduly impact the surrounding groundwater catchment, and the ongoing use would not lead to any adverse impacts such as salinity, erosion or flood risks.	*Rare*
Traffic	The site will be unmanned and would only have any discernible impact on the surrounding road network during construction, which will be suitably managed by the proponent. The operation of the site would generate a level of traffic that would be comparable with the existing site conditions and would not unduly impact the local road network or require ongoing maintenance.	*Unlikely (construction)* *Rare (operation)*
Off-site impacts on proposal	The proposed facility would be unmanned. Consequently, there will be no impacts on the site from land uses in the surrounding area. As a result, the proposed solar farm will be advantageous to any neighbours should any intensive agricultural operations be proposed, as a screen to any perceived “sensitive” uses such as farm dwelling.	*Rare*

Fire Risk	The site observes a significant separation from any mapped areas of bushfire risk and is largely cleared of any substantial patch vegetation. The nearest patch of vegetation is over 1300m to the north-west of the proposed development site and is an isolated patch that would be unable to convey any meaningful fire path. The site itself has been designed to provide for separation around the perimeter of the facility, and all equipment is non-flammable. Therefore, the risk of fire from the site itself is almost zero.	*Unlikely*

6 Proposal

6.1 Facility Equipment and Componentry

This application seeks Development Approval to develop approximately 16.5 hectares of land at Tabbita Lane, Goolgowi (Lot 5, DP1210276) for a **4.95MW solar facility** – as shown on the attached plans and figures, below.

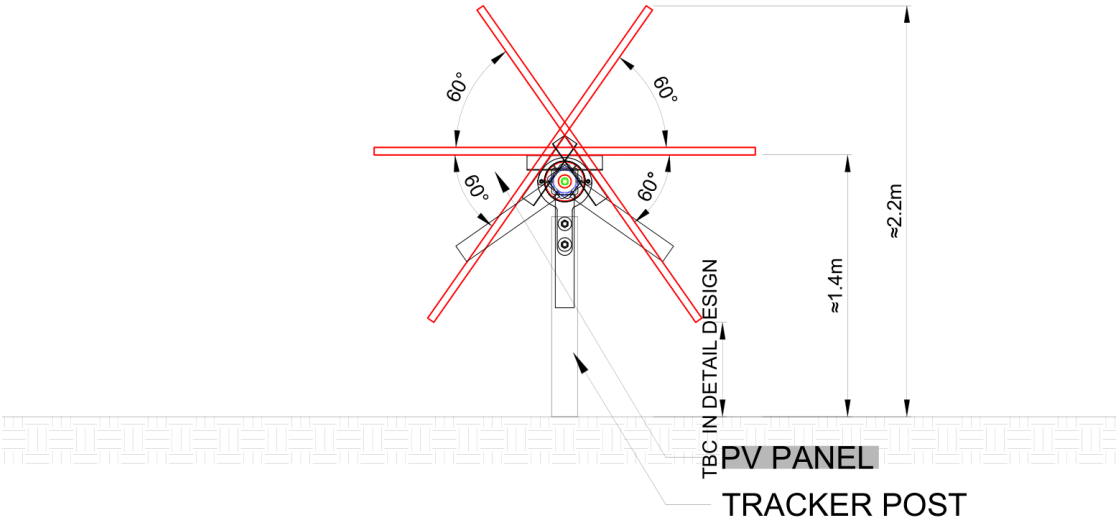


Proposed Site Plan
Prepared by ACEnergy

The proposed solar facility and associated works are to be as shown on the attached plans and supporting documents. Specifically, it will consist of:

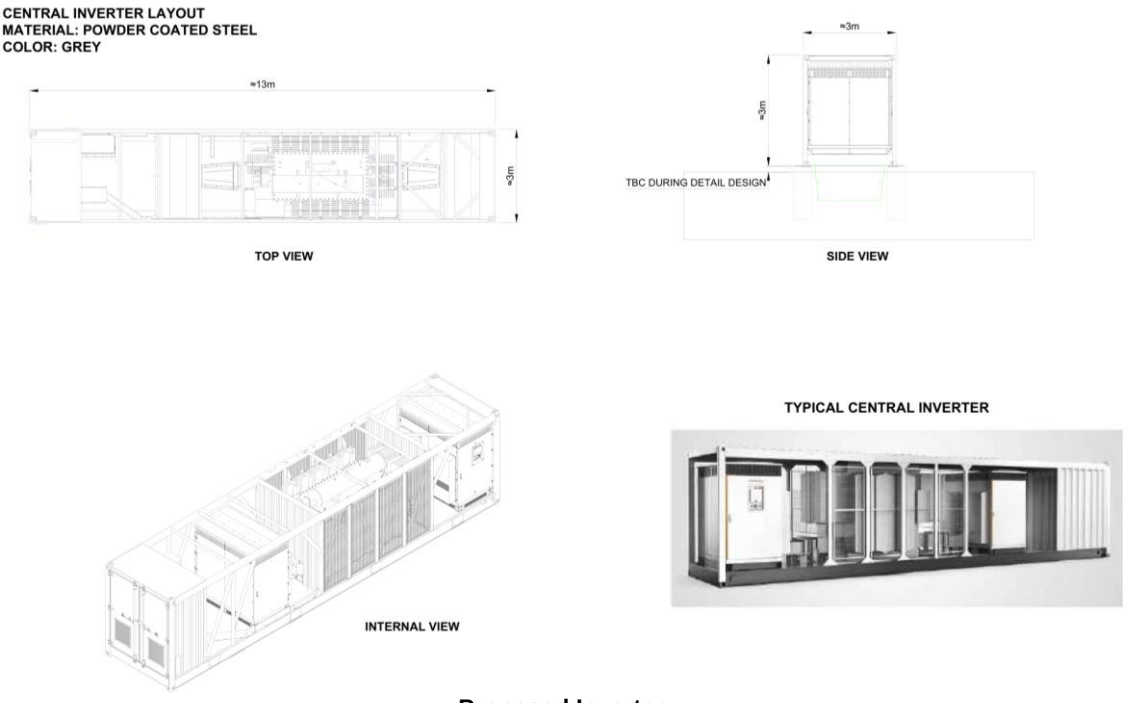
- The solar panels will be configured into arrays that are mounted on single axis tracking arrays, each having the following specification:
  - Nominal dimensions of 2.2m by 1.1m

- Maximum height of approximately 2.2m above ground (when at maximum rotation)

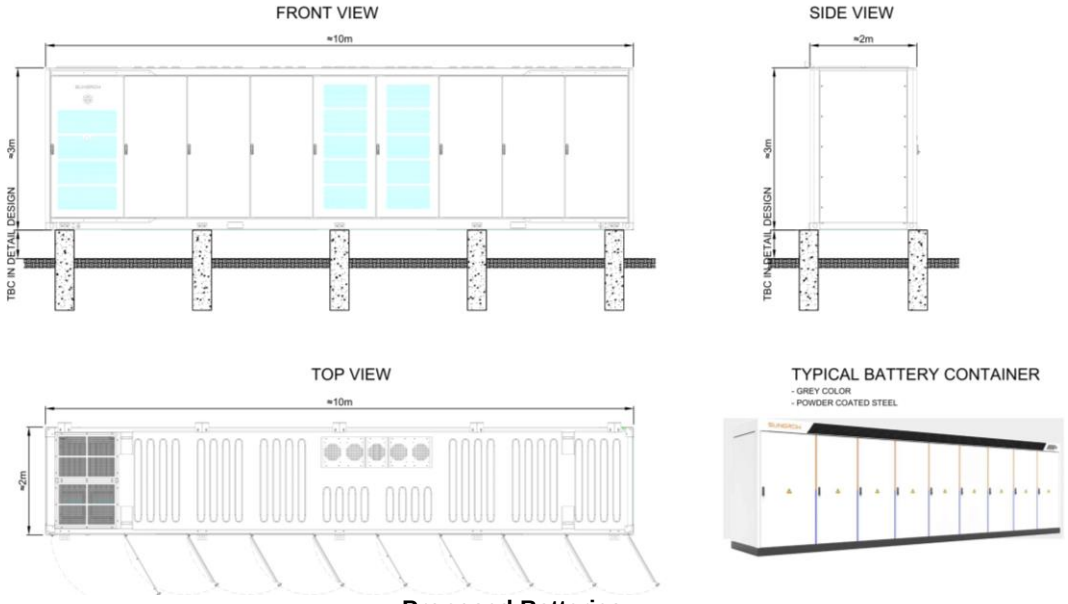


Sectional view of solar array

- **1.8m high chain mesh perimeter fence** around entire perimeter of facility, including a gate along the eastern boundary positioned to the front of compound.
- **Landscaping** along the entire perimeter of the facility, as shown on Landscape Plan, directly outside the compound fence.
- **Approximately two (2) new power poles and overhead powerline** connection to Essential Energy electricity distribution network.
- **One (1) Central Inverter,** with an approximate length of 13m, width 3m and height of 3m
- **Four (4) Battery Energy Storage Systems** (BESS) containers positioned centrally within the facility – each with an approximate length of 10m, width of 2m, and height of 3m.



Proposed Inverter
Elevations and 3D Render shown and are indicative only



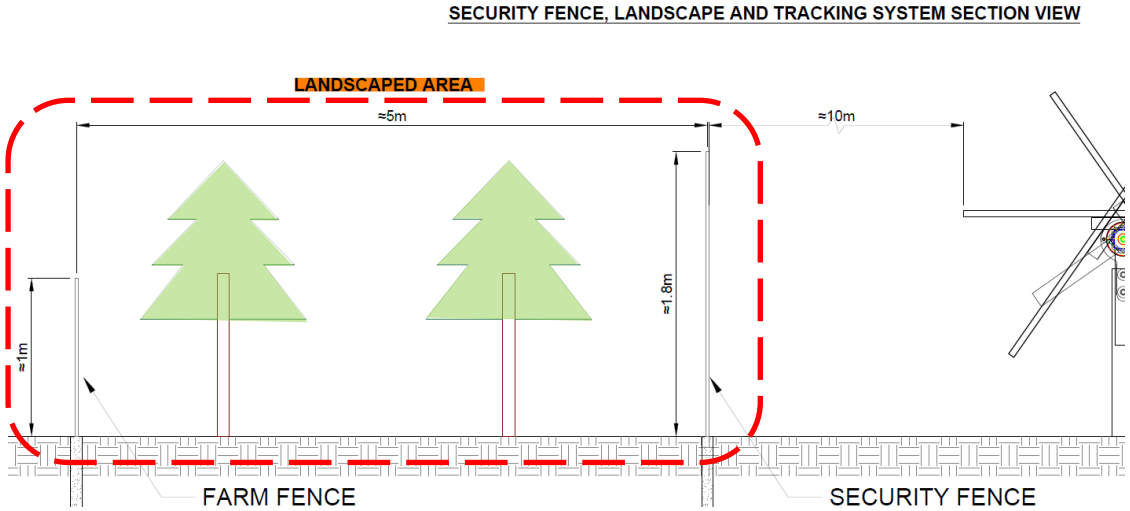
Proposed Batteries
Elevations and 3D Render shown and are indicative only

6.2 Landscaping

The proposed 4.95MW Solar Energy Facility has been designed to be of significantly lesser visual impact than typical large-scale facilities which typically span much larger areas.

The non-reflective panels are installed perpendicular to the mounting frame and tilt up to 60° in either direction at which time the mounting frame and panel have a total height of approximately 2.2m.

The planting schedule would include a mix of fast and slow growth vegetation species to establish screening early and ensure that the landscaping will remain for the duration of the facility's operation once established.



Facility Landscaping Details
Landscaping shaded in green

The proposed includes a **landscaping buffer around the compound perimeter**, that will screen the facility from view from nearby roads and adjoining land**.**

The landscaping barrier will be located **outside the perimeter fence and will be protected by a post-and-wire fence to ensure that they are not damaged or grazed upon by livestock grazing** on the balance of the farmer's property.

The landscaping would consist of small/medium indigenous trees and shrubs that would grow to an approximate height of 3 metres. The proponent would plant fast-growing indigenous species to the satisfaction of the respective authority.

7 Development Details

7.1 Construction Phase

The construction works proposed will typically be as follows:

- There will be a comprehensive weed eradication program implemented for the proposed solar energy facility location – to ensure that noxious weeds are not present at installation.
- The proposed compound site will be cleared, levelled and resurfaced, with tractor and excavation machines – therefore there will be limited soil removed from site.
- The construction traffic will be minimal, and works will typically occur in dry weather to ensure that vehicles do not damage the surrounding road network.
- The construction is expected to be completed within six (6) months from commencement – all works will be in accordance with a construction management plan, in accordance with Council and/or relevant authority requirements and conditions. During the construction period, major civil works, materials delivery and other heavy vehicle movements will only occur between the hours of 7am - 6pm Monday to Friday, and 8am – 1pm Saturday. To maximise productivity less noise intensive activities including electrical work, testing and commissioning may be conducted outside these hours and between 7am – 7pm Monday to Sunday as required.

The proposed compound will be surrounded by a fully secured steel wire 1.8-metre-high fence, which can be covered with a shaded cloth to further mitigate any visual impacts (if required), as well as landscaping in accordance with the attached plans. The ongoing security of the compound, and identification of any issues will be managed by a local security company – providing additional employment within the region.

3D Render of Central Inverter

The facility contains a central power station, as illustrated below. This power station will comprise inverters, transformers and switchgears. The proposed power station will be located within the compound and will be located as the primary conduit for electricity from the facility prior to being transferred via overhead lines into the nearby energy distribution network.

The proposed solar energy facility will have remote monitoring in real-time, allowing for constant surveillance and monitoring of the facility without the requirement for ongoing staffing.

The compound contains key infrastructure that requires a high degree of security. Therefore, the abovementioned control centre will remotely monitor inverters in real-time to ensure that systems function as intended, and that security is not compromised. Upon identification of any potential issues, action can be taken indirectly from control centre or by deploying a local contractor to site.

7.1.1 Construction traffic management

The peak of construction activities will occur during the mechanical and electrical installation phases of construction. During these times, up to 50 workers could be on site during working hours. Workers will access the site in the morning (and leave at the end of the working day in either their private car or work vehicle (ute or small truck).

Materials deliveries will also occur throughout the construction period, with most components coming in during the mechanical works phase. Deliveries will be via rigid truck or semi-trailer and will be scheduled throughout the working day, to ensure efficient unloading and handing. It is anticipated that there will **up to 3 or 4 truck deliveries** per day during the height of the construction period.

The road network surrounding are all-weather sealed roads, capable of heavy vehicle access.

7.2 Operation Stage

Beyond the six-month construction period, the facility will be largely un-manned, other than intermittent periodical maintenance. The facility does not include storage of any dangerous goods on site.

The site will be remotely monitored in real time and local contractors would be rapidly deployed to deal with any fault or other matter, which provides the added benefit of local jobs for the local community.

Considering that the proposed facility will be un-manned, with limited moving componentry (other than the tracking arrays), it is considered that it will have a very minimal impact on the landscape or surrounding road network.

From past project experience, we are aware of community interest in the following matters in relation to solar facilities.

7.2.1 Electromagnetic radiation (EMR)

Small amounts of electromagnetic radiation (EMR) can be produced (emitted) by electrical componentry associated with a solar facility such as inverter, transformers and high voltage powerlines. However, the level of radiation dissipates quickly – becoming largely indistinguishable from background levels over distance from the componentry.

The electromagnetic field (EMF) produced around an electric installation is non-ionising, within a range that exists in our daily lives from natural sources (which are most

noticeably manifested in lightning discharges) and from appliances and electrical devices that surround our daily lives.

EMR from these types of components dissipates to indistinguishable levels over about 5-to-10 metres. The inverter is centrally located within the facility, therefore has next to no chance of emitting EMR to neighbouring land or roads.

7.2.2 Heat island effect

In some instances, the community has raised concern for the potential of a "heat island effect" being created by solar facilities. This is where ambient temperatures are artificially raised by reflective heat from the facility, which could have impact on adjacent sensitive vegetation or horticultural operations.

Various studies have been undertaken and assessments presented as evidence for other contested solar facility proposals. As a result of these investigations, it was determined that any discernible impacts would be unlikely and would be quickly dissipated over a relatively short separation distance. Further, the facility has observed a 30-metre separation distance between facilities and the property boundary.

The proposed layout achieves a significant setback from any nearby properties – even greater when considering properties in the same ownership. Any "heat island effect" created by the proposal would have no discernible effects over these distances.

7.2.3 Environmental, risk and emergency management

The proposed facility will be under constant surveillance by remote monitor in real-time. In the event of a fault or potentially dangerous situation an alarm will automatically report to 'on-call' staff. There will be no audible alarm at the facility. The procedures and protocols for these operational arrangements will be set out in an operational management plan, that will be an integral part of the operation of the facility.

The site is not subject to planning controls pertaining to ground water vulnerability, and it is not considered that the proposed solar facility development would be likely to have negative impacts on groundwater and will not generate wastewater.

7.2.4 Site access and traffic management

As set out above, during operation the facility will be monitored remotely; there will be no permanent workers on site. The facility will remain largely unattended, other than periodical visits by maintenance contractors or the instance of a fault that requires site attendance.

These contractors will carry out seasonal site maintenance (slashing and ground fuel control, etc), cleaning panels and periodical testing of componentry and equipment. Accordingly, it could be weeks between site visits and most visits would be no more than one or two contractors in a single vehicle (likely a work ute), carrying out tests.

7.3 Waste Management

While there is no demolition to occur on the site, the construction waste generated will be limited to hole boring for pad footings, wire cut-offs and packaging waste.

7.3.1 Construction Phase

A project of this size is expected to have a construction period of 7 months approximately. It is anticipated that all components will be delivered by semi-trailer trucks scheduled across the project construction period.

Accordingly, the applicant has advised that their sub-contractor agreements stipulate that each trade is to manage and remove their own waste. This agreement should also ensure that the waste is appropriately streamed, and materials recycled where possible to minimise waste going to landfill.

7.3.2 Operational Waste

Once the solar facility is up and running, it will be remotely monitored and will be unmanned, therefore the waste generated during operational phase will be relatively low.

There will be a need for panel cleaning 1-2 times a year, mowing / weed removal as well as any general maintenance to ensure continue operation. It is anticipated that any operational waste will be limited to lunch wrappers and drink containers and any supplies required for maintenance or repair. All of which will be taken away with the contractor when they leave the site.

7.4 Noise

Any potential for the impacts of noise would only be anticipated based on nearby dwellings (receptors) within a 1km radius of the site.

However, the subject site is surrounded by large farming lots, with sparsely located farm dwellings. The closest of these receptors is close to 2km south of the proposed facility, and would be unimpacted by the noise generated from the facility – as illustrated in **Appendix E**.

7.4.1 Construction & Decommissioning Phase

The noise issues would primarily and almost exclusively be centered around the construction and de-commissioning of the site, which can be suitably implemented through a construction management plan via permit condition – to the satisfaction of the responsible authority.

Site work and deliveries will only occur during the approved operating hours. Construction noise will be generated during installation of fence and solar panels by movement of heavy vehicles and other construction equipment.

7.4.2 Operational Phase

It is anticipated that the proposed facility will generate negligible noise once its operational. The facility will be un-manned and would see only limited active work – generally when contractors are present on site for maintenance purposes. A desktop Noise Assessment assessed potential impacts from the proposed equipment during operation stage and deemed there would be no undue impacts to surrounding farm residences.

7.5 Decommissioning

The majority of components of the proposed facility (including panels) have a thirty-one-year design life expectancy. At this stage, the intention is to maintain/upgrade the facility over its life, as components wear out and new technology becomes available. Accordingly, the facility is likely to remain functional and operating into the foreseeable future.

However, should the facility's useful life end – for any number of commercial or practical reasons – the site can easily be remediated and reverted back to agriculture or converted to another use, as allowable under the planning provisions of the time.

The non-invasive mounting system makes decommissioning and removal of all panels and componentry a relatively simple process and would allow for the full remediation of the subject site to pre-development condition.

8 Statutory Framework and Assessment

8.1 Environmental Planning & Assessment Act 1979

The proposal is subject to the provisions of the *Environmental Planning & Assessment Act 1979* No. 203 (*"the Act"* herein)

Under the Act, the consent authority is required to consider the full range of matters listed under Division 4.3, Section 4.15 of the Act in its assessment of a development application. Each of the relevant matters are addressed below:

Matters for Consideration – General

The consent authority must take into consideration:

(a) the provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph),

that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest.

Accordingly, the proposal and potential impacts are now considered – in accordance with the above provisions of Section 4.15, under the following headings:

Impacts on the Natural Environment

The proposed development is to be undertaken on a largely cleared property zoned RU1 for Primary Production.

The current DA is accompanied by conceptual plans and relevant environmental impact assessments to demonstrated that there will not be any undue detrimental impacts as a result of the proposal – either on- or off-site.

The proposal would involve a limited removal of vegetation, the loss of which would be highly unlikely adversely impact the natural environment. The development site has been located in a location that would limit environmental impacts. To the north of the proposed development site, there are significant patches of (presumed) remnant native trees, which have been avoided. The vegetation that would be impacted is unavoidable.

The abovementioned area established trees also present as potentially being prone to inundation, however, in considering the nature of a solar farm, the development comprises largely permeable fencing and ground-mounted installations that would not significantly impede natural flow paths. The facility would be largely un-manned and there would be no risk to life from flooding as a result of the proposal.

The proposed development site does not contain any mapped areas of environmental hazards or for environmental protection under any Environmental Planning Instrument.

Impacts on the Built Environment

In considering the existing built environment of the immediate locality, the prevailing land use is that of agriculture, which is undertaken at a range of scales and intensities. There are limited non-agricultural rural land uses within the vicinity of the subject site.

Consequently, the site has been deemed an ideal candidate because of the existing electricity network and the close proximity to the nearby electrical distribution network infrastructure.

In considering size and magnitude of the facility, as well as the flat topography of the site and the proposed built form, any adverse landscape impacts are considered to be unlikely. A detailed assessment of this risk is undertaken against the relevant provisions of the Carrathool LEP and LSPS.

The proposal also includes a centrally located inverter station, and a switchboard within the compound at the electricity network connection point. None of these components are particularly large or visually intrusive and are considered comparable to an agricultural shed.

The subject land is within the Primary Production Zone (RU1) and many surrounding properties are used for seasonal grazing. The nearest dwelling with a potential view of the proposal facility is located on the property to the south of the subject site – over 1800m from the proposed solar panels, visibility to and from this dwelling is heavily obstructed by existing vegetation.

Further, this dwelling is located within the RU1 Zone and is therefore not considered a sensitive use for the purpose of planning and land use conflict.

It is submitted that the proposal will have a negligible visual impact on the locality, mostly due to the topography of the land and the height and scale of the proposed facility. The site has been selected through a careful site selection and design process to ensure that views from most public interfaces are largely obscured by existing tree belts and inherent site features. The facility will be further screened from view with perimeter landscaping along the site's perimeters.

Social and Economic Impacts

The proposed development will support the economic growth of the Carrathool Shire municipality.

The proposed solar farm has been designed and located to maximise the electricity generation efficiency while limiting the use of rural land – retaining the majority of the broader farming property for continued agricultural use.

It is estimated that during construction, a large portion of the work will be undertaken by local contractors. Additional skilled workers from outside the region would need to be accommodated which will create an influx of spending within the area. The proposal will contribute to the affordability of NSW's electricity prices and lead to both affordable and renewable energy.

Further, the proposed development will remain under lease from the current farmer, providing for a supplemental income for the farmer and allowing for further investment in agricultural operations on the property, while also supporting the emergence of renewable energy.

The Suitability of the Site

The subject site is a largely cleared farming property that contains limited topographical or environmental constraints. The site is not identified within the draft State Significant Agricultural Land mapping.

There are limited land use conflicts that would arise as a result of the proposal, as the proposed site is surrounding by high-impact intensive commercial agricultural broiler farms, which require significant buffers to avoid land use impacts. Consequently, the farming land contains only a limited number of dwellings, thereby limiting the potential for any adverse impacts on dwellings.

The application now submitted to Council is for a land use that will be fully contained within the subject land and has been designed in a site-responsive manner mindful of the context of the site (i.e. site constraints and existing servicing and public infrastructure assets in the vicinity).

Any submissions made in accordance with this Act or the Regulations

Any relevant representations will need to be considered by the Council in determination of the development application.

The public interest

The public interest is best served by the orderly and economic use of land for purposes permissible under the relevant context of the site within the Carrathool Shire LGA and in accordance with the prevailing planning controls.

8.2 State Environmental Planning Policy (Transport and Infrastructure) 2021

Part 2 – Division 4 – Electricity generating works or solar energy systems

2.36 Development permitted with consent

(9) Solar energy systems – *Development for the purpose of a solar energy system may be carried out by any person with consent on any land.*

The proposed use of the land for a solar facility (as a solar energy system) is considered to be compatible with adjoining agricultural land uses.

The use and development of land would generate negligible impacts on the surrounding area – the primary concern for solar energy facilities is the perceived visual impact that solar panels may have on surrounding amenity and/or loss of agricultural utility.

Solar facilities are considered to be relatively benign in terms of their potential off-site impacts and it would be highly improbable that any existing and/or future farmers would be impacted by the proposal.

The proposal is intended to facilitate the transition toward the State government's renewable energy target by 2020. To this end, the proposed facility will contribute 4.95MW of renewable energy into the NSW electricity grid.

Division 5 – Subdivision 2 – Development likely to affect an electricity transmission or distribution network

2.48 Determination of development applications—other development

The proposed development site has been selected due to its immediate proximity to existing electrical infrastructure.

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following—

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,

(b) development carried out—

(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or

(ii) immediately adjacent to an electricity substation, or

(iii) within 5m of an exposed overhead electricity power line,

(d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.

(2) Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must—

(a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and

(b) take into consideration any response to the notice that is received within 21 days after the notice is given.

The financial viability of a sub-4.95 MW facility is dependent on the facility being within immediate proximity of the distribution network, as beyond this, network augmentation costs become prohibitive. The subject site has direct abuttal to existing electricity distribution network – located to the south of the site – beyond Tabbita Lane.

The siting of the facility close to the existing transmission infrastructure allows efficient transmission of the energy generated into the grid; and for a financially viable connection to be achieved – this connection will be by way of an overhead line that will be connected via a post-mounted transformer.

The facility design – in particular, positioning of the HV Switchboard – has considered existing trees on the land and the adjacent road reserve. A clear line of sight has been achieved for the overhead connection between the switchboard and the nearest existing power pole within the property – to the west of the proposed solar facility.

The applicant has reached initial agreement with Essential Energy for the connection into their established infrastructure; nevertheless, formal notice will be issued to EE as part of the DA process. However, it is considered unlikely that there would be any impact on the operation of the existing overhead infrastructure as a result of the proposal.

8.3 State Environmental Planning Policy (Primary Production) 2021

Chapter 2 Primary production and rural development

Part 2.1 Preliminary

The relevant aims of this Chapter are as follows—

(a) to facilitate the orderly economic use and development of lands for primary production,
(b) to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,
(c) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,
(d) to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts,
(e) to encourage sustainable agriculture, including sustainable aquaculture,
(f) to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

In response to these aims, the proposal is not designated development, nor is it development that is considered to unduly impact the ongoing use of the surrounding land for primary production.

Draft SSAL Mapping, including location of subject site relative to SSAL
Source: NSW Department of Primary Industries

Neither the subject site nor the surrounding area is currently identified within the currently vacant Schedule 1 as State significant agricultural land (SSAL), neither is the site is identified within the draft SSAL mapping, above.

In considering the inherent site characteristics, as well as the overall footprint of the site relative to the surrounding irrigation district, the site represents an appropriate response to the competing objectives of planning to preserve agricultural land – providing for a portion of relatively unproductive agricultural land to transition to energy production and storage to serve the Carrathool community.

8.4 State Environmental Planning Policy (Planning Systems) 2021

Schedule 6 – Regionally Significant Development

5 Private infrastructure and community facilities over $5 million

Development that has a capital investment value of more than $5 million for any of the following purposes—

- *(a) air transport facilities, electricity generating works, port facilities, rail infrastructure facilities, road infrastructure facilities, sewerage systems, telecommunications facilities, waste or resource management facilities, water supply systems, or wharf or boating facilities,*
- *(b) affordable housing, child care centres, community facilities, correctional centres, educational establishments, group homes, health services facilities or places of public worship.*

Development that is state and regionally significant is identified in *State Environmental Planning Policy (Planning Systems) 2021*.

Private infrastructure, including electricity generating stations, that have a capital investment value of over $5 million are declared regionally significant. The proposed Solar Facility development has a CIV of **$6.5 million** and is therefore identified as a **Regionally Significant Development**.

8.5 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 – Remediation of Land

4 Objective of this Chapter

(1) The object of this Chapter is to provide for a Statewide planning approach to the remediation of contaminated land.

(2) In particular, this Chapter aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment—

(a) by specifying when consent is required, and when it is not required, for a remediation work, and

(b) by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and

(c) by requiring that a remediation work meet certain standards and notification requirements.

4.6 Contamination and remediation to be considered in determining development application

(1) A consent authority must not consent to the carrying out of any development on land unless—

(a) it has considered whether the land is contaminated, and
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The solar farm development is proposed on a site which has been used for dryland agricultural activities such as cropping and livestock grazing for an extended period of time. According to the preliminary investigations carried out by the applicant as part of the site feasibility and site history, there is no evidence to suggest that the site is or might be contaminated to a level that would impact on the proposed use.

Therefore, it is considered that the proposed development is compliant with the SEPP.

9 Carrathool Local Environmental Plan 2012

9.1 Part 1 – Preliminary

1.9 Application of SEPPs

"(1) This Plan is subject to the provisions of any State environmental planning policy that prevails over this Plan as provided by section 3.28 of the Act"

Pursuant to the provisions of Clause 1.9 of the Carrathool LEP, the applicable State Environmental Planning Policies have been considered in conjunction with the Murray LEP.

In particular, the prevailing provisions of the Transport and Infrastructure SEPP with regard to the allowability of the development within the RU1 under the LEP.

9.2 Primary Production Zone

The subject property is zoned **RU1 – Primary Production** under the provisions of the Carrathool LEP 2012; the below figure shows the subject site within the context of the LEP's zoning map.

The Primary Production Zone comprises the following objectives for development:

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

Pursuant to the Dictionary of the Murray LEP, the proposed development is considered to be "***electricity generating works***" *which* is defined as:

- "*a building or place used for the purpose of making or generating electricity."*

This use is prohibited in zone RU1. However, the *SEPP (Transport & Infrastructure)* prevails over the LEP to this extent, the use of land for a **solar energy system** is permitted with consent on any land in accordance with the *SEPP (Infrastructure).*

The proposed use and development of land for a solar energy system is considered to be consistent with the RU1 Zone.

Land Land zoning under the Carrathool LEP
(Source: Carrathool Map Sheet LZN015)

In considering the nature of the proposed use, a solar facility is a land use that is compatible with surrounding agricultural use and the intended purposes of the RU1 Zone.

9.3 Part 6 – Additional Local Provisions

6.1 Earthworks

(1) The objectives of this clause are as follows—

(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,

(b) to allow earthworks of a minor nature without requiring separate development consent.

Earthworks associated with the development comprise minor for accessways, footings for the inverters, security fence posts and for the panel mounting frames.

All of these earthworks are ancillary to the development of a solar farm and are not expected to impact adversely on the future rural use of the land, relics, the natural environment or adjoining developments through the construction use or decommissioning of the facility

The proposal has been carefully designed to ensure that it will not impede existing agriculture within the surrounding area. The use of the land for a solar facility will be a low impact use and has been carefully sited to avoid any adverse impact upon rural infrastructure.

There will be limited to no impact on the amenity of surrounding properties, or on waterways by the earthworks on the site.

10 Development Control Plan

There is no Development Control Plan applicable to the Carrathool Shire.

11 Carrathool 2040 (Local Strategic Planning Statement)

Carrathool Shire's Local Strategic Planning Statement, *"Carrathool 2040",* sets out the 20-year-strategic direction for the Carrathool municipality and sets out five (5) Planning Priorities that are to guide the future development of the Shire in alignment with these overarching planning priorities:

- *Planning Priority 1 – Economic growth and activity*
- Planning Priority 2 – Thriving rural community
- Planning Priority 3 – Infrastructure to support growth and change
- Planning Priority 4 – Celebrate culture and recreation
- Planning Priority 5 – A sustainable environment

For the purpose of a solar farm in the Primary Production Zone, the considerations of Planning Priority 1 are considered relevant to this proposal and are addressed in the subsequent section.

11.1 Planning Priority 1 – Economic growth and activity

- *Planning Priority 1.1 – Promote agriculture and grow the agri-business sector*
- *Planning Priority 1.2 – Encourage economic diversity and tourism growth*
- *Planning Priority 1.3 – Manage and support the transition to renewable energy*

The development a utility-scale, micro solar farm provides opportunity for an established agricultural operator to diversify their income streams, as well as providing for a locally sourced renewable energy supply.

The site is immediately surrounding by several industrial-scale intensive agricultural operations, which can be energy-intensive operations

In conjunction with the ancillary batteries to be installed within the solar farm, the proposed development provides for co-location of compatible land uses in the form of agriculture and energy generation.

In considering the character of the surrounding area, there are no foreseeable land use conflicts that would arise as a consequence of the proposal, as the surrounding farming operations would be able to continue unimpeded, whilst the solar farm would be unaffected by any of the potential amenity impacts that are associated with intensive agriculture.

12 Conclusion

The proposal is for a new solar facility, including battery storage within the Carrathool municipality that will provide affordable clean energy for the local community, effectively contributing to the implementation of the New South Wales transition to renewable energy.

The proposal is supported by the ***NSW Regional Energy Action Plan 2018*** to Net Zero Emissions that sets out a high-level framework for achieving the region's aspirations and expectations for renewable energy by providing regional opportunities for the benefit of the regional community.

The 4.95MW output will supply local businesses, industry and houses and will produce enough energy to contribute to the transition of Carrathool Shire into a renewable municipality.

The proposal will generate local employment opportunities for electrical and construction workers to build and install the facility; operations, maintenance and security jobs will be required ongoing.

It has been demonstrated in this report that the proposal meets the application requirements for a solar facility, including relevant sections of the relevant SEPPS, namely ***Transport & Infrastructure SEPP, Primary Production SEPP***, the ***Carrathool Local Environment Plan,*** and ***Carrathool 2040***.

The broad considerations of the proposed solar farm and the consideration of both preserving agricultural land against promoting renewable energy have been addressed at length in the various sub-sections of this report and the appended documentation.

It is submitted that the information provided within this report and various supporting documents demonstrate that the proposal warrants development approval.

Chris Smith & Associates
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