COUNCIL ASSESSMENT REPORT

Panel Reference	**PPSSTH-145**
DA Number	**DA2022/027**
LGA	**Cootamundra Gundagai Regional Council**
Proposed Development	**Solar Farm**
Street Address	**101-173 Cowcumbla Street, Cootamundra**
Applicant/Owner	Flow Poer/Utilacor Pty Ltd
Date of DA lodgement	15 February 2022
Total number of Submissions **Number of Unique Objections**	• 4 • 3
Recommendation	**Approval**
Regional Development Criteria (Schedule 7 of the SEPP (State and Regional Development) 2011	**Private Infrastructure Development with an investment value of over $5million**
List of all relevant s4.15(1)(a) matters	i.e. any: • relevant environmental planning instruments • relevant development control plan • relevant regulations e.g. Regs 92, 93, 94, 94A, 288 •
List all documents submitted with this report for the Panel's consideration	i.e. any: • plans • statement of environmental Effects
Clause 4.6 requests	• Nil
Summary of key submissions	i.e any: • Increased flooding risk as a result of the development; • Negative impact on visual amenity; • Loss of property values; • Noise impacts; • Heat production from under the solar panels; • Dust impacts; • Impacts on native wildlife from weed/grass control spraying; and • The appropriateness of industrial land use.
Report prepared by	**Tanya Cullen, Casual Planner, Cootamundra Gundagai Regional Council**
Report date	20 August 2022

Summary of s4.15 matters

Have all recommendations in relation to relevant s4.15 matters been summarised in the Executive Summary of the assessment report? **Yes**

Legislative clauses requiring consent authority satisfaction

Have relevant clauses in all applicable environmental planning instruments where the consent authority must be satisfied about a particular matter been listed, and relevant recommendations summarized, in the Executive Summary of the assessment report? **Yes**

e.g. Clause 7 of SEPP 55 - Remediation of Land, Clause 4.6(4) of the relevant LEP

Clause 4.6 Exceptions to development standards

If a written request for a contravention to a development standard (clause 4.6 of the LEP) has been received, has it been attached to the assessment report? **Not applicable**

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Special Infrastructure Contributions Does the DA require Special Infrastructure Contributions conditions (S7.24)? *Note: Certain DAs in the Western Sydney Growth Areas Special Contributions Area may require specific Special Infrastructure Contributions (SIC) conditions*	**Not applicable**
Conditions Have draft conditions been provided to the applicant for comment? *Note: in order to reduce delays in determinations, the Panel prefer that draft conditions, notwithstanding Council's recommendation, be provided to the applicant to enable any comments to be considered as part of the assessment report*	**No**

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DEVELOPMENT ASSESSMENT REPORT

Pursuant to the Environmental Planning & Assessment Act 1979
Section 4.15 (as amended)

EXECUTIVE SUMMARY:

On 15 February 2022 Cootamundra Gundagai Regional Council received an application for 'Electricity Generating Works' . The proposal is for the establishment and operation of a 5 megawatt solar farm and battery energy storage system together with ancillary and associated infrastructure. The proposal also involves the demolition of a disused dwelling on the site.

The proposal was notified in accordance with Council's Community Consultation Plan and four submissions were received. The submissions relate to the following matters:

- Increased flooding risk as a result of the development;
- Negative impact on visual amenity;
- Loss of property values;
- Noise impacts;
- Heat production from under the solar panels;
- Dust impacts;
- Impacts on native wildlife from weed/grass control spraying; and
- The appropriateness of industrial land use.

Each of these matters has been considered and, where appropriate, mitigation measures proposed as part of the assessment of the application.

The matter was referred to the Natural Resources Access Regulator (NRAR) due to the proximity of the solar array panels to Muttama Creek. An amended proposal was received from the applicant, that relocated the panels away from Muttama creek and the concurrence of NRAR is no longer required.

A site inspection was undertaken by the Planning Panel members on 27 April 2022 where additional information was requested by the panel. The requested information was provided by the applicant to address the concerns of the panel and has been included in the assessment.

The assessment of this development application, including studies and reports from suitability qualified consultants has considered addressed the mandatory matters under Section 4.15 of the Act. That assessment has shown that:

- the site is appropriate for the development;
- that the development has been designed to address the constraints of the site (flooding, visual impact, presence of Muttama Creek, Aboriginal cultural heritage);
- potential impacts on flora and fauna can be ameliorated or managed to ensure no significant or negative long-term loss of species or communities;
- impacts such as stormwater drainage, construction traffic, noise and dust can be managed through conditions of consent;
- the development would not result in any significant reduction in the industrial productivity or opportunities of the LGA, the township or the region. Additionally, the site could be easily returned to, or co-located with other, industrial uses after the project is decommissioned, without its existing industrial capability being affected; and
- the 10Mwh of renewable energy generated by the development will support both State and Federal Government action and strategies to reduce reliance on fossil-fuels and reduce carbon emissions.

It is believed that this report demonstrates that the development is an appropriate use of the site, and has been designed to minimise the potential impacts on surrounding land users and the environment. All matters under the relevant legislation have been considered, and it has been determined that there are no reasonable grounds upon which to refuse the application.

The assessment has concluded that all relevant legislative and environmental matters together with community concerns has been considered as part of the assessment of the proposal, and that the matter is able to be approval with recommended conditions in accordance with that of the department to address these matters.

DEVELOPMENT REFERENCE:

DA2022/27

DEVELOPMENT ADDRESS:

101-173 Cowcumbla Street, Cootamundra

DEVELOPMENT LOT / SEC / PLAN:

Lots 13, 14, 177 and 178 DP753601
Lot 1 DP783927, Lot 1 DP1084448

OWNER(S):

Cootamundra Export Co. Pty Ltd
Cootamundra-Gundagai Regional Council

Cootamundra-Gundagai Regional Council (Council) is not an applicant to the development. Council owns Lot 1 DP1084448, a land parcel that is contiguous with the land on which the development is proposed and which contains an easement and associated infrastructure for electricity services in favour of Essential Energy. It also contains a section of Lloyd Conkey Avenue. The applicant has proposed that the development will connect to the electricity network through the infrastructure in that easement. Having granted the easement to Essential Energy for its purposes, it is considered that Council's permission to use the easement is not required, however Council has been included as land owner for the sake of clarity and transparency. The agreement of the Interim General Manager to include Lot 1 DP1084448 in the application is included on Council's file.

APPLICANT:

Flow Power / Utilacor Pty Ltd

APPLICANT ADDRESS:

18-20 York Street, Level 3, Suite 2
SYDNEY NSW 2000

PROPOSED DEVELOPMENT:

The application seeks approval for 'Electricity generating works' (solar farm). It proposes to establish and operate a 5 megawatt (MW) solar farm and Battery Energy Storage System (BESS), with associated and ancillary infrastructure. The demolition of an existing house and associated structures on the site is also proposed.

The development as initially lodged, was nominated and defined as 'integrated development' for the purposes of Section 4.46 of the *Environmental Planning and Assessment Act, 1976* as it required an approval under the *Water Management Act, 2000* for activities within a water course. (General Terms of Approval were issued by the Natural Resources Access Regulator (NRAR)).

The application is also Regionally Significant Development under Clause 5(a) of *State Environmental Planning Policy (Planning Systems) 2021*, as private infrastructure development

(electricity generating works) with an investment value of over $5 million (the investment value is stated as $11,320,062).

DETAILS OF THE DEVELOPMENT:

The proposed 5 megaWatt solar farm development (Site Plan at Figure 1) comprises:

- Demolition of an existing, unused house and ancillary structures on the site;
- Installation of 8800 solar PV modules (panels of approximate size 1m x 2.5m) mounted on 148 tracking rows (each being approximately 83m long and set approximately 6m apart) (Figure 2). Each of the solar PV modules, which will be set at a maximum height of 2.8m, will rotate to track the sun across the sky from east to west during the day (Figure 3);
- Installation of a Medium Voltage Power Station (MVPS – Figure 4), including inverter, switchgear and transformer;
- Installation of a Ring Main Unit (RMU – Figure 5) to contain 11kV switchgear, metering and solar protection relays;
- Installation of a Battery Energy Storage System (BESS – Figures 6 and 6a), including converters to enable storage of up to 10MWh;
- Installation of an 11kV high voltage line (either underground or overhead) to connect the facility to the existing distribution network at Lloyd Conkey Avenue;
- Placement of one shipping container on site for storage of spare parts and maintenance equipment;
- Installation of above and under ground DC cabling (internal to the site) for electrical reticulation;
- Construction of a new vehicle access to Cowcumbla Street and internal, unsealed, all-weather roadway, turning circle/laydown area (shown in brown in Figure 1);
- Creation of a minimum 10m wide Asset Protection Zone around the perimeter of the solar farm area and installation of a water tank (min. 20kL) for fire protection and fighting purposes;
- Installation of other ancillary equipment such as combiner boxes (Figure 7), meteorological station and the like required to facilitate operation of the solar farm;
- Associated earthworks to construct the development;
- Installation of a temporary construction compound, including prefabricated portable site offices and amenities buildings;
- Construction of chain and wire-mesh security fencing to a height of 2.1m around the perimeter of the site); and
- Planting around the perimeter of the solar farm area.

HISTORY OF THE DEVELOPMENT:

The application was lodged on 15 February 2022 as an Integrated Development application, requiring both consent of Council and Concurrence from the Natural Resources Access Regulator (NRAR) for works within 40m of a watercourse, under the *Water Management Act, 2000*.

Additional information in relation to land tenure (as noted above) was requested by Council on 30 March 2022 with a response received on 26 April 2022. Following a preliminary meeting and site visit by the Southern Regional Planning Panel 27 April 2022, the applicant was asked to provide additional information in relation to: solar panel array layout and details; visual and glare impact; landscaping; stormwater, sediment and erosion control; upgrading and decommissioning details; economic and community benefit/impacts; advice from Essential Energy; Indigenous cultural heritage assessment; and a response to public submissions. A response was received from the applicant on 14 June 2022 that included a revised Statement of Environmental Effects and plans.

A Preliminary Hazard Assessment was further submitted by the applicant at the request of Council on 17 August 2022.

This assessment report is based on the later details received from the applicant, but does draw on the originally submitted information for comparison or clarity where required.

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Figure 1 – Site Plan

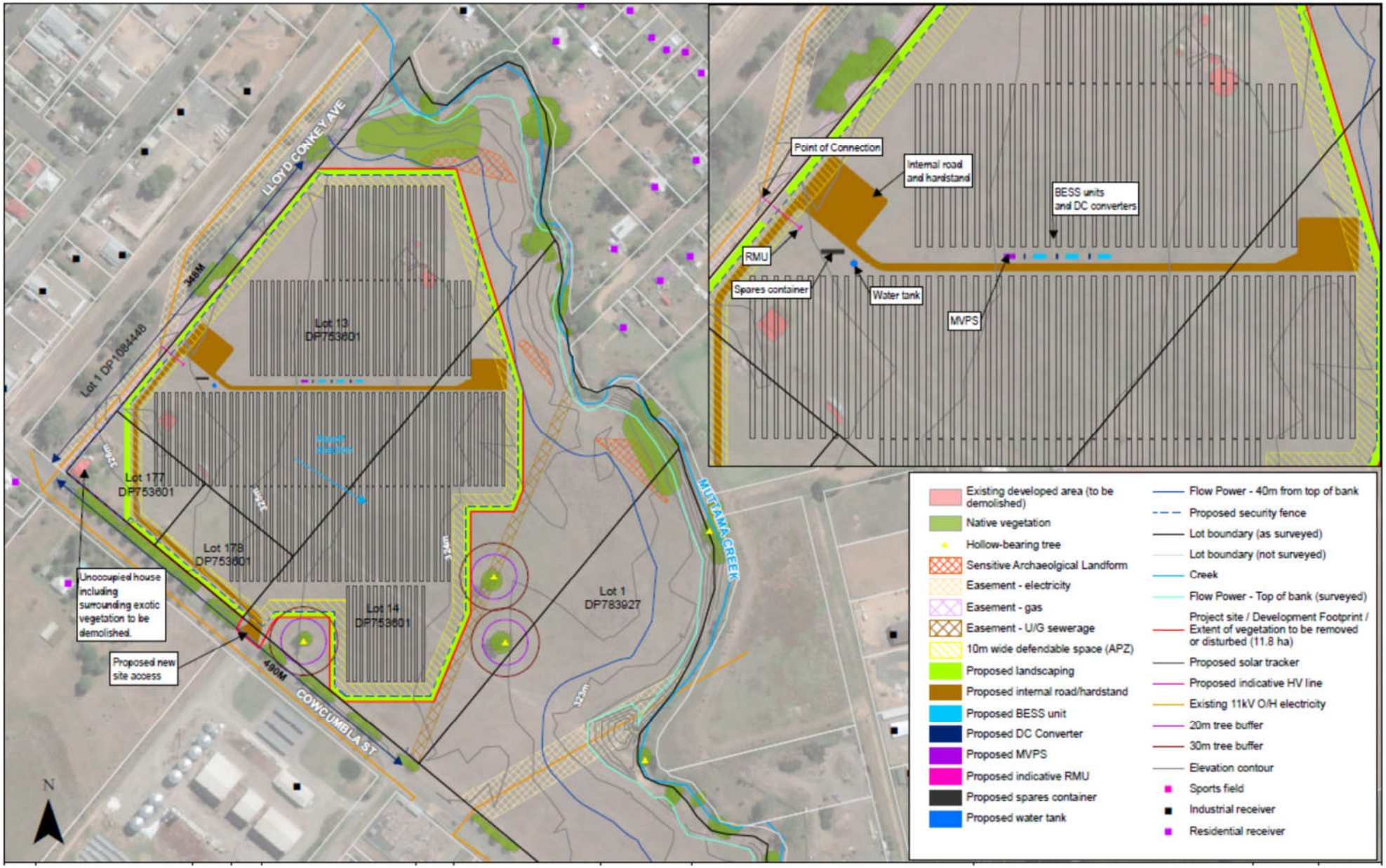

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Figure 2 – Solar Array Layout Plan

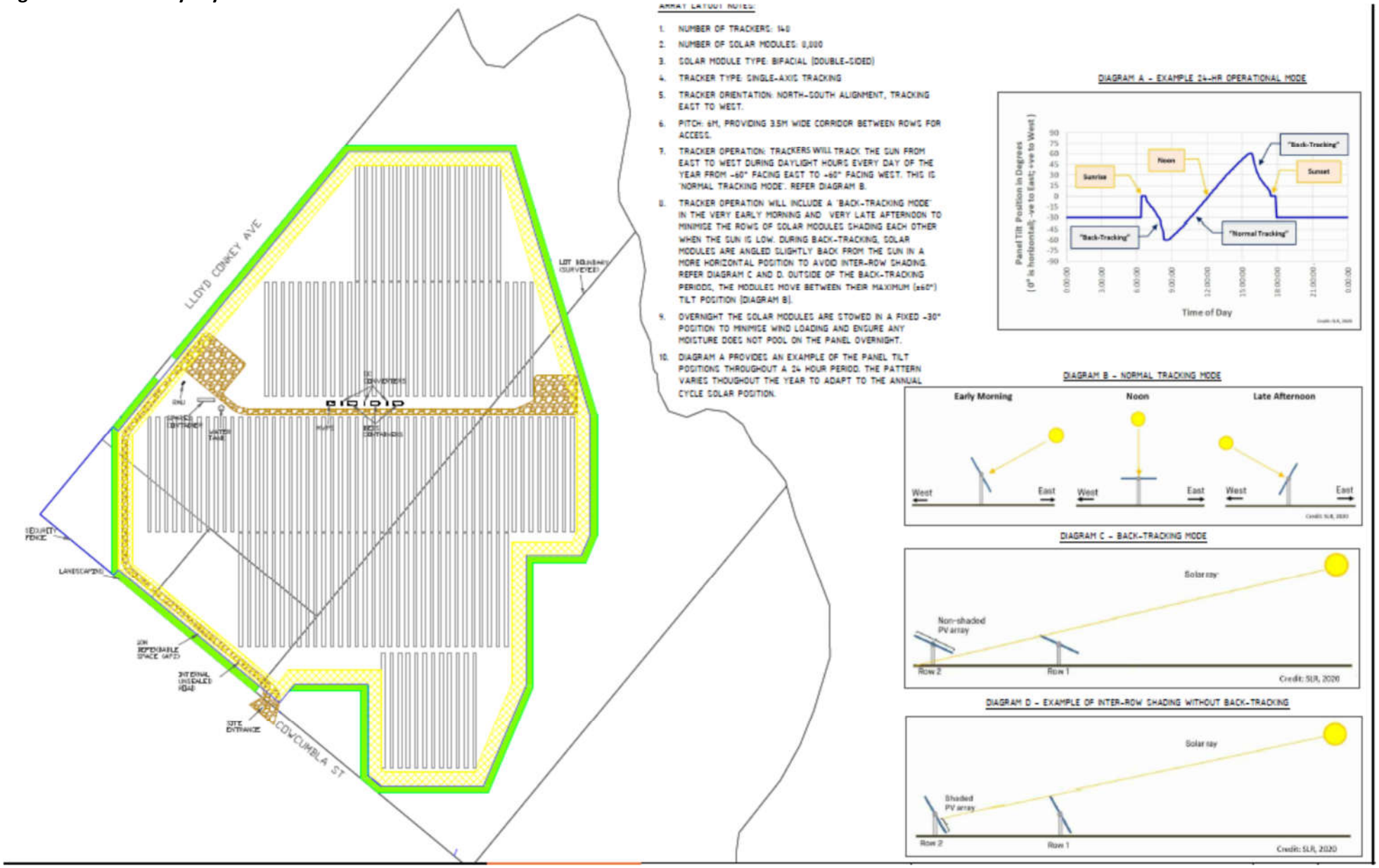

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Figure 3 – Typical plan and elevation of solar panel structures (image taken from SEE)

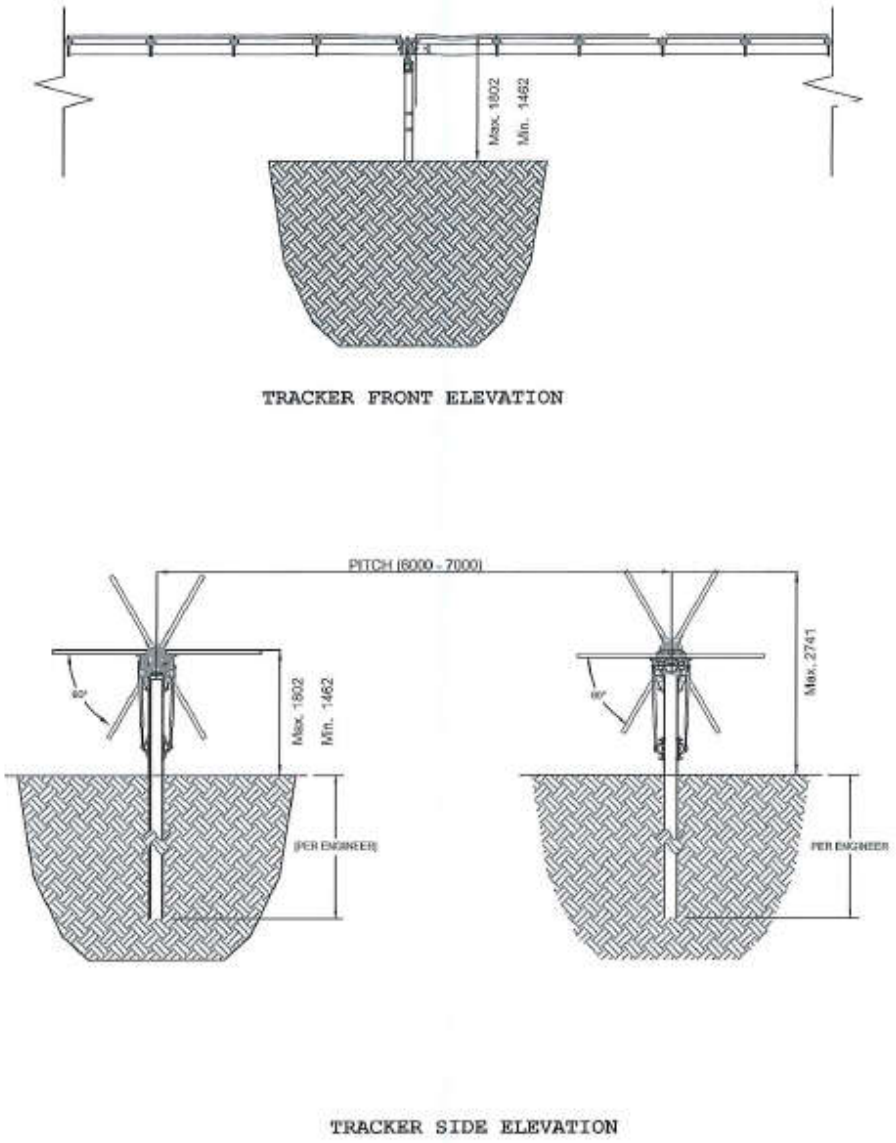

Figure 4 – Image of typical Medium Voltage Power Station (MVPS) (image taken from SEE)

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Figure 5 – Image of a typical Ring Main Unit (RMU) (image taken from SEE)

Figure 6 – Image of a typical Battery Energy Storage System (BESS) (image taken from SEE)

Figure 6a – Image of typical converter connected to the BESS (image taken from SEE)

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Figure 7 – Image of typical combiner boxes set at end of row of solar panels

LOCALITY:

The broader area in which the subject site is located (Figures 8 and 8a) reads as mixed land uses, with large scale industrial development, residential development, areas of vacant industrial land and large areas of rural land. It is generally river-flats land, with some remnant vegetation along the sides of roads and along Muttama Creek that runs through the area and to the north and east of the site. The subject site and land parcels south of Muttama Creek are generally large in size and regularly shaped, except where the railway reserve creates some unusually-shaped land parcels. To the north and west, the land parcels are smaller and far more regularly shaped, reflecting the edges of a grid-based town plan. The land to the north and west is substantially developed with commercial or light industrial uses and residential development.

Figure 8 – Locality plan – site shown outlined red and shaded yellow (source: SIXmaps)

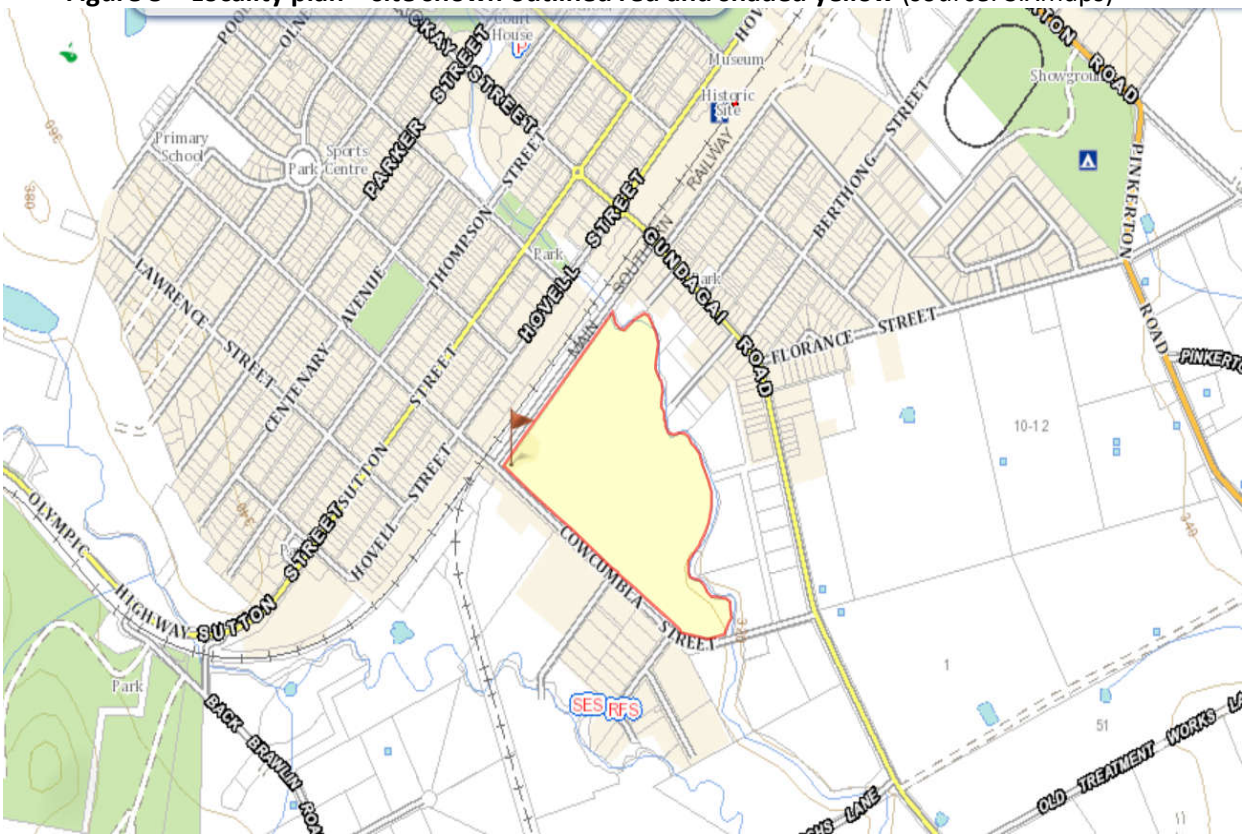

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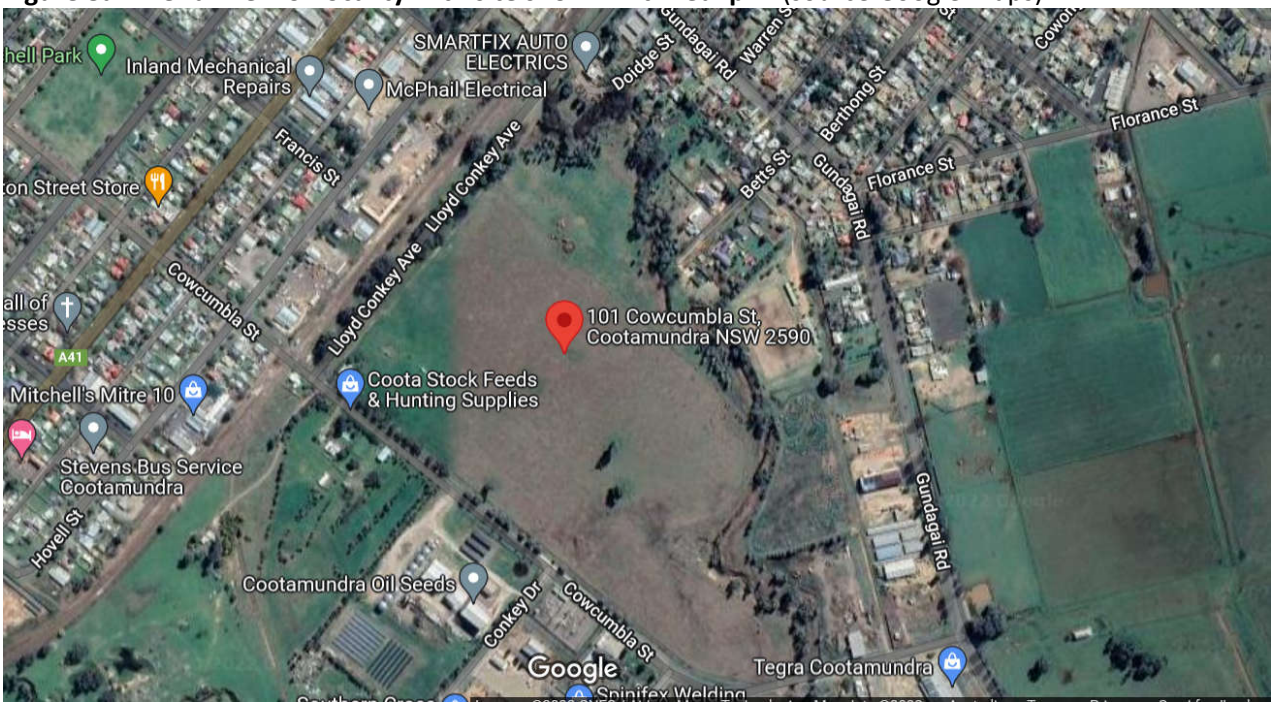
Figure 8a – Aerial view of locality with site shown with red 'pin' (source Google Maps)



SITE:

The site (Figure 9), made up of five separate lots, is on the corner of Cowcumbla Street and Lloyd Conkey Avenue, approximately 1km due south of Cootamundra town centre, some 500m south-east of the railway station and some 600m (at the site's western boundary) from the Essential Energy substation on Cowcumbla Street. The total land area of the five lots is some 24 hectares, with the proposed development to cover 11.8 hectares. It is zoned IN1 General Industrial.

The five lots that are proposed to be developed with the solar farm are all old lots in their original shapes. The northern-most, and the entirety of the site's eastern boundary, is Muttama Creek to which there is direct access from the site. This creates a very irregular boundary on the northern and eastern elevations, while the boundaries facing Cowcumbla Street (approximately 706m) and Lloyd Conkey Avenue (some 482m in length) are straight and regular.

The land is virtually entirely cleared, with two or three large trees remaining across the site. There is a disused and dilapidated 1920s era house at the corner of the two roads, and a number of other ancillary structures towards the northern part of the site, remnants of likely earlier rural uses of the land. All built structures are proposed to be demolished.

The land reads as flat (Figure 10) but has a fall of around 3 metres running generally west to east along its approximately 700m length. The lowest parts of the site are in the furthest southern and eastern parts of the site, with the survey provided with the application (Figure 12) marking those areas as 'very boggy', likely due to their proximity to Muttama Creek. The proposed solar panels will be located largely across the centre and western parts of the site (see Figure 1), avoiding this lower and 'boggy' part of the site.

There are a number of existing, informal access points off both Cowcumbla Street and Lloyd Conkey Avenue, including one off Cowcumbla Street that provides access to the abandoned dwelling on the site.

The site is affected by a number of easements for electricity transmission lines and drainage (discussed later in the report).

Figure 9 – Subject site, aerial view, showing proposed development area outlined in red (image taken from SEE)

Figure 10 – Subject site seen from Cowcumbla Street looking north towards Muttama Creek

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GENERAL REQUIREMENTS OF THE *ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979*:

1.3 Objects of Act

In determining a development application, the consent authority must consider whether the proposed development is consistent with the relevant objects of the Act, which are numerous and varied. It is considered that the following objects are most relevant to the merit assessment of this application:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.
The installation of a solar electricity generating facility will play a role in improving environmental outcomes by producing fossil-fuel-free energy for use in the national grid and locally. There is currently no use of the land that this development would negatively impact as a resource.

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.
The State Government has legislated energy and fossil-fuel emissions reductions targets that require the production of alternative forms of energy, such as solar, to a more sustainable future. The assessment of this report is that there are no detrimental social, economic or environmental impacts in the design of this proposal. Where necessary, conditions have been proposed to ameliorate and manage any identified amenity impacts.

(c) to promote the orderly and economic use and development of land.
The subject land has had earlier agricultural and residential uses that have lapsed as being no longer viable. The proposed development is located on suitably zoned land, and has been appropriately sized and located to allow for the orderly use of the land.

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.
This assessment demonstrates that any potential impact the development may have on the environment can be suitably ameliorated and managed, partly by elements of the proposal itself such as planting of native vegetation species and partly by way of relevant conditions.

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).
The development will not impact on any items or areas of built or archaeological heritage, or identified Aboriginal cultural significance, with the development being designed to avoid identified areas of potential significance. There are existing statutory procedures that the developer must follow, should relics or artefacts not identified in the Statement of Environmental Effects be found during construction and/or operation.

(j) to provide increased opportunity for community participation in environmental planning and assessment.
The application was exhibited in accordance with the relevant requirements (see Section 2.22 below), to provide public involvement and participation in the assessment of this application.

1.7 Application of Part 7 of *Biodiversity Conservation Act 2016* and Part 7A of *Fisheries Management Act 1994*

These sections of the relevant Acts require Council to consider whether the development or activity is likely to significantly affect threatened species, populations or ecological communities (following the relevant test in each Act). Consistent with these sections and tests, it is not considered that the development is likely to significantly affect threatened species, populations or ecological communities, because:

Biodiversity Conservation Act 2016

- the site has not been declared as an area of outstanding biodiversity value;
- the development does not exceed the biodiversity offsets scheme thresholds (is not mapped as high biodiversity value on the Biodiversity Values Map and does not exceed the clearing threshold);
- it does not involve the removal of trees (native or otherwise), and there is no native groundcover disturbance;
- the site is devoid of the tree, shrub and grass species that are typical of the four (4) EECs known to occur across the whole of the Cootamundra-Gundagai Regional Council LGA; and
- the development is not a key threatening process.

A Flora and Fauna Assessment submitted with the application that affirms this assessment is discussed later in this report.

Fisheries Management Act 1994

- all threatened species, endangered populations and endangered ecological communities known to occur in the area, or thought to be extinct in the area, are confined to the Murrumbidgee River or river system, and the development is some 34km from the River ('as the crow flies');
- there is no declared critical habitat in the region; and
- the development is not a key threatening process.

2.22 Mandatory community participation requirements

Part 1 (Mandatory community participation requirements) of Schedule 1 (Community participation requirements) sets out the mandatory requirements for community participation by planning authorities with respect to the exercise of relevant planning functions, which includes among other things, notification of development applications.

The application was lodged with Council as nominated integrated development (see Section 4.66 below for further information relating to integrated development), and therefore the relevant section that applies to this development is:

8A Application for development consent for nominated integrated development or threatened species development

(1) Minimum public exhibition period for an application for development consent for nominated integrated development or threatened species development—28 days.

(2) In this clause—nominated integrated development means integrated development that requires an approval (within the meaning of section 4.45) under—

(b) a provision of the Water Management Act 2000 specified in section 4.46(1).

Accordingly, the application was notified for 28 calendar days to eighty-one (81) adjoining and adjacent property owners. From this, four (4) submissions were received as follows:

- one (1) submission raising no objection, but commenting on the quality of the original survey documentation;
- three (3) submissions from three (3) different submission makers.

The issues raised in the submissions are summarised here and discussed in depth throughout the report:

- Increased flooding risk as a result of the development;
- Negative impact on visual amenity;
- Loss of property values;
- Noise impacts;
- Heat production from under the solar panels;
- Dust impacts;
- Impacts on native wildlife from weed/grass control spraying; and
- The appropriateness of industrial land use.

The submission of revised details by the applicant was not considered to require re-notification, as the amendments made to the proposal were considered to address the substantive issues raised in submissions, to respond appropriately to other issues raised and did not propose substantial changes or intensifications that would result in potential impacts beyond those already raised in submissions.

4.5 Designation of consent authority

The application is Regionally Significant Development under Clause 5(a) of *State Environmental Planning Policy (Planning Systems) 2021*, as private infrastructure development (electricity generating works) with an investment value of over $5 million (the investment value is stated as $11,320,062). Under the provisions of the Planning System SEPP, the application must be consented to by the relevant Regional Planning Panel (although Council issues any consent documentation and remains the appropriate regulatory authority for the purposes of enforcing the conditions of any consent).

The application was advertised as regionally significant development and consistent with the SEPP, the proposal must be considered by the Southern Region Planning Panel as determining authority. Cootamundra-Gundagai Regional Council is the consent authority for the proposal.

4.10 Designated development

Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*, defines the various types of designated development. The application does not meet any of the criteria and therefore is not designated.

4.13 Consultation and concurrence

If required by an environmental planning instrument, this section requires Council to consult with or obtain the concurrence of the relevant authority or person.

The application was initially lodged as integrated development (see Section 4.46 below) as it requires a Controlled Activity approval under the *Water Management Act, 2000* for works within 40m of a watercourse. It therefore requires concurrence of the Natural Resources Access Regulator (NRAR). The application was referred to the NRAR Department which issued its General Terms of Agreement (GTAs) on 3 March 2022. This is discussed later in the report.

The application was also referred to Essential Energy under the provisions of Section 2.48(1) of *State Environmental Planning Policy (Transport and Infrastructure) 2021*, as it proposes development

immediately adjacent to an easement for electricity purposes (including that on Council's land at Lot 1 DP1084448, Lloyd Conkey Avenue). This is discussed later in the report in relation to the assessment of the proposal under the Transport and Infrastructure SEPP.

No other formal consultation was required for the proposal.

4.14 Consultation and development consent—certain bush fire prone land

The site is not mapped as bushfire prone (see Figure 10 below) and is not mapped as residential or special fire protection purpose. No referral to the NSW Rural Fire Service was therefore required. The issue of bushfire protection is discussed later in the report.

Planning for Bushfire Protection 2019 (PBP 2019) does establish, however, specific provisions at Section 8.3.5 for wind and solar farms, stating that they require special consideration and should be provided with adequate clearances to combustible vegetation as well as suitable access for firefighting vehicles and appropriate access to water. It identifies that solar farms should be provided with:

- a minimum 10m asset protection zone (APZ) for the structures and associated buildings/ infrastructure (not including roads, fencing and power and other services);
- the APZ must be maintained to the standard of an inner protection area (IPA) for the life of the development.

Figure 10 – Image of bushfire mapped areas closest to the subject site (image taken from SEE)

The Statement of Environmental Effects (SEE) notes that the subject site is extensively cleared of vegetation, except for a few isolated paddock trees, some vegetation along Muttama Creek and trees

on the adjoining road reserve. It further states that Muttama Creek may provide a barrier to any grassfire from the east, and surrounding industrial developments would have their own fire protection systems and procedures installed and in operation in the event of fire from those premises. It does, however, note that grassfires may occur on site from events such as electrical faults or from maintenance works. To ameliorate this risk, the development as proposed includes:

- A 10m wide Asset Protection Zone (APZ) around the perimeter of the solar array and contained within the boundaries of the subject site. The APZ that would give firefighters a clear and defendable place from which to fight any fire and would be fuel- managed, with regular site maintenance ensuring grass and other vegetation is kept to a safe level, including under the solar array panels themselves.
- Emergency vehicle access off Cowcumbla Street that would allow firefighting vehicles to enter the site. All access gates would be fitted with an 003 fire lock that would be able to be used by emergency services.
- Installation of a minimum 20,000 litre static water supply tank for dedicated firefighting purposes. The tank is proposed to be located at the western portion of the site, adjacent the vehicle hardstand/turning area such that fire vehicles would be able to readily access the water supply. The tank would be fitted with the standard RFS compatible Stortz fitting to allow connection to firefighting vehicles.

These measures to be installed indicate that the development will be consistent with the requirements of *Planning for Bushfire Protection 2019* for solar farms and will be reinforced though conditions of consent. Those conditions will include the preparation of a Bush Fire Emergency Management and Operations Plan, consistent with *PBP 2019* to be prepared and submitted to Council for its records. Beyond this, it is considered reasonable for Council to require, as a condition of consent, that an accredited bushfire practitioner provide written certification that all the required measures are in place and compliant, before an occupation certificate is issued.

The applicant has noted that, while the main site access on Cowcumbla Street is adequate for emergency services access, they will be further consulting with the NSW Rural Fire Service during the preparation of an Emergency Management Plan for the ongoing operation (post-construction phase) of the development. Should a secondary emergency gate be considered necessary as part of that process, it is not expected to result in additional construction works on the site, such as an internal road. A secondary entry would likely, for example, enable access over the empty paddocks to the east of the solar array and only be used in the event where the Cowcumbla Street access was not safe or useable. The applicant has submitted that, in their experience, access over the adjacent paddock is standard practice for solar farm developments and typically acceptable to the fire authority. Given the development's consistency with PBP 2019, this approach to a secondary access is considered reasonable, however a condition is proposed that will require the developer to gain the necessary Council approvals where any secondary access is directly off Council-owned land such as a road reserve or Lloyd Conkey Avenue.

Council is satisfied that the development as described in the SEE is consistent with PBP 2019 and relevant conditions as discussed will reflect this.

4.22 Concept development applications

The development is not a concept development (a development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications).

4.33 Determination of Crown development applications

The development is not a Crown development (a development application made by or on behalf of the Crown).

4.36 Development that is State significant development (SSD)

State significant development (of a size, type, value or with impacts deemed to be significant), is identified in *State Environmental Planning Policy (Planning Systems)* 2021. The SEPP classifies the following electricity generating works as SSD:

> ***20 Electricity generating works and heat or co-generation***
> *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, or*
> *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.*

The proposed development does not meet either of these criteria and is therefore not State Significant Development.

4.46 Integrated development

As identified earlier, the application was initially lodged as integrated development, being development that requires the consent or an approval from another government agency. In this instance, the approval of the Natural Resources Access Regulator (NRAR) was sought under the *Water Management Act 2000* as it proposed works within 40m of a natural watercourse. The works proposed in the 40m zone were the installation of solar array piles and perimeter fencing.

The application was referred to the NRAR through the Planning Portal on 17 February, 2022. A response was received from the NRAR on 3 March 2022 which included General Terms of Approval (GTAs) for the development. Council notes that the GTAs were issued before the mandatory public notification period was complete. Council did forward the received public submissions to the NRAR after the closure of the notification period (and after it had received the GTAs); no further response was received from the NRAR.

Following the review of the proposal by the Southern Region Planning Panel on 27 April, revised documentation was submitted to Council that show no development occurring inside the legislated 40m buffer from the watercourse. The applicant contends that the proposal is therefore, no longer integrated development for the purposes of the legislation. Where no development is to occur inside that 40m boundary, Council has no clear reason to consider the development as Integrated for the purposes of the legislation and it is therefore also considered that the General Terms of Approval issued by the NRAR do not need to be applied to any consent given. Where consent is granted to the development, it is considered warranted to include an advice that a Controlled Activity Approval would be required where possible changes required during construction could result in works within than 40m buffer. In that instance, an amendment to the Consent would also be required to be considered; the concurrence of NRAR would be sought as part of that process.

No other integrated development referrals were required under other prescribed Acts, such as the *Fisheries Management Act 1994*, the *Heritage Act 1977*, the *Protection of the Environment Operations Act 1997*, and the *Rural Fires Act 1997*.

4.55 Modification of consents - generally

As a new development, this matter is not relevant to the assessment.

SECTION 4.15 CONSIDERATIONS UNDER THE *ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979*:

4.15(1)(a)(i) The provisions of any environmental planning instrument:

State Environmental Planning Policies (SEPPs) and deemed SEPP's

The following SEPPs are relevant to the development.

State Environmental Planning Policy (Planning System) 2021
As discussed earlier in the report, the proposed development is for electricity generating works valued over $5 million as identified in Clause 5(a) of Schedule 6 of the SEPP. This requires the development to be considered and approved by the Southern Region Planning Panel. This report has been prepared for the Panel's consideration.

SEPP (Resilience and Hazards) 2021
This SEPP provides for assessment of hazardous and potentially hazardous development and industries, and contaminated and potentially contaminated lands.

Potentially hazardous industry
The electricity-generating works (solar farm) development may be considered to be a potentially hazardous industry which is defined in the SEPP as:

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

A range of safety measures proposed for, and built into, the development (such as bushfire controls, its relative isolation on the subject land and from other development, security fencing, design for flood risk etc) are expected to manage a number of potential hazards from its operation. The proposal does include the installation of a Battery Energy Storage System (BESS), however, which uses Lithium-ion technology to store the energy generated through the solar panels and which is considered a Class 9 Dangerous Good (Miscellaneous) under relevant standards. In addition, the NSW Government's "Large-scale Solar Energy Guidelines" (which apply only to State Significant development, which this proposal is not) indicate that if a project includes battery energy storage, the applicant should undertake a preliminary risk screening in accordance with this SEPP.

The applicant has provided a Preliminary Hazard Assessment (PHA), consistent with the SEPP Guidelines, which considers potentially hazardous risk in relation to the following five main factors:

- The properties of the substance being handled or stored;
- The conditions of the storage or use;
- The quantities involved;
- The location in respect of site boundaries; and
- Surrounding land uses.

The PHA identifies the types and quantities of dangerous goods that may be associated with the Project, screens them against the SEPP 33 Guideline thresholds, and identifies any outstanding hazards which pose *significant* off-site risks based on the Project location. It has identified the following potentially hazardous materials that may be associated with the development:

- Lithium-ion – used in the BESS. The PHA notes that the presence of Lithium-ion can also present a possible overall thermal overload hazard.
- Petrol and/or diesel – less than 1000L to be used for minor maintenance works on site;
- Pesticides/herbicides – less than 100kg for potential weed control on site;
- Refrigerant – contained within the operating system of the BESS for cooling; and
- Miscellaneous cleaning chemicals – less than 100kg for routine maintenance.

The screening standards in the SEPP Guidelines (that determine whether a substance should be considered potentially hazardous and requiring further assessment) are largely quantity-based. A distance screening/threshold is also applied to some goods like petrol and diesel, where the amounts exceed 2 tonnes. None of the identified materials listed above meet or exceed those screening thresholds and the PHA notes that the closest sensitive receptor to the development is 200m distant from the storage location on site of these identified materials.

Beyond hazardous materials, the PHA also considered hazards that may arise from the operation of the BESS and transformer equipment. The hazards, their cause and potential for off-site risk was identified and assessed as follows:

- Arcing or short-circuit, caused by cable or equipment fault – off-site risk unlikely.
- Battery cell fire hazard arising from combustible materials used in the storage system – potential for off-site risk.
- Battery cell thermal hazard due to thermal properties of the system or components – potential for off-site risk.
- Chemical hazard caused by (unforeseen) contact between person and toxic acid or corrosive components leaking from the BESS – potential for off-site risk.
- Explosion hazards from cooling system failure and/or overcharging of battery – potential for off-site risk.
- Dropping of battery cell(s) during installation from faulty equipment or procedures – unlikely off-site risk.
- Vandalism damage from unauthorised access – potential for off-site risk.
- Transformer arcing/fire/explosion from insufficient insulating oil maintenance or equipment fault – potential off-site risk.

The PHA notes that international and Australian standards apply to the installation and operation of BESS and transformer facilities, all of which are designed to reduce the residual risk such that no identified hazards pose a *significant* off-site risk.

The PHA also considered natural hazards for the development and indicated ways to manage those potential risks:

- Extreme temperatures. As Cootamundra has recorded temperatures as low as -7.8^{o} and as high as 45^{o} Celsius at times, the BESS should be designed to operate beyond these extremes with an allowance of up to 2^{o} Celsius to cater for global warming;
- Bushfires. The proposal has incorporated measures consistent with Rural Fire Service standards to manage this risk;
- Seismic activity. National Seismic Hazard Assessment Standards indicate the risk is minimal for the area;
- Flooding. The BESS should be located outside, or above, the 1% AEP flood level;

- Excessive wind. Cootamundra has design winds peed of 146km/h which can be catered for by designing the installation in accordance with *AS/NZS 1170.2:2021: Structural design actions – Part 2: Wind actions*.
- Lightning. A lightning study for the site should be conducted and its recommended measures carried out.

Overall, the report concluded that, although the Lithium-ion battery technology may be considered potentially hazardous, it was not considered to be potentially offensive.

Although hazards and off-site risks were identified, all were determined to be manageable through appropriate technical and management safeguards, thereby reducing the residual risk and making it unlikely that a significant off-site risk is posed. A number of recommendations were included in the PHA, some of which (such as bushfire controls) have already been designed into the project, however the full list of recommendations is included here:

- The BESS should be designed to operate at the temperature extremes of 45 C and -7.8^{o}C, with allowance for higher maximum temperatures of approximately 1.5 to 2^{o}C to account for the likely effects of global warming.
- The BESS should be located outside of 1% AEP flood extent or designed to be above the 1% AEP flood level.
- Solar panels, tracker and combiner boxes should be designed to be above the 1% AEP flood level.
- The BESS should be designed to incorporate safety and protective systems wherever necessary, such that no single point of failure will result in a significant hazard event.
- Electronic safety-related systems should be installed consistent with Australian Standards and in particular *IEC 61508: Functional Safety of Electrical/Electronic/Programmable Electronic Safety-related Systems*.
- A Fire Safety Study should be conducted during the detailed design phase to ensure that the BESS location is sufficiently separated from the public/boundary, facilities (e.g. transformers) and any sensitive environmental areas that may be impacted by fire fighting run-off e.g. water courses.
- BESS and auxiliary infrastructure should be surrounded by fencing, locked gates and other security measures as necessary
- For Lithium-ion batteries specifically, the following recommendations are proposed: – BESS is to be designed to Australian Standards and in particular *IEC 62485-5: Safety requirements for secondary batteries and battery installations - Part 5: Safe operation of stationary lithium-ion batteries*.
    - Design of the BESS should consist of modular, insulated battery cells.
    - Appropriate HVAC systems should be designed and installed.
    - A fire extinguisher system should be designed and installed to mitigate the consequences of a fire or thermal runaway hazard event.
    - A fire protection system should be designed and installed
- A safety management system is implemented prior to commencement of operation of the development that includes:
    - Comprehensive, documented installation and operating procedures.
    - Work Health and Safety Management Plan.
    - Emergency Response Plan.
    - Asset Management Plans and assurance activities.
    - Bushfire Management Plan.

While the PHA provides no reason to refuse the application, given the identified potential for off-site risks from the development, it is considered reasonable and appropriate for these recommendations to form a condition of approval, should approval be determined. The condition

also proposes that certification of installation against standards, where relevant, be provided to Council, along with copies of all documentation that these recommendations stipulate.

Remediation of land
In relation to contamination and remediation of land, Section 4.6 of SEPP prescribes that a consent authority must not consent to the carrying out of any development on land, unless it has considered whether the land is contaminated. Relevant to this proposal, the SEPP also requires a Council to consider whether land in a contaminated state, is suitable for the development that is proposed to be carried out.

The site is not a notified contaminated site recorded by the NSW Environmental Protection Authority and there is no evidence to establish the presence of contaminants on the site from past uses. Previous land uses on the site are understood to have been agricultural (grazing and cropping) and residential, both of which can have contaminating effects: agricultural can use pesticides, fertilisers etc, while residential buildings of an earlier period can contain asbestos. As stated, the SEPP allows for contaminated land to be used for a new purpose that is suitable to any contamination present on a site and it is considered that any potential contamination of the land from past uses does not pose a barrier to the proposed solar farm use. This assessment is made on the basis that:

- the proposed new use does not involve any residential component or ongoing level of human activity on the site that would present a health risk from any contamination from past uses (no more than would be present on any farm or in any old house);
- there will be little disturbance of land in the construction phase (limited to pile driving and mounting the tracker and panel structures into the ground);
- there will be no ongoing disturbance of the land that would disturb or release potential contaminants;
- the ongoing use of the land for above-ground, solar energy production is not likely to be a more contaminating use than earlier agricultural uses that may have introduced contamination to the soil;
- the solar farm in itself, does not require uncontaminated or remediated land for its operation; and
- conditions of any consent can manage the removal and disposal of asbestos from the disused dwelling on the site, consistent with relevant Environment Protection Authority requirements.

It is considered that the proposal is consistent with the requirements of the SEPP and, with appropriate conditions in relation to the management of any asbestos linked to the demolition of the existing dwelling, any potential contamination of the site does not present any clear reason for refusal of the application.

<u>SEPP (Transport and Infrastructure) 2021</u>
The sections of this SEPP that relate to this proposal, and must be considered in the assessment of this application, are detailed as follows:

- *Section 2.36 (Development permitted with consent)*. Although the proposed use is permissible under the IN1 General Industrial zone, Section 2.36(1)(b) of the SEPP provides that development for the purpose of electricity generating works by solar means may be carried out by any person with consent on any prescribed land in industrial, rural or special use zones. The proposal is therefore permissible with consent under this SEPP;
- *Section 2.48* (*Electricity transmission or distribution - Determination of development applications—other development)* applies to a development application for development in proximity to electricity infrastructure and requires a consent authority to give written notice

to the electricity supply authority and to take into consideration any response to the notice that is received within 21 days after the notice is given.

Council notified Essential Energy of the application as the proposal is located immediately adjacent to an electricity easement (on Council's land on Lot 1 DP1084448) and a further easement crosses the site in a north-south direction (see Figure 1). The response from Essential Energy indicated a range of (standard) matters that can be included as conditions, or as advice, on any consent granted, namely:

- A safety clearance distance of at least 10 metres (measured horizontally) from the centreline of the overhead powerlines, to the development, is required;
- Should the proposed development be altered, Essential Energy is consulted for further comment;
- Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the [subject] property should be complied with;
- Activities undertaken within the location of existing electricity infrastructure located on the property must be undertaken in accordance with the latest industry guideline currently known as ISSC 20, *"Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure"*.
- Prior to carrying out any works, a "Dial Before You Dig" enquiry should be undertaken in accordance with the requirements of Part 5E (Protection of Underground Electricity Power Lines) of the *Electricity Supply Act 1995* (NSW).
- Given there is electricity infrastructure in the area, it is the responsibility of the person/s completing any works around powerlines to understand their safety responsibilities. SafeWork NSW (www.safework.nsw.gov.au) has publications that provide guidance when working close to electricity infrastructure. These include the *Code of Practice – Work near Overhead Power Lines* and *Code of Practice – Work near Underground Assets*.

In addition, the applicant has supplied 'Connection Investigation Response' documentation from Essential Energy that indicates that the proposed development and its connection to the existing grid (via the easement on Lot 1 DP1084448) will neither exceed the maximum thermal ratings nor require thermal augmentation as a result. The applicant has indicated it is currently undertaking detailed power system modelling in consultation with Essential Energy and that final approval from Essential Energy is anticipated. While the Planning Panel requested evidence of formal approval from Essential Energy to the proposal, it is considered that the response received by Council to its referral and the advice provided by the applicant is sufficient to satisfy the requirements of the SEPP.

- *Section 2.97 (Development in or adjacent to rail corridors and interim rail corridors—notification and other requirements)*. Although the main north-south rail line and rail corridor runs to the west of the site, this section is not considered to be applicable to the proposal. The subject site is not adjacent (ie next to, adjoining, beside) the rail corridor and is separated by approximately 48 metres of land that includes Lloyd Conkey Avenue. The applicant has provided a glare assessment of the proposed development that considered the rail corridor and this is discussed later in the report.

- *Section 2.118 (Roads and traffic - Development with frontage to classified road)*. The site does not have frontage to a classified road.

- *Section 2.119 (Roads and traffic - Impact of road noise or vibration on non-road development)* this clause is not applicable as the activity is not identified in the SEPP.

- *Section 2.120 (Roads and traffic - Excavation in or immediately adjacent to corridors)* does not apply as the development will not result in an excavation adjacent a listed road.

- *Section 2.121 and Schedule 3 (Roads and traffic - Traffic generating development*), does not apply, as the type and scale of development is not identified in the Schedule.

Local Environmental Plan (LEP)

The applicable LEP is the Cootamundra LEP 2013 (CLEP), and the relevant provisions of the LEP are discussed as follows.

1.2 Aims of Plan

The development is not inconsistent with the relevant aims of the LEP, assessed as follows:

aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts.
The land is zoned for industrial uses rather than arts and cultural activities and the proposed use is consistent with Council's intent for that zone. The use of the land to generate electricity in no way detracts from or limits the use and development of appropriately zoned and located land for broader cultural activities.

a) to ensure that local amenity is maintained and enhanced,
The site is zoned industrial and permits a wide range of such uses that would inevitably impact on the surrounding area's amenity. The applicant has proposed a range of landscaping and vegetation-planting measure that are aimed to address any visual impacts from the development (discussed later in the report) that are considered consistent with this aim.

b) to protect viable agricultural areas from conflicting land uses,
The development if approved, will have no impact on the ability of any adjoining or wider rural-zoned land to be used for agricultural purposes. The land is zoned industrial and the proposed development will not detract from the supply of viable agricultural land and is located in a broader mixed-use area that is not sensitive to farming impacts.

c) to identify, protect, conserve and enhance areas of environmental and aesthetic significance,
The site is not biodiversity affected and the development does not involve the removal of any native trees or groundcover. The site is already extensively altered and degraded from its original condition and this proposal will not work to further degrade the site or broader area.

d) *to encourage the ecologically sustainable use and management of natural resources.*
The intent of the proposal is to enable supply of renewable and sustainable sources of energy that will reduce reliance on fossil-fuel based energy production. The proposal is consistent with this aim.

e) to identify and protect areas used for community and recreational activities.
The subject site and broader area is not zoned for, or identified as, an area for community and recreational activities. Its use for a solar farm in no way precludes the community or recreational use of any such identified areas in the wider LGA.

f) to identify and manage the heritage resources of Cootamundra.
The site is not heritage listed and has no identified European heritage values and an

assessment of indigenous heritage is discussed later in the report. The proposal as submitted does not negatively impact on Council's ability to achieve this aim.

1.4 Definitions

The proposed development is defined as:

electricity generating works which *means a building or place used for the purpose of—*

(a) making or generating electricity, or

(b) electricity storage.

1.6 Consent authority

The Southern Region Planning Panel will consider and determine the proposal, however the consent authority for the purposes of this Plan is Cootamundra-Gundagai Regional Council.

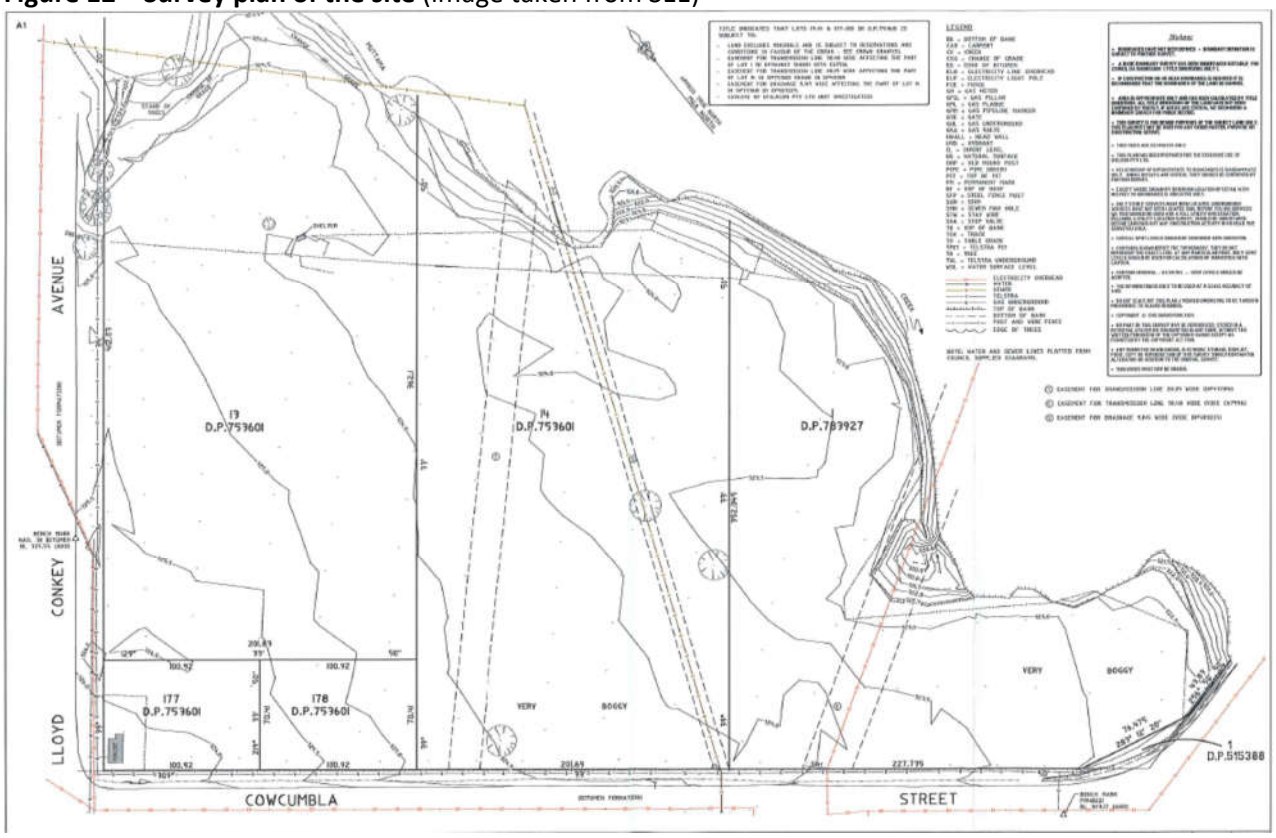
1.9A Suspension of covenants, agreements and instruments

There are no covenants or restrictions on the property, so there is no suspension of restrictions sought or needed, and there is no impediment to the development in this regard.

There are, however, four existing easements (see Figure 12) that are relevant to the proposal:

- One on Lot 14 DP753601 is an 9m wide easement for drainage that runs through the Lot in a broadly north-south direction. It caters for Council's sewer line that runs underground through the site and over Muttama Creek to the north of the site. The proposed development will not intrude into the easement, however landscaping is proposed to be planted along part of its length. That planting is not considered likely to interfere with the existing sewage infrastructure.
- A second, 20.115m wide easement on Lot 14 DP753601 that runs in a north-south direction across the Lot was created in 1953 for transmission lines, to the benefit of Council. The owner of the land sought Council's approval to extinguishing the easement, arguing that it unreasonably constrains development of the site. As Council has no role in providing electricity, and after confirming that Essential Energy has no use for the easement, Council passed a resolution at its meeting of 30 November 2021 to extinguish the easement. While the plans show development proposed over this easement, the completion of the necessary legal process to extinguish the easement will remove this as an impediment for the development.
- A third easement some 30.5m wide and used for overhead electricity transmission lines exists on Lot 1 DP783927. The proposed development will not intrude at all into Lot 1 DP783927 and therefore creates no concerns in relation to the easement. Additionally, Essential Energy has provided advice (discussed earlier in the report) that considered the existence of the easement and transition lines. As discussed, it is intended that Essential Energy's advice be included as conditions and/or advice on any consent granted.
- An easement for electricity exists on Council's land at Lot 1 DP1084448 (shown on the Site Plan at Figure 1). That easement currently contains 11kV lines (both under and over ground) and it is where the proposed development is expecting to connect to the broader network. As discussed above, Essential Energy has no objections to this connection, has indicated that the network can support the connection and a formal approval process for the connection is underway by the applicant. As land owner, Council has clearly agreed the legal existence of the easement that allows Essential Energy to run and manage electricity services through it (without further reference to Council) and it is therefore considered entirely reasonable and consistent with the terms of the easement that the connection is made in this easement, subject to Essential Energy's agreement.

Figure 12 – Survey plan of the site (image taken from SEE)



2.1 Land use zones

The site is zoned IN1 General Industrial and the proposed development – electricity generating works - is permitted in the zone with consent. As discussed above, the SEPP (Infrastructure) also permits the use (with zoning being irrelevant).

An objector raised issues in relation to the use of the land for electricity generating works, arguing that there is a strong demand for different, more productive industrial uses in Cootamundra and that the land should be put to 'better' industrial uses. While this is discussed in more detail later in the report, the permissibility of the use in the zone (and under the SEPP) is the key legal matter for consideration in land zoning, and Council must assess what has been submitted, not some potential future, but unknown proposal to develop the land.

2.3 Zone objectives

Under this clause, Council must have regard to the objectives of the zone when determining the development. An assessment against the zone objectives, has been carried out as follows:

- *To provide a wide range of industrial and warehouse land uses.*
  The Land Use Table for the IN1 zone includes a wide range of industrial uses, with the only prohibited uses being Agriculture; Air transport facilities; Airstrips; Amusement centres; and Animal boarding or training facilities. The proposed solar farm use, being electricity generation works, is a permissible use in the zone and under the SEPP (Infrastructure). Whilst the proposal is different to surrounding industrial operations (largely industrial processing operations) it cannot be considered other than consistent with this objective.

- *To encourage employment opportunities.*
  As a permissible use in the zone, electricity generation works are not generally long-term employment providers or creators. The applicant has indicated that the construction workforce will comprise approximately 30 workers, with local contractors and suppliers

playing a major role in the project delivery which is expected to take approximately 6 months. The matter of economic benefit is further discussed later in the report; however the proposal is not considered to be inconsistent with this objective.

- *To minimise any adverse effect of industry on other land uses.*
  The proposed development is a low impact one, particularly when considered against the range of permissible uses in the zone. It will not produce traffic, noise, pollution or other impacts that would affect surrounding land uses, and measures have been proposed to ameliorate any visual impact that may arise from the development (discussed later in the report). The proposal is not inconsistent with this objective.

- *To support and protect industrial land for industrial uses.*
  This is a permissible industrial use in the industrial zone. It cannot, therefore, be inconsistent with this objective.

It is considered that the development is consistent with the above zone objectives.

2.7 Demolition requires development consent

The development includes the demolition of a number of structures, the main one being the disused and dilapidated dwelling on Lot 177 DP753601 (see Figure 1). Some remnant agricultural structures (remains of sheds) are also proposed to be demolished.

There is no reason to refuse the demolition of these structures to support the proposed development. Given the age of the house, it is likely that some asbestos is present and its appropriate management and disposal is a matter for consideration. The Statement of Environmental Effects makes it clear that any asbestos found in the demolition process will be removed in accordance with relevant statutory requirements (*AS 2601–2001: The Demolition of Structures*, and the *Work Health and Safety Act 2011*) and undertaken by suitably qualified contractors. This would include the preparation of asbestos removal control plans and safe work method statements as well as the disposal of the asbestos at a suitably licensed facility.

It is appropriate that compliance with regulatory asbestos management procedures be conditioned in any approval granted, and include a requirement that Council is provided with documentation attesting to the safe and legal disposal of any asbestos found in the demolition process.

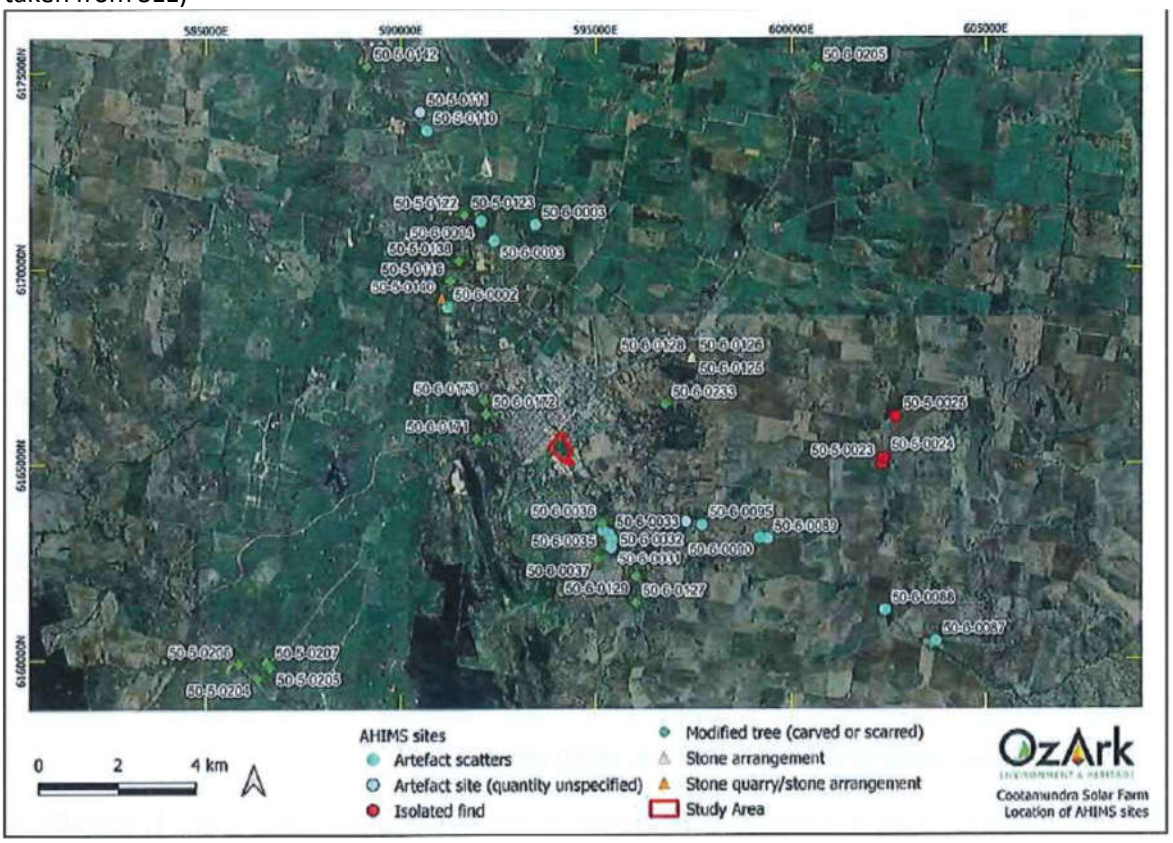
As discussed later in the report, in relation to flora and fauna on the site, the applicant's ecologist has recommended that prior to demolition of buildings, action should be taken to ensure no impact from demolition activities on fauna. The recommendation is that, one week prior to demolition, a fauna ecologist should conduct a pre-clearance survey of all buildings to be demolished, to determine if any fauna species are using the existing buildings. Where any species are detected, appropriate removal of all individuals by suitably qualified persons must be carried out prior to demolition. While Council staff have not inspected the dilapidated building to determine whether any animals are using the premises, there may be the possibility that native, or feral animals may be using the structure. Disturbing feral animals (eg cats) may have a detrimental impact on native species, including the threatened Superb Parrot, while re-housing of native species (such as bats) would also be appropriate. It is considered reasonable that the applicant take the advice of its own consultant in this regard and a condition requiring pre-demolition inspection, with a report provided to Council prior to demolition, has been proposed for inclusion in any consent granted.

5.10 Heritage conservation

There are no items of European or Indigenous heritage identified on either the State Heritage Register or in the LEP as being present on the subject land, nor is the site is located in a Heritage Conservation Area (HCA). The closest listed European heritage site is the Cootamundra Railway Station and yard group, located approximately 300m north of the project site and, given its distance from the site and the absence of views from or to the Railway Station item, there is no impact expected from the development.

The application was accompanied by an Aboriginal Archaeology Impact Assessment (AAIA) that examined the subject land for its Indigenous physical and cultural heritage values and impact of the proposed development. The report notes that there are 46 listings of sites of Aboriginal culture and heritage significance within a 10km radius of the subject land (Figure 13) included in the Indigenous Aboriginal Heritage Information Management System (AHIMS) that include artefact scatters, marked trees, stone arrangements and a stone quarry, however there are no registered sites within or directly adjacent to the subject land.

Figure 13 – Location of AHIMS listed sites of Indigenous heritage within 10km radius of site (image taken from SEE)



A field survey was conducted using standard archaeological survey and recording methods with the aim of understanding the archaeological potential of the land, to evaluate the likelihood and type of objects/sites that may be present, and to determine if further archaeological assessment and fieldwork would be required. The report discusses the archaeological potential of the land (noted in the Report as Sensitive Archaeological Landforms) as being related to factors such as: the presence of a permanent water source; the availability of, or access to, a range of natural resources including plant and animal foods, stone and ochre resources, rock shelters; and the proximity of sites to places of cultural/mythological significance.

The field survey was carried out across the subject land, and not just within the proposed initial development footprint. The survey was carried out by a qualified archaeologist who was assisted by an Indigenous representative of the Bidya Marra Consultancy who is a member of a recognised traditional owner family in the Wiradjuri (Wagga Wagga) area. (It must be noted that the revised development footprint seen in Figure 1 is a smaller area than that shown and discussed here).

The survey recorded three objects: two isolated finds and one artefact scatter. The locations of the finds, all outside the development footprint, are shown in Figure 14 (which shows original development footprint). Isolated finds are a single artefact, resulting from either a random loss or deliberate discard of the artefact, or as the remnant of a dispersed and disturbed artefact scatter. Artefact scatters are two or more artefacts (not located in a rock shelter) that are no more than 50m from constituent artefact. They can occur anywhere Indigenous people travelled, 'camped', gathered or hunted and generally consist of artefacts such as flaked-stones resulting from tool manufacture, hearth or anvil stones.

- Isolated Find IF-1 was recorded as a single quartz flake and a 5m buffer zone around the artefact (Figure 15).
- Isolated Find IF-2 was recorded as a single dart chert core within a 5m buffer zone around the artefact (Figure 16).
- Artefact Scatter OS-1 was recorded as a low-density scatter of 5 quartz flakes in a 15m^2 buffer area (Figure 17).

Figure 14 – Location of finds from field survey (image taken from SEE)

The report states that these sites have now been recorded with the AHIMS register, as is required by legislation. The AAIA notes that the Indigenous representative working on the survey states that these artefacts/sites have cultural significance.

The field survey also recorded the presence of two areas of Sensitive Archaeological Landforms (shaded in pink in Figure 18 below) – where there is potential for archaeological finds - all closely associated with Muttama Creek. The flat, slightly elevated area to the north of the development site was assessed by the archaeologist as having potential for containing Aboriginal artefacts/sites. However its geology and the impact of agricultural activities indicates that any artefacts found would likely be there as the result of ground disturbance, rather than as a primary site of activity. The two remaining sites were assessed as not likely to have been attractive as Aboriginal camping locations due to their low-lying nature and therefore less likely to contain artefacts/sites. Any artefacts/sites located in those areas would likely be in their original context, however, with less disturbance from past agricultural uses. These three areas are all located outside the development footprint.

Figure 15 – Artefact IF-1

Figure 16 – Artefact IF-2

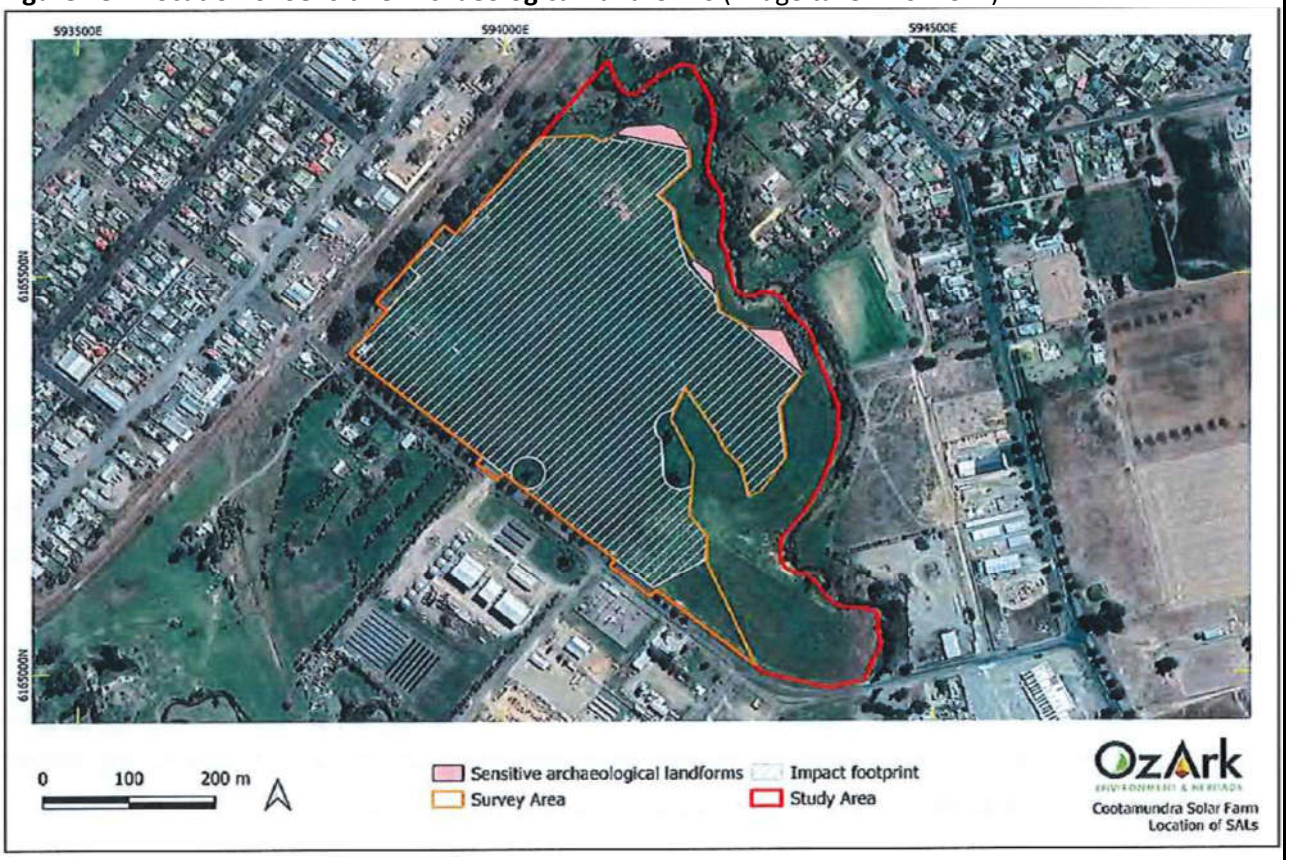
Figure 17 – Artefact OS-1

Given the semi-permanence of Muttama Creek which was unlikely to have provided sufficient resources to support a large population, it is likely the area was used as a transit pathway or for

infrequent short term stays. The AAIA therefore summarises the potential for additional archaeological sites as follows:

- they are likely to be found within reasonable proximity to the watercourse;
- they are likely to be stone artefacts. The land has been extensively cleared and disturbed by clearing and agricultural uses, meaning modified trees or other site types unlikely to be found;
- The high level of ground surface degradation of the site from activities such as land clearing, cropping and grazing would have affected the integrity of any archaeological deposits; and
- The high level of site disturbance and the prevailing landform means that the subject land holds little potential for the existence of undetected Aboriginal sites.

Figure 18 – Location of Sensitive Archaeological Landforms (image taken from SEE)



The overall conclusion of the AAIA was that:

- The three recorded sites are all associated with Muttama Creek;
- The three recorded sites are all located outside the development footprint, thereby minimising or eliminating potential impact;
- There may be intangible cultural significance on the subject land, however none have been identified by members of the Aboriginal community beyond the broad significance of waterways such as Muttama Creek; and
- The proposal will not harm significant Aboriginal heritage and cultural values and there will be no diminution of intergenerational equity should the proposal proceed.

The report made the following recommendations in relation to the proposed development:

1. The recorded sites must not be harmed without an Aboriginal Heritage Impact Permit (AHIP) being obtained;
2. The Sensitive Archaeological Landforms identified in the study must be avoided during construction of the development;

3. Where Aboriginal objects are noted during construction, the proposed *Unanticipated Finds Protocol* submitted in the Report should be followed;
4. If human skeletal material is noted during construction or operation of the development, the *Unanticipated Finds Protocol* submitted with the Report should be followed; and
5. Instructions for work crews should include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts (also included in the submitted Report).

At the request of the Southern Region Planning Panel, the applicant was asked to address the cultural values of the subject land, beyond the likelihood of potential artefact/site presence. The consulting archaeologist who conducted the AAIA responded to this request stating:

- The AAIA is not informed by formal Aboriginal community consultation as set out in the NSW Office of Environment and Heritage's adopted cultural heritage assessments process. That formal consultation process is applied when harm is proposed to Aboriginal cultural heritage and an AHIP is required;
- If the survey had identified that Aboriginal artefacts/sites would be harmed and an AHIP therefore required, the formal consultation process would have been initiated. As the survey did not record artefacts/sites within the development footprint, the formal processes for Aboriginal community consultation are not called up;
- The applicant has designed the proposal to specifically exclude the landforms and sites identified during the survey;
- The survey methodology included the assistance of a member of the Aboriginal community who is part of a recognised traditional owner family in the greater Wagga Wagga area and who was able to make the broader community aware of the project and contribute knowledge to the process. The AAIA does, therefore, consider the views of Aboriginal people towards the findings of the survey and the survey area;
- The First Nations person assisting the survey process did not identify any specific cultural values within the survey area. The importance of Muttama Creek to his ancestors was expressed in the AAIA as was the cultural significance of the artefacts – all of which are outside the development footprint;
- There may be places with intangible cultural significance within the survey area, although no specific locations have been so far identified by the Aboriginal community other than the general significance of all waterways such as Muttama Creek;
- There are no known places of identified cultural aesthetic values within the survey area; and
- The survey area is relatively small, contains no obvious topographical features (other than Muttama Creek) that would indicate potential cultural values, and has been used for a substantial period of time for activities that would likely have impacted the ability to identify cultural values beyond those identified in the AAIA;
- The only feature of cultural significance near the development site is Muttama Creek, which is not being impacted by the development.

These arguments are considered reasonable. The assessing archaeologist and Indigenous person assisting the survey did not identify any likely landform or landscape feature (such as marked or ring trees, for example) that could represent broader cultural values of the site. Without any harm being proposed to either identified artefacts, sites or cultural values, the formal/legal need for a broader engagement with the Aboriginal community in relation to cultural values and impact are not called up. Agricultural uses which generally require extensive clearing and re-forming of land would likely have destroyed any cultural significance, or the indications of that significance, long ago despite the presence of a waterway. The artefacts found outside the development footprint have been recognised as culturally significant and are beyond the scope of this report to consider where no further impact on them is expected or proposed.

There is no clear reason, given the AAIA submitted and the arguments put forward in relation to broader cultural values of the site, for this development to be refused on the grounds of Aboriginal cultural heritage. Relevant legislation provides for actions to be taken in the event of unexpected finds and, where a consent is issued, a condition will be included to cover this eventuality. Additional conditions, consistent with the recommendations of the AAIA have also been granted for inclusion in any consent.

5.21 Flood planning

Broadly, this clause aims to minimise flood risks to life and property from land uses, to ensure development is compatible with the flood risk of the land, to avoid adverse cumulative flood risks and environmental impacts that may increase those risks, and enable the safe evacuation of people in the event of a flood. As seen in Figure 19 below, the site is shown as flood affected in the Flood Planning Map under the CLEP 2013.

The Statement of Environmental Effects included a flood impact assessment for the site and development that modelled the impacts of the development on flood behaviour in a 1% Annual Exceedance Probability (AEP) event. An AEP is the probability that a flood of a given (or larger) magnitude will occur within a period of one year. A 1% AEP therefore indicates that there is a one-in-100 chance that a flood of that size (or larger) could occur in any one year.

Figure 19 – Extract of Flood Planning Map showing the subject site affected by flooding
(Muttama Creek is the north and eastern boundaries of the site, not outlined in red)

The modelling provided shows that the eastern portion of the site is subject to flood inundation by mainstream flooding from Muttama Creek in a 1% AEP event. Figure 20 below indicates the extent and depths of that mainstream flooding on the site in such an event and indicates:

- Flood depths of up to 5 metres occur within Muttama Creek itself;
- Flood depths of up to 2.5m would occur over the area lying immediately adjacent to Muttama Creek. Those areas are largely outside the proposed development footprint and are further to the north and east of the footprint; and
- The areas of the development footprint affected by flooding would achieve peak flood depths of between 0.2m and 0.6m.

Post development, the flood modelling provided indicates that the change in the flood levels over the site and the areas around it as a result of the development are in the range of -0.01 to 0.01m (a 2cm range across the broader area). Specific to the site itself, the development is modelled as increasing flood levels by up to 0.003m (3mm) over most of the site, and increasing by up to 0.006m (6mm) around flow obstructions created by equipment (such as the proposed shipping/storage container).

A submission received on the proposal raised concerns in relation to the increased flooding risks created by the proposed development. Those concerns were that the solar panels would affect the even distribution of rain absorption across the site, and water dripping from the panels will saturate the ground immediately below, creating gutter-like channels under each row and funnelling rain (and soil) directly into the creek.

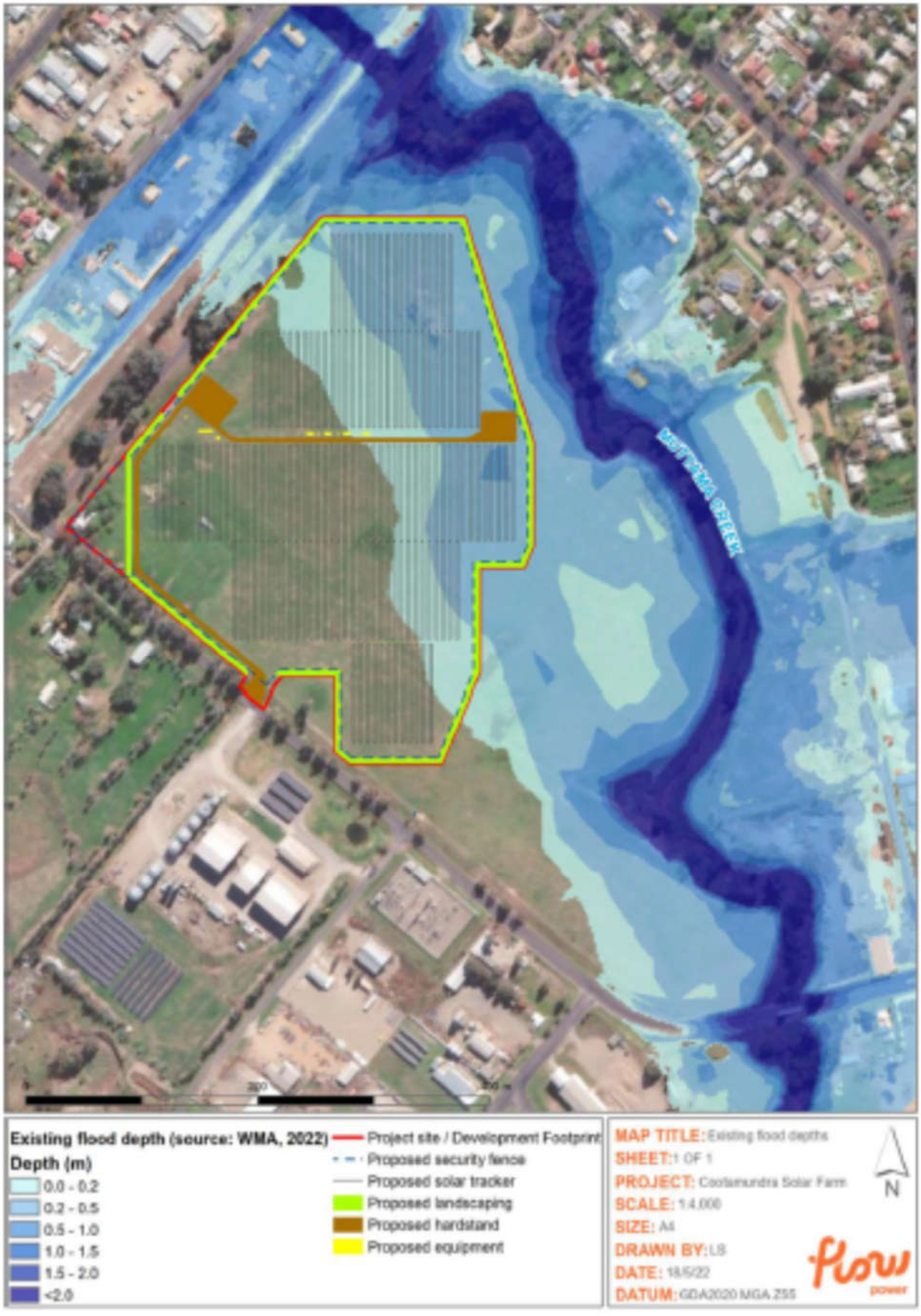
While it is clear that flooding would occur on site in a 1% AEP, it is considered that the objectives of this clause can be met by the proposal. Solar farms in general are tolerant of a level of flooding as the solar panel modules can be mounted above identified flood levels. As proposed, the solar panel modules would sit at approximately 1.4m above natural ground level and therefore above the modelled flood depths of between 0.2 and 0.6m. The applicant has also stated that flood risks will be lessened by installing electrical components above the modelled flood level, with additional freeboard, to ensure they are unimpacted during a flood. The design and siting of the proposal has considered the acceptable hazard classifications for the use, along with the applicant's own reasonable need to protect their investment in the assets.

The solar panel modules also create minimal obstructions to the flow of water, mounted as they are on single poles, meaning that water can easily flow under, around and through the panel array without impediments that can increase the impacts of diverted flood waters. The ground beneath the panels will remain vegetated (grassed) and without hard surfaces, will support more natural water flows and water absorption. As noted above, the post development flood impact of the more substantial flow obstructions (such as the proposed shipping container) has been modelled at 0.006m and unlikely to create anything other than minimal impacts on, or off-site.

The applicant responded to the submitter's issues noting:

- The solar farm system proposed is a single-axis tracking system, which means the solar panels move from east to west throughout the day, tracking the sun. Since the solar panels do not remain in a fixed position, runoff from the panels is not concentrated and gutter-like channels would be unlikely to form. Gutter-like channels are not known to be an observed problem at operating solar farms.
- Groundcover will be restored and maintained underneath the solar arrays which would further reduce the potential for erosion, and would allow runoff to flow and absorb into the ground as per pre-development flow patterns.
- The post-development impervious fraction is only a ~3% increase from the pre-development impervious fraction. (That is, the amount of impermeable land is increased by only approximately 3% from pre-development levels). This is a minimal impact and highlights the suitability of the proposed solar farm compared to many other industrial development alternatives which have a higher impervious footprint.
- Additional vegetation is proposed to be planted around the perimeter of the solar farm to address visual amenity impacts.
- In a 1% AEP event, the change in the flood levels over the site and the areas around it lie between -0.01 to 0.01m, considered to be a minimal impact. The flood levels over most of the site increase by up to 0.003m and up to 0.006m around the flow obstructions created by the equipment. Offsite impacts for both scenarios were less than 0.002m.

Figure 20 – Modelling of 1% AEP event across subject land (image taken from SEE)



These arguments are considered reasonable and consistent with the objectives of this clause. Given the proneness of the land to flood, a solar farm is arguably a better use of the land than many of the permissible uses in the zone; it has very few solid structures that would alter the flow and movement of flood waters, it provides minimal risk of contamination into flood waters that heavier or processing industries might present, and it is an unmanned facility ensuring there is no risk to human life in the event of flooding. Additionally, access to the site is proposed off Cowcumbla Street in a location that is free from inundation, according to the modelling presented, ensuring emergency access/exit is achievable.

It is considered that the proposal does not contravene the objectives or requirements of this clause and no issues in relation to flooding would render the development unable to be approved.

6.1 Earthworks

This clause determines that earthworks require consent and requires Council to consider matters relating broadly to: drainage patterns and soil stability; future use of the land; the source and quality of any soil cut or filled; the likelihood of disturbing relics; and potential impacts on waterways and catchments.

The subject land is largely level across its length, with the majority of the site having a gradient of less than 1%. Given that flat topography, extensive earthworks are not required to construct the development. Nor will they form an ongoing element of the development.

Some earthworks are required, however, to construct the internal (unsealed, all-weather) road, hardstand and turning area, to prepare foundations for the MVPS, RMU and BESS, to excavate trenches for underground cabling and for installing fencing and ancillary equipment. Pile-drivers will be used for piling for the solar array panels and excavated trenches will be back-filled to match adjacent ground levels. None of these activities is expected to result in excess spoil that will need to be disposed of off-site or to require the import of additional soil and none are to be undertaken within or near the 40m buffer zone to Muttama Creek.

The likelihood of disturbing relics has been addressed under section 5.10 above and it is considered that appropriate conditions relating to unexpected finds protocols can be imposed to manage this matter.

A sediment and erosion control plan has been submitted with the application that shows sediment fencing to be installed along the northern and eastern edges of the development footprint, consistent with the general fall of the land, and away from the identified Sensitive Archaeological Landforms (discussed above) to minimise and contain any movement of displaced/excavated soil. Temporary stockpile locations have been identified to manage excavated soils all of which are located at reasonable distances and places away from Muttama Creek. The access point on Cowcumbla Road will be constructed with a shaker grid and rock check dams or straw bale filters will be installed in the existing table drain to assist in managing soil from construction vehicles that may exit the site.

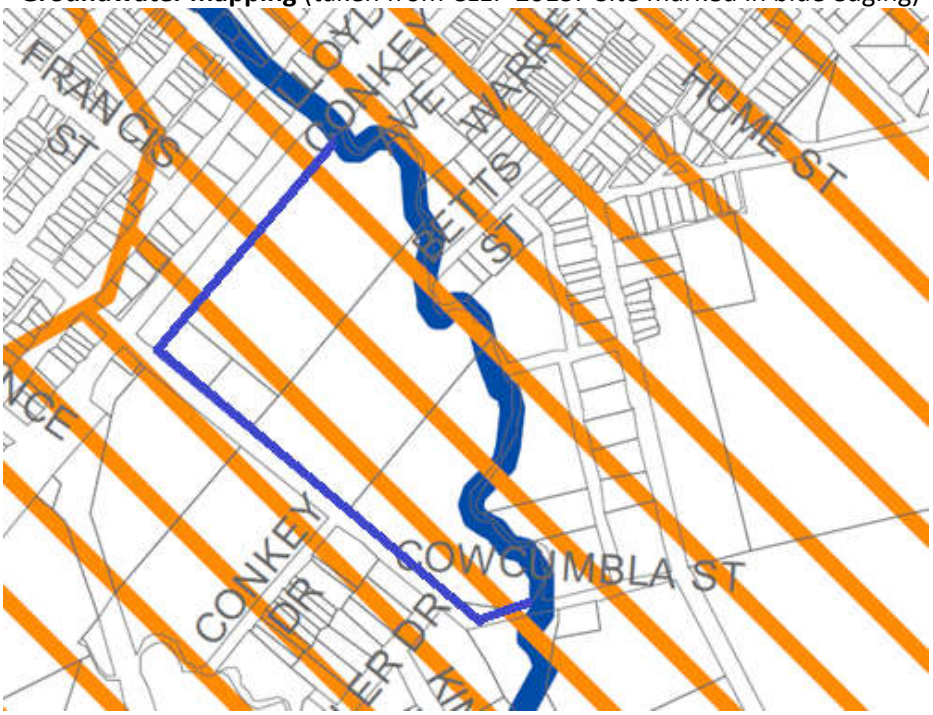
Extensive vegetation planting will also take place on site as well as along the northern and eastern edges of the development footprint. Grass and low-level vegetation will grow again under the solar panels once construction is complete. Both of these measures will provide soil stability and ensure erosion is minimised with the ongoing operation of the development.

With the imposition of suitable conditions relating to sediment and erosion control measures during construction, proposed landscaping and unexpected finds protocols, it is considered the proposal can be approved consistent with this clause.

6.4 Groundwater vulnerability

This clause seeks to maintain the hydrological functions of groundwater systems and protect vulnerable groundwater resources from depletion and contamination. Council must consider the likelihood of groundwater contamination from the development, any adverse impacts on groundwater resources and groundwater depended ecosystems and any measures to avoid, mitigate or minimise impacts from the development on groundwater sources. The subject land is mapped as subject to groundwater vulnerability (Figure 21) under this Clause.

Figure 21 – Groundwater mapping (taken from CLEP 2013. Site marked in blue edging)



The applicant has noted in the Statement of Environmental Effects that there is no publicly available groundwater level information for the subject land, including for a number of surrounding bores located to the north and east of the site. The nearest WaterNSW groundwater level monitoring station on Berthong Road north of Cootamundra township had a recorded groundwater level (as of 25 July 2022) of 0.555m. This may well not be the groundwater level for the subject land and it is reasonable to accept the position expressed by the applicant that it is likely that the groundwater level on the site is of a similar depth to the water level of adjacent Muttama Creek. The Statement of Environmental Effects (dated 3 May 2022) records that level as approximately 4m lower than the lowest areas of the subject site.

WaterNSW (at https://www.waternsw.com.au/water-quality/quality/pollution) notes that the main groundwater and catchment pollutants are (in no stated order):

- Sediment run off;
- Pesticides and chemicals from industry and farming;
- Grazing;
- Intensive animal production;
- Nutrients (eg phosphorous and nitrogen) from fertilisers and detergents;
- Algae;
- Pathogens (eg Cryptosporidium and Giardia);
- On-site waste water management systems;

- Sewage collection systems; and
- Urban stormwater.

Of these potential pollutants, it is sediment run off that is likely to present a risk to groundwater and to Muttama Creek itself. That risk is considered minimal, however and able to be managed by appropriate sediment and erosion control measures (discussed above in relation to earthworks). If the groundwater level of the subject land is accepted as that of the water level in Muttama Creek itself, the earthworks are not, in themselves, expected to impact upon groundwater: no excavations are proposed at deeper than 2m (above the Muttama Creek water line); and no groundwater is proposed to be extracted to support construction or ongoing activities of the site.

Post construction, the site will have extensive groundcover and additional planting that will assist in maintaining site stability, soil health and support natural groundwater systems functions. It is considered that the development poses no risk to groundwater systems that cannot be managed by appropriate conditions relating to sediment and erosion control and vegetation planting (discussed later in the report).

6.5 Riparian land and watercourses

This clause aims to protect and maintain water quality and the stability of beds and banks in watercourses, aquatic and riparian habitats and the ecological processes of watercourses and riparian areas. Council must consider likely adverse impacts on: watercourses; their species, habitats and ecosystems; the stability of their beds and banks; water extraction; future rehabilitation; and proposed measures to avoid, minimise or mitigate impacts of the development.

The subject land is located in the Muttama Creek catchment which is part of the greater Murrumbidgee catchment. Muttama Creek, which runs through the centre of Cootamundra township and along the northern and eastern boundaries of the land, is a semi-permanent watercourse that eventually makes its way to the Murrumbidgee River some 40km to the south (direct line of sight).

The applicant has noted that a 2020 report by the NSW Department of Planning (*Water quality technical report for the Murrumbidgee surface water resource plan area (SW9)*) records the existing condition of Muttama Creek (Figure 22) and its water quality as poor. Further, that report notes that Muttama Creek catchment had the highest concentrations of both nitrogen and phosphorus in the upper Murrumbidgee. Pollutants of Muttama Creek are likely to come from; oils and grease from surrounding roads, gross pollutants from the urban areas of Cootamundra, agricultural runoff and sediment from eroded soil.

As noted earlier in the report, the fall across the site is minimal, with surface flows and runoff moving in a broadly south-eastern direction towards Muttama Creek at the lower (eastern) end of the site (see Figure 23). Although covering a reasonable portion of the site at a maximum of 11.8 hectares, there will be a limited physical footprint on the ground, with the solar array being erected on poles along trackers. This will ensure that ground cover can be maintained under the solar arrays, minimising the potential for soil disturbance and loss and minimising changes to natural water flows across the site that may carry materials to Muttama Creek. The development of itself, will not result in polluting by-products such as those noted by WaterNSW (and discussed earlier in relation to groundwater) that can impact on Muttama Creek. Internal roadways to support the ongoing operation of the development are proposed as unsealed, all-weather construction which will help maintain water absorption on the site and have a lesser impact (than a sealed and paved road) on water flows across the site.

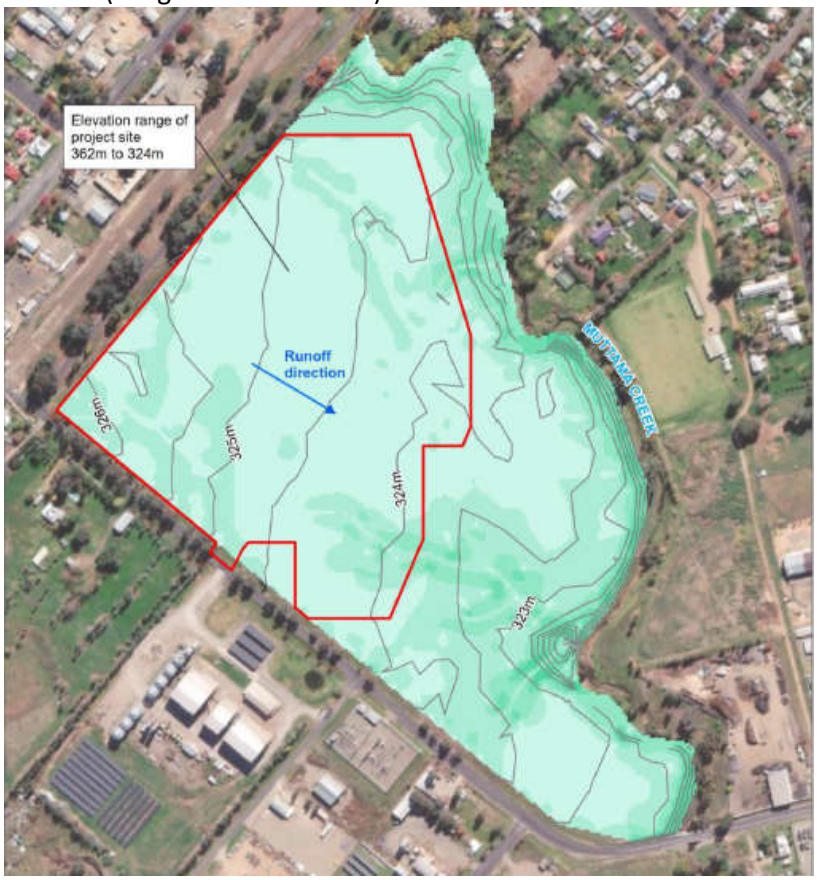
None of the development is proposed to take place within the 40m buffer zone of Muttama Creek, further minimising any risk to its banks or bed or to water flows or any species or habitat within that area. Additional (native) planting is to be provided along the borders of the development footprint to assist in stabilising the site and minimising any potential risk of soil loss into the Creek itself.

Figure 22 – View of Muttama Creek from its northern bank looking west, showing existing degraded condition (photo taken by Council staff on 20 April 2022)

Potential impacts to Muttama Creek are possible during the construction phase of the project with the potential to further contribute to the degradation of surface water quality from sediment migrating offsite and chemical leaks/spills during construction if not appropriately mitigated. The applicant has submitted an Erosion and Sediment Control Plan (discussed earlier in this report) and undertakes to prepare a spill management protocol to be followed in such an event during the construction phase. Concrete washout areas, if required on site, are to be bunded, adequately sized, maintained regularly and located at least 100m from Muttama Creek.

Again, it is considered that the potential for erosion and sedimentation from the construction and ongoing activities is low due to the minimal amount of earthworks required for the project, maintenance of ground cover, planting of additional vegetation on site, and the separation distance of the development from Muttama Creek. It is considered that Council can be satisfied that the development meets the objectives of this clause, and suitable conditions in relation to sediment and erosion control and planting on site can work minimise and mitigate a low level of risk proposed by the development.

Figure 23 – Image showing fall of land and direction of surface water runoff with development footprint shown in red (image taken from SEE).



Note a typographical error on the image that states the highest level is 362, not 326).

6.6 Essential Services

While this clause is not relevant to the proposal as it is not proposed on land zoned RU4 or R5, it is worth noting details from the Statement of Environmental Effects in relation to essential services.

(a) the supply of water

Some water will be required during the construction phase of the development (for dust suppression and earthworks activities) and the application proposes that water would be trucked onto the site for this purpose. An existing domestic water supply is available on the land (from the disused house that is to be demolished) that could be used where necessary; the water pressure from the service is unlikely to make it truly useful for construction purposes, however Council has no objections to its use.

The completed development requires minimal water for its ongoing operations; only stored water water for fire-fighting purposes is required, and water for the intermittent cleaning of the solar panels (once or twice annually). Water for these purposes would be trucked in as required and this arrangement is considered satisfactory. No groundwater extraction is proposed.

(b) the supply of electricity

The development itself will be an electricity supplier and can connect to the network via existing powerlines in the immediate vicinity of the site. Essential Energy has raised no concerns in relation to this connection. As noted earlier, Council as land owner of adjoining Lot 1 DP DP1084448 has granted an easement to Essential Energy for this purpose and raises no objection in relation to this issue.

(c) the disposal and management of sewage

Portable amenity buildings will be located on site during the construction phase of the development. Sewage and greywater from those facilities is to be collected in holding tanks to be emptied and transported offsite by a waste contractor who is to dispose of the waste at an appropriately licenced facility. This is considered acceptable and a routine process for construction sites. A suitable condition ensuring this occurs has been proposed for inclusion in any consent.

(d) stormwater drainage or on-site conservation

This issue has been discussed at length in relation to Clauses 6.1, 6.4 and 6.5 of the CLEP and it is considered that the development will satisfactorily manage stormwater running onto, through and off the site, such that there will be no unacceptable or adverse impacts.

(e) suitable road access

Road access to the site is proposed off Cowcumbla Road, a designated B-double route owned by Council. This access point is proposed following Council concerns in relation to an access point originally proposed off Lloyd Conkey Avenue. Access is discussed later in the report.

4.15(1)(a)(ii) The provisions of any draft environmental planning instrument:

State Environmental Planning Policies (SEPPs)

There are no draft SEPP's which relate to this development.

Local Environmental Plan (LEP)

There are no draft LEPs which apply to this land.

4.15(1)(a)(iii) The provisions of any development control plan:

Chapter 3.1 of the Cootamundra Development Control Plan 2013 applies to land zoned IN1 General Industrial. The controls in the DCP are discussed below:

- Floor Area requirements. Not applicable as no building is proposed;
- Car parking. The proposed development is not listed in Table 5 to the DCP as a use requiring a specified number of car spaces. The site, at some 24 hectares in size, is capable of accommodating the limited number of vehicles that will attend the site intermittently for maintenance once the development is operational. The proposed internal road also provides for hardstand areas that can accommodate both passenger and larger vehicles during construction. No issues are raised in relation to car parking.
- Adequate space for service and delivery vehicles. See discussion in relation to car parking above.
- Waste disposal. Waste will be generated during construction, including likely asbestos materials, but very little to no waste will be generated from ongoing operation of the development. As discussed earlier in the report, conditions relating to the disposal of any asbestos found have been proposed, as have general waste management conditions, for inclusion in any consent granted,

4.15(1)(a)(iiia) Any planning agreement or draft planning agreement:

The developer has not entered into a planning agreement, nor has offered to enter into a draft planning agreement.

4.15(1)(a)(iv) Matters prescribed by the Regulations:

The following matters have been considered as prescribed by Regulations:

Clause 61 (Additional matters for consideration): -

- Demolition of a building – Council to consider Australian Standard *AS 2601—2001: The Demolition of Structures*. As noted earlier, a disused and dilapidated dwelling is proposed to be demolished to facilitate the development. A proposed condition for inclusion in any consent requires compliance with this Australian Standard;
- Subdivision Order under Schedule 7. The application is not for the carrying out of development on land that is subject to a subdivision order made under Schedule 7 to the Act;
- Dark Sky Planning Guidelines. The proposed development is not located within the local government areas of Coonamble, City of Dubbo, Gilgandra or Warrumbungle (where the Dark Sky Planning Guidelines apply);
- Manor houses and multi-dwelling developments. The application is not for either of these purposes;
- Residential development in Penrith City Centre. The application is not for this purpose;
- Wagga Wagga LEP. The proposal is not subject to the Wagga Wagga LEP.
- Moree Plains LEP. The proposal is not subject to the Moree Plains LEP.

Clause 62 (Fire Safety)

- The proposed development is not for the change of use, alteration or rebuilding of an existing building.

Clause 63 (Erection of temporary structures)

- The proposed development is not for a temporary structure.

Clause 64 (Upgrade of buildings)

- The proposed development is not for the upgrade of an existing building.

Clause 65 (Conservation Plan for Sydney Opera House)

- The proposed development does not relate to the Sydney Opera House.

Clause 66 (Contributions Plans for areas of Sydney)

- The proposed development is not for development in any area of Sydney.

4.15(1)(b) The likely impacts of that development:

Context and Setting

The mixed nature of land uses surrounding the subject land has been noted earlier in the report and includes an operational railway line, industrial businesses, residential development, a sports field, vacant industrial land and an electricity substation. While there is some industrial development in the surrounding area (including warehousing, canola oil processing, landscape supplies) and the site is on the urban edge of the township, the setting largely reads as rural and the size and open nature of the subject land currently provides a substantial buffer to all surrounding uses.

Because it is industrial land in a mixed setting, a number of submissions, and the Southern Region Planning Panel, raised issues relevant to its context. These matters are discussed below.

Flooding risk

This matter has been discussed in detail earlier in the report, including submissions made on the issue, and the assessment made is that the proposal presents minimal additional flood risk to the surrounding area, and a far lesser risk to people and the environment from heavier or more intensive industrial uses that are permissible in the zone.

Glare and reflectivity

An issue in relation to glare impacts from sun glinting off the solar panel frames as they track the sun was raised in submissions. Additionally, the Southern Region Planning Panel questioned potential glare impacts in relation to passing traffic, the rail corridor and for residents in dwellings that are located on surrounding hills that have a view to the site.

In response, the applicant prepared a 'Glint and Glare Study' that assessed the potential for impacts from the proposed development. The Study notes a number of key technical matters in relation to potential glare/glint/reflectivity impacts from the proposal:

- A 'reflector' is the surface off which light reflects;
- A 'receptor' is a person 'receiving' the reflected light;
- 'Glint' (according to the US Federal Aviation Administration – no equivalent guidance could be found on Australia's Civil Aviation Safety Authority website) is a momentary flash of bright light. It is generally experienced when either the receptor or reflector is moving;
- 'Glare' (according to the same standards) is a continuous source of excessive brightness, relative to ambient lighting. It typically occurs when the reflector and receptor are stationary, or from large reflective surfaces;
- Transparent reflectors (such as glass or water) will reflect different quantities of light depending on the surface (material and texture) and the angle at which light intercepts the reflector. That is, the higher the angle of light interception, the more light is reflected such that glass at a 90^{o} angle for example (like a house window) will reflect more than glass set at a lower angle;
- Visual impacts from glint and glare include distraction, temporary after-image and at worst, retinal burn. The intensity of these impacts is a function of the intensity of the glare on the eye and the extent to which the glare or glint the receptor's field of vision (which is in turn, a function of the size and distance of the reflector);
- The severity of visual impact can be divided into three levels:
    - 'Green glare' – low potential for temporary after-image;
    - 'Yellow glare' – potential for temporary after-image; and
    - 'Red glare' – retinal burn.

By design, solar panels will absorb as much light as possible (and usually around 98% of light received) to maximise efficiency. Also by design solar panels are intended to limit reflectivity, they are constructed from dark, light-absorbing material and are treated with an anti-reflective coating. The Glare and Glint Study submitted with the application provides a diagram (Figure 24 below) that indicates the level of glare produced by solar panels is far less than other common materials such as soil, vegetation and concrete.

Single axis tracking arrays such as that proposed with this application, rotate the receiving surface of the the solar panels from east to west throughout the day as the sun moves across the sky. As the panels rotate on a horizontal access to follow the sun, the angle at which light intercepts with the panel is reduced, producing less glare and reflectivity, continuing this pattern throughout the year with seasonal changes in the sun's path (see Figure 25). The Study states that, because of

this movement that reduces the angles at which light intercepts the panels, single axis tracking systems generate less glare than fixed tilt arrays.

Figure 24 – Typical percentage of sunlight reflected from different surfaces (image taken from SEE)

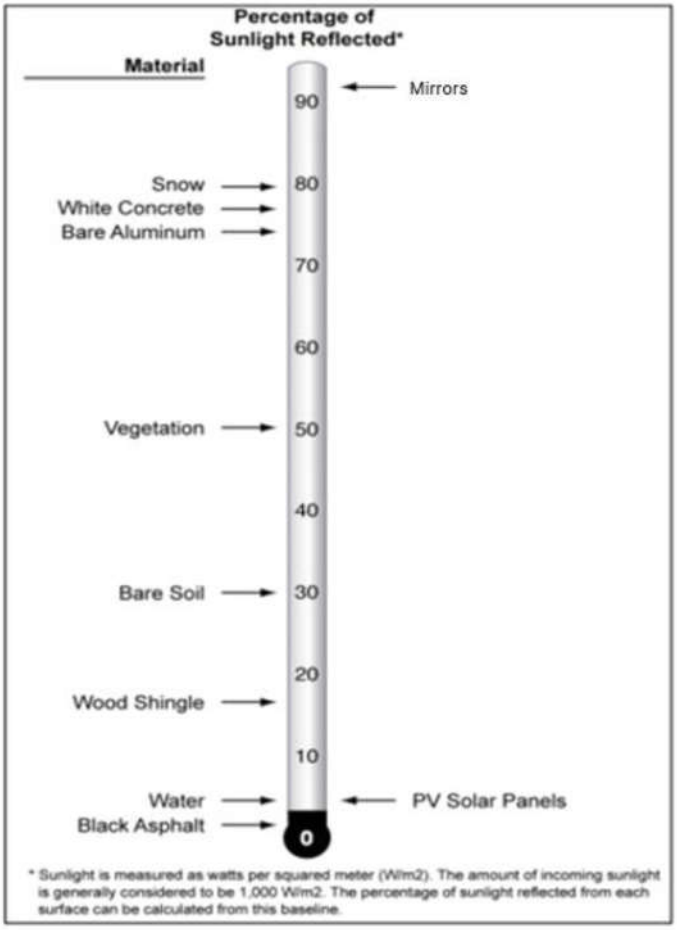
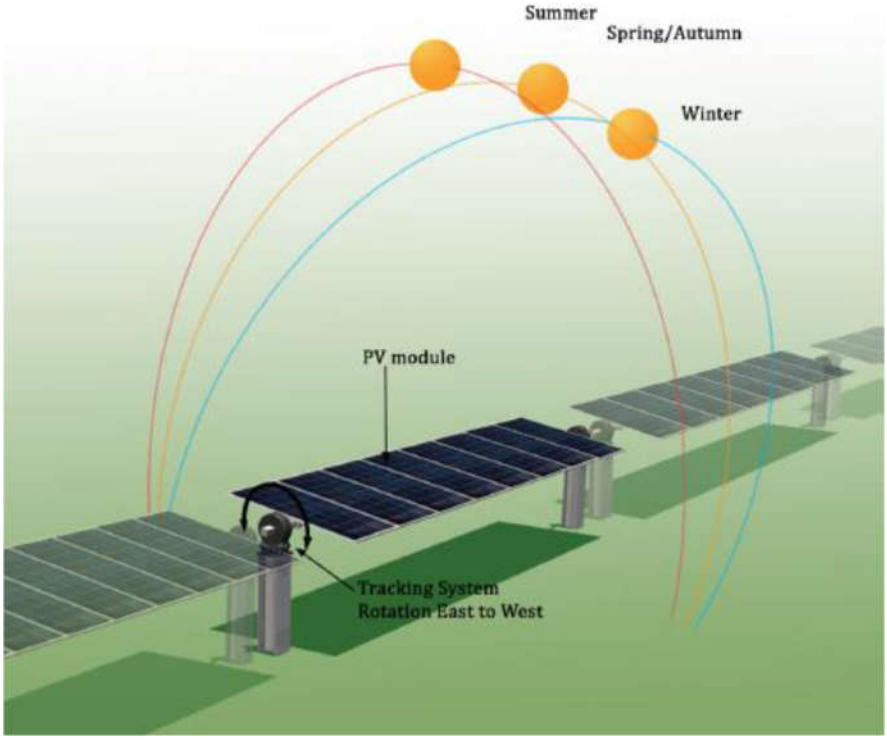


Figure 25 – Image indicating single axis panels operation in relation to sun's position (image taken from SEE)



The study assessed glint and glare impacts on/from 40 identified visual receptors (ie observation points – Figure 26), eleven roads (for both cars and trucks) and the railway line. The roads included in the assessment were: Olympic Highway, Back Brawlin Road, Carool Road, Cowcumbla Street, Florance Street, Gundagai Road, Lloyd Conkey Avenue, Nashs Lane, Old Treatment Works Lane, Pinkerton Road and Ross Friend Place. All roads and observation points assessed were within 2 kilometres of the subject land (Figure 25). The Study states that glint and/or glare impacts beyond that 2km radius were highly unlikely, as the significance of reflection decreases with distance; the greater the distance, the smaller solar farm would appear, and visual obstructions (such as terrain and vegetation) may block views to the development.

The Study noted that the modelling software used in the assessment - GlareGuage – is a requirement of the US Federal Aviation Department for glare hazard analysis near airports and is also recognised by Australia's Civil Aviation Safety Authority. The modelling assumed that no screening (such as vegetation) is to be provided to the development, constant clear sky conditions, and observation heights for car drivers, truck and train drivers and a standing person at 1.5m, 2.5m and 1.65m respectively. Several rest angles for the panels were also tested.

The results of the modelling are reported overall as minutes of cumulative glare over a year and show that across all visual receptors, 8,163 minutes (136 hours) of cumulative green glare and 15,472 minutes (258 hours) of cumulative yellow glare are spread across multiple points and routes. The glare received each day varied across the year. No observation points or routes received more than 12 min of glare in any single day. The time of day at which glare was observed varied between observation points and across the year but in general, most glare occurred in the early mornings or late evenings, when the array would be backtracking.

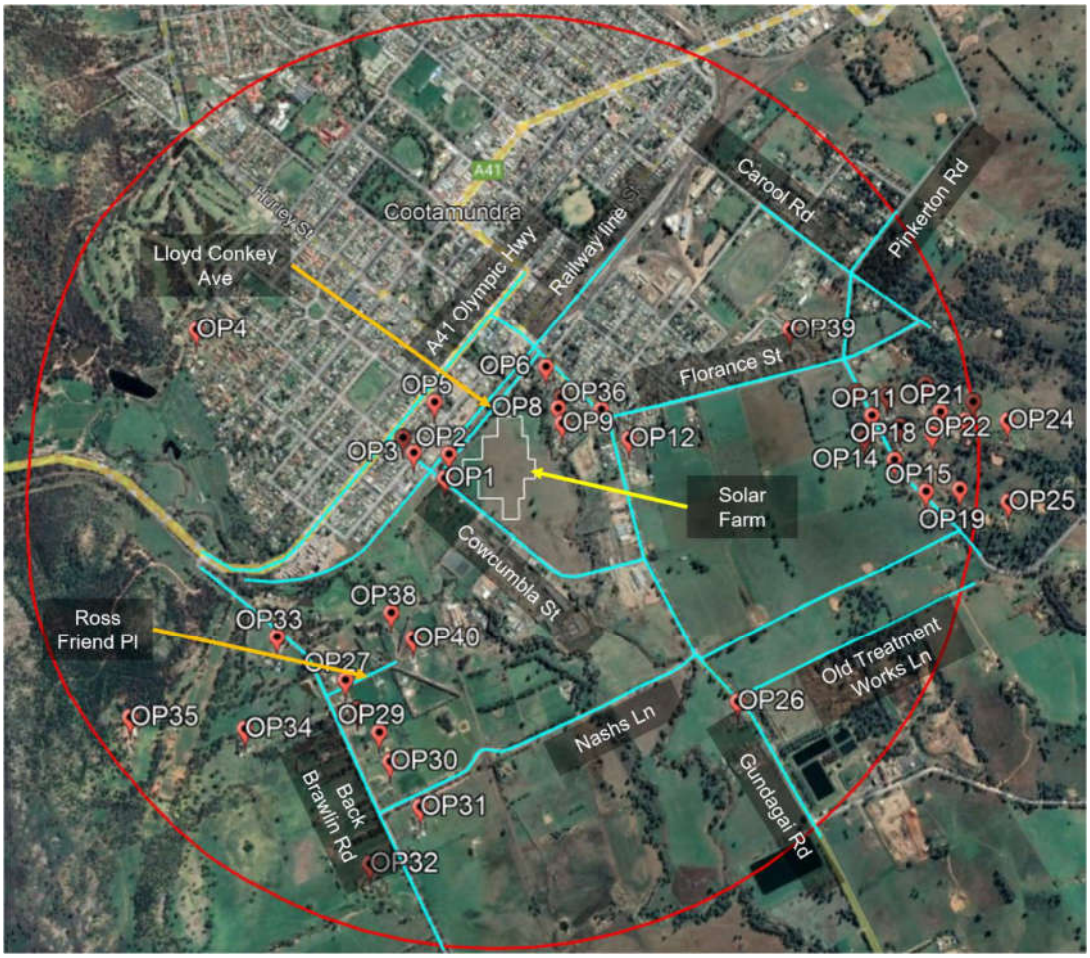
Of the 40 individual visual receptors (OPs) modelled:

- 14 OPs (35%) receive no glare. These were OPs 3, 5, 6, 9, 26-32, 34, 38, 40 which are located in all directions across the 2km radius;

- 17 OPs (42.5%) have the potential to receive some green glare (OPs 4, 10, 11, 13-25 and 35, again located in all directions across the area). The potential for green glare at these receptors ranges between 3 minutes and 11 minutes per day, mostly between 5.30pm and 7pm, with the timing of this potential glare differing for each site between February and April (late summer/early autumn) and August and October (late winter/early spring). Only one receptor is modelled to potentially receive 3 minutes of green glare in the morning, between 5am and 6am;
- 9 OPs (22.5%) have the potential to receive some yellow glare (OPs 1, 2, 7, 8, 12, 33, 36, 37, 39). The potential for yellow glare at these receptors ranges between 1 and 10 minutes per day, mostly between 5am and 8am, or 5pm and 7pm. Two OPs have the potential to receive glare between February and November, two OPs between May and August, with the remaining 5 with the potential to receive glare between February and April (late summer/early autumn) and again in September and October (spring).
- No red glare effects were found potentially occur.

The exact location of these visual receptors is given in coordinates in the Study, and their exact addresses are not clear, however Figure 25 indicates that the receptors are spread in all directions across the study area and appear to be a mix of land uses that surround the site; residential, industrial, rural. From the modelling provided, however, the 'worst-case' potential scenario is for two receptors to possibly receive 10 minutes of yellow glare per day, between 5am and 8am between February and November.

Figure 26 – Identified visual receptors (Observation Points – OPs) within a 2km radius of the subject land (image taken from SEE)



In considering these modelled outcomes, this assessment notes:

- The submissions that raised the issue of potential glare from the development are in an area, or near identified receptors, where no glint or glare is predicted to occur;
- The model assumes no screening of the development at all, when the proposal includes vegetation screening around the development footprint (discussed later in this report);
- The layout of buildings/dwellings on these receptor sites is not known; it may be that potential glare affects a bathroom, for example, rather than a living area;
- The receptor sites may likely have gardens, vegetation screening, fences, garages or other structures on the sites that would assist in ameliorating potential glare impacts;
- That residents/occupants of the receptor sites would not necessarily be stationary on the site, such that the potential glare would directly affect their amenity without a means to ameliorate it (eg by moving to another area should it be necessary);
- The potential impacts are confined to short periods of time each day (from 1 minute to a maximum of 11 minutes);
- The potential impacts are at times when residents of dwellings would likely be asleep (eg 5am), or active in their residences or outside (eg returning home from work or shopping) between 5pm and 7pm;
- Of the two 'worst-case scenario' sites modelled (9 and 10 minutes of yellow glare between 5am and 8am between February and November), one is a mixed commercial/residential development across the road from the proposed development and is screened by fencing and large amounts of vegetation. The other appears to be the disused dwelling on the subject land which is proposed to be demolished and no residents will be affected by the impacts of the glare;
- Only three receptor sites have the potential to be affected by yellow glare in winter (May to August) when outdoor activity or being away from home may be less likely. Those three sites are modelled to potentially receive yellow glare between 7am and 8am (for one minute or eight minutes), at a time of day when residents are likely to be either sleeping or undertaking 'daily' activities (such as getting ready for work) that would not likely be detrimentally impacted by the short periods of potential glare;
- Non-residential receptor sites (eg industrial or rural) may have no occupants at the modelled times of potential impact.

The Study also modelled potential glare impacts on eleven surrounding roads and the railway line, with the results showing:

- The Olympic Highway could receive up to 9 minutes of yellow glare per day between 6 am and 8 am from mid-March to late September, with trucks potentially being affected for an additional 34 minutes per year more than cars (due to their height);
- Back Brawlin Road (a rural/low density setting) may receive up to 4 minutes of yellow glare between 6 am and 7 am early to mid-April, and mid-August to early September;
- Carool Road, a low density area, may receive up to 3 min of green glare per day between 6:30 pm and 7 pm from mid-February to early March, and early to mid-October;
- Cowcumbla Street (an industrial area and designated B-double route) may receive up to 12 minutes of yellow glare between 5 am and 7 am from late January to late April, and late August to early November and up to 12 minutes of yellow glare between 5 pm and 6 pm from mid-April to late August. Trucks may be affected by 222 minutes of glare per year, more than passenger vehicles, due to their height;
- Florance Street (at the southern edge of town and adjoining rural land) may receive up to 4 minutes of yellow glare between 6 pm and 7 pm from late January to the start of April, and from mid-September to mid-November;
- Gundagai Road (a largely rural setting within the 2km area of the study) could receive up to 9 minutes of yellow glare between 5 pm and 7 pm from early March to early October and up to 9 minutes of yellow glare between 5 pm and 7 pm from early March to early October. Trucks using the road could be impacted by an additional 15 minutes of glare per year;

- Lloyd Conkey Avenue (urban development on its northern side and largely undeveloped on the other) would potentially receive up to 9 minutes of yellow glare between 6 am and 8 am from mid-March to end of September;
- Nashs Lane (a largely undeveloped and rural area) could receive up to 8 minutes of glare between 5 pm and 7 pm from mid-March to late September. Yellow glare occurs only from late April to mid-May, and late July to mid-August;
- Old Treatment Works Lane (undeveloped area) could receive up to 9 minutes of green glare between 5 pm and 6 pm from start of April to early June, and early July to mid-September;
- Pinkerton Road (a rural residential area) could receive up to 7 minutes of green glare between 5 pm and 7 pm from early March to early May, and from early August to early October; and
- Ross Friend Place would receive no glare.

The main north-south railway line was modelled to potentially receive up to 9 minutes of yellow glare between 6 am to 8 am from mid-March to end of September.

While traffic numbers are not known for the identified roads, the majority of them are largely undeveloped or serve low density development areas, including the industrial area where the subject land is located, where the potential glare impacts could be considered to be low. The Olympic Highway is a higher volume traffic road that also runs through the centre of the town and the impacts of glare could be considered more of concern. Similarly, train traffic numbers are not known, however potential glare impacts on the railway may be of concern, although of short duration. It is again noted that the modelling assumes no screening of any kind – buildings, trees, other vegetation - between the development and the identified transport routes.

While this assessment has identified a range of ameliorating factors that should be considered in addressing potential safety and amenity impacts from glare from the development, the final recommendations of the submitted study are considered important. In particular, the report notes that the proposed vegetation screening (discussed later in this report) and existing structures around the site can be expected to reduce the visual impacts of the development. It also notes that limiting the minimum backtracking angle of the solar panels can substantially reduce the predicted glare. The Study showed that setting the rest angle of the panels to no more than 4^{o} eliminated all the predicted glare detailed above. The elimination of potential glare is the best outcome that can be achieved and it is reasonable to accept the recommendations of the report as submitted. The applicant has indicated that this is an acceptable measure and a suitable condition requiring that 4^{o} rest angle be maintained across the solar panel array has been included for any consent granted. Appropriate conditions to ensure the recommendations of the Glare and Glint Study are implemented have been proposed for inclusion in any consent granted.

<u>Visual impact</u>

While the subject site is industrially zoned land, urban residential development adjoins it to the north across Muttama Creek. While the creek corridor is substantially degraded, with native vegetation loss, weed infestations, erosion and the like there are areas where rehabilitation carried out by local community groups provide a visual break and some visual interest to residences along the creek. The subject site is also currently undeveloped, allowing long views across the creek and site to the hills in the distance from nearby residences (Figure 27).

The negative visual impact of the development on nearby residential development was raised in submissions, with comments summarised as follows:

- The development does not consider that existing deciduous plantings on nearby residential properties will expose the panels to view in the cooler months of the year;
- The industrial zoning of the land does not reduce the sensitivity of the visual impact on adjoining residential areas (as stated in the Statement of Environmental Effects); and

- no ameliorating measures are proposed to address the visual impact of the development (including from glare).

The submitter proposed a number of measures to ameliorate the perceived visual impacts:

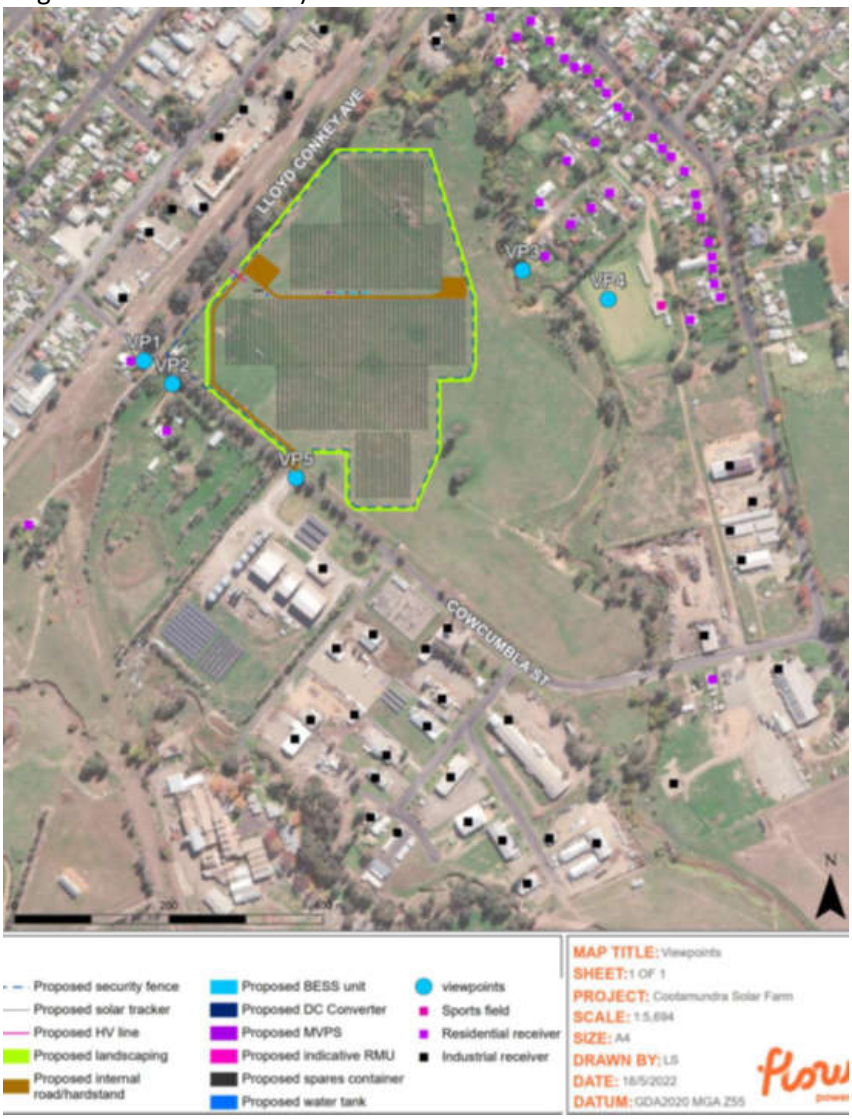
- installation of a Colorbond fence along the edge of the development, but raised off the ground to allow for drainage; and
- a 10m buffer of appropriate native plantings along Muttama Creek to be maintained by the developer.

Council staff and the Southern Region Planning Panel attended the site of one of the submitters (with their permission) and as a result, the applicant was asked to more fully address the visual impact of the development. The revised Statement of Environmental Effects included a visual impact assessment from five viewpoints (Figure 28): 3 houses, a sportsfield and from Cowcumbla Street. No industrial receptors were included in the assessment as they were not considered to be sensitive to the visual impacts of the development.

Figure 27 – View across Muttama Creek from its northern bank showing long, uninterrupted views across subject site to hills behind (photo taken by Council staff on 20 April 2022)

Cootamundra-Gundagai Regional Council PO Box 420 Cootamundra NSW 2590 mail@cgrc.nsw.gov.au

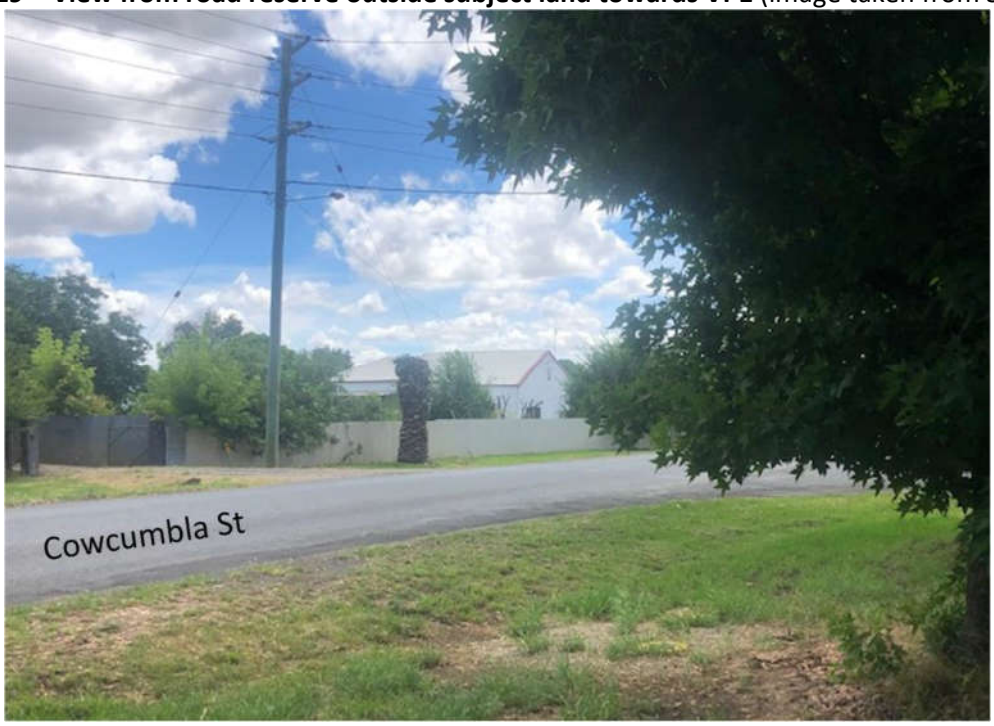
Figure 28 – Identified visual receptors and view points (VP) from which impact assessments were made (image taken from the SEE).



The nominated view points in Figure 28 are considered appropriate. No surrounding industrial development raised visual impact concerns and a site inspection by Council staff showed that no residential property other than VP3 had a clear line of sight to the development. VP1 (Cowcumbla Street) is 40m from the development footprint; VP2 (Cowcumbla Street), 30m distant; VP 3 across Muttama Creek is 60m distant; VP4 also across Muttama Creek is at least 70m distant; and VP5 is Cowcumbla Street itself at 15m distance from the development footprint.

The visual impact on VP1 has been rated by the applicant as low. VP1 is a residence that is diagonally opposite the subject land and is oriented toward and faces Lloyd Conkey Avenue. It is surrounded by a standard height Colorbond fence and has substantial vegetation on the site that is visible over the fence (Figure 29). The assessment of a low impact is considered reasonable, particularly given that existing vegetation in the Cowcumbla Street reserve and around the existing dwelling will be retained.

Figure 29 – View from road reserve outside subject land towards VP1 (image taken from SEE)



A similar situation is evident for VP2, a residence in Cowcumbla Street that is more directly opposite the proposed development. It too, is surrounded by a Colorbond fence and extensive vegetation, including in the road reserve, and currently has a very limited, to no, view to the existing site (Figure 30). The visual impact assessment has rated the impact of the development on this site as low and that assessment is considered accurate.

VP3 is across Muttama Creek from the development site and has a direct line of sight over the proposed development footprint (see Figure 27). The applicant has supplied an image (Figure 31) that indicates the solar array location as seen from VP3.

Figure 31 indicates that, while the longer view to the hills from the subject site would be maintained, there would be a visual impact on VP3 from the development. The applicant has indicated the impact on VP3 as 'moderate', noting it is a change from the existing view albeit of a narrow profile and of a lesser impact than any other higher intensity permissible industrial development. While that argument is noted, it is considered reasonable for the developer to mitigate the impact that is created.

Figure 30 - View from road reserve outside subject land towards VP2 (image taken from SEE)

Figure 31 – Image showing indicative location of solar array as viewed from VP3 (image taken from SEE)

To address these concerns, the applicant now proposes substantial planting to the development that will provide a visual barrier to VP3, to Cowcumbla Street and Lloyd Conkey Avenue. A 5 metre vegetation buffer around the entire perimeter of the development footprint will be provided, planted out with a mix of native (preferably endemic) species; canopy trees to an indicative height of 5 metres with understorey shrubs and groundcovers also planted to create a full vegetative screen around the development (Figure 32).

The applicant has also submitted a Vegetation Management Plan that details the works that will be undertaken, location, species and number of plants to be planted and a schema for ongoing maintenance over a period of up to 5 years that would see the vegetation buffer fully established

(Figure 33). What is proposed is considered to satisfactorily address the visual impacts to VP3 and beyond the site.

Figure 32 – Site Planting schema

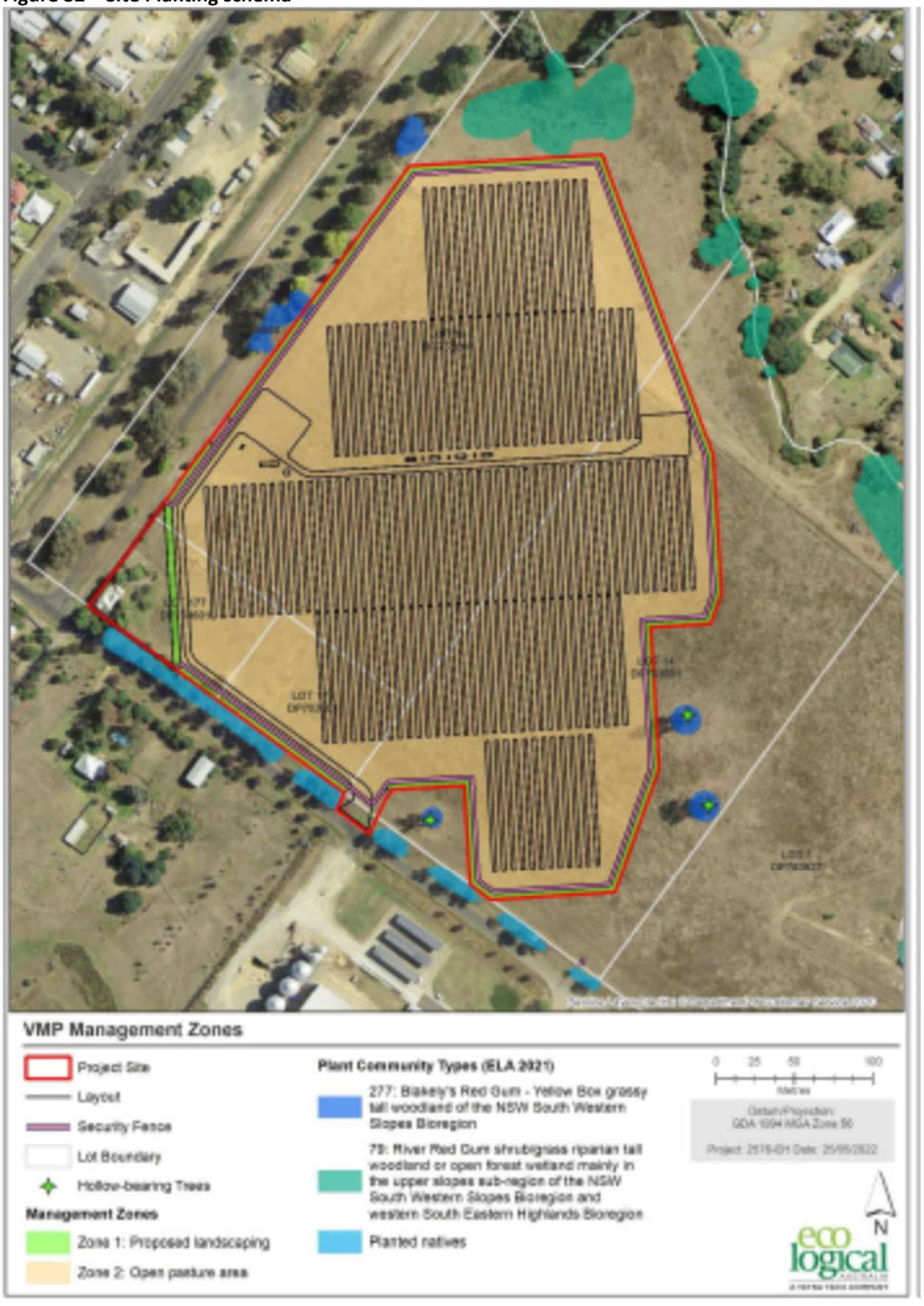
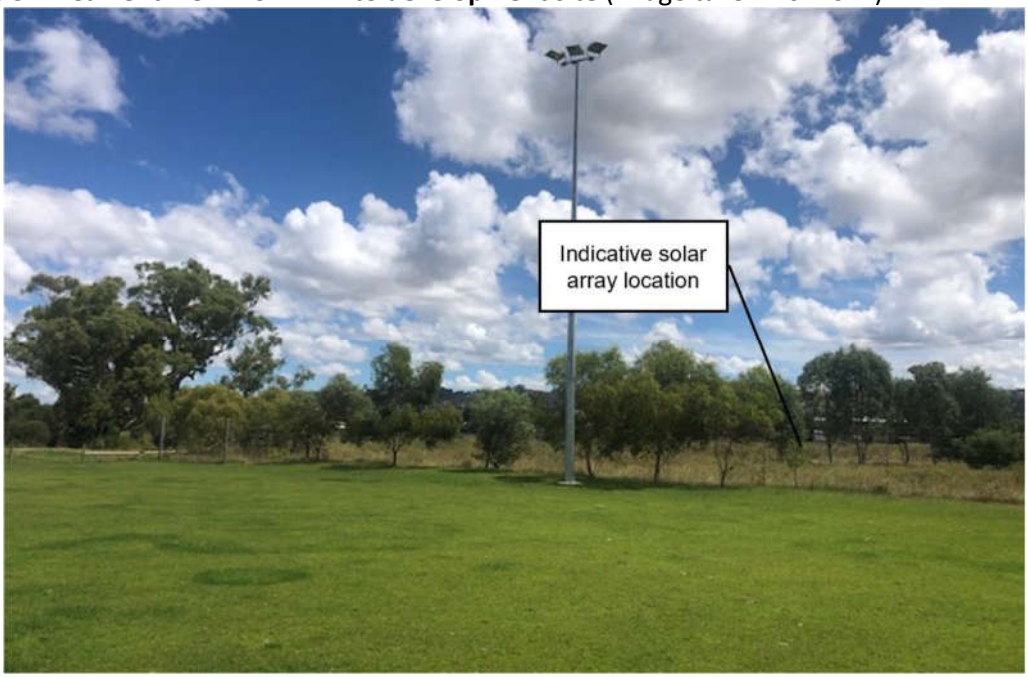


Figure 33 – Schematic section of 5m vegetation buffer to be planted around development footprint (image taken from submitted Vegetation Management Plan)

The submitter's proposal that a Colorbond fence be installed to provide a visual barrier is not supported and the applicant has not included that as part of visual amelioration works. A hard barrier like a fence would not only require soil disturbance adjacent to Muttama Creek, it would present an increased flood risk by placing a barrier in the path of water flows. Such a fence may be damaged in a flood situation and create additional risk. Nor would it be an attractive solution to the visual impact. The installation of a fence along the subject land boundary is neither proposed nor supported. The proposed planting and its associated maintenance regime is considered a far more practical and suitable outcome and appropriate conditions have been proposed to ensure that the submitted Vegetation Management Plan is implemented, should consent be granted to the development.

The visual impact of the development on VP4 has been assessed by the applicant as low and this assessment is supported. VP4 is a public sports field located across Muttama Creek which has only distant views to the site (Figure 34) and a pattern of intermittent use only. Users of the site are not likely to be focussed on the solar farm and their visits to the site are likely to of short duration. The impact is considered acceptable and will likely be ameliorated by the planting works to be undertaken as discussed above.

Figure 34 – Current view from VP4 to development site (image taken from SEE).



Similarly, the visual impact on Cowcumbla Street (VP5) is considered low and acceptable (Figure 35 shows an indicative view into the subject site from Cowcumbla Street after construction of the solar array and without proposed landscaping). While the site reads as open farmland now, after construction of the development and the associated proposed planting discussed above, it will still read largely as open land with a landscaped area. As also discussed extensively above, risk of glare and glint to traffic using Cowcumbla Street will be nullified both by the requirement to retain a 4^{o} rest angle for the solar array panels and by the proposed planting to be carried out.

Figure 34 – Indicative post-development view into the subject land from Cowcumbla Street (image taken from SEE).

In conclusion, it is considered that the visual assessment submitted by the applicant is fair and reasonable and that the measures proposed to ameliorate the visual impacts of the development are acceptable in the context of the local landscape. The proposed planting will not only reduce potential impacts on VP3, it is likely to enhance the character of the area and positively impact on the streetscape, the broader context and setting and to provide additional biodiversity and habitat to the area. As discussed, appropriate conditions have been proposed for inclusion in any consent granted to ensure the visual impacts of the development are appropriately managed.

Access, Transport and Traffic

There are a number of existing access points to the subject land, both from Cowcumbla Street and from Lloyd Conkey Avenue, each being informal access and rural gates. The applicant initially suggested creating a new access point off Lloyd Conkey Avenue, however concerns raised by Council's Engineering staff saw that proposal change to a new access point being proposed off Cowcumbla Street (Figure 35).

Council's concerns relating to access off Lloyd Conkey Avenue largely related to potential damage to the roadway from large vehicles (it not being a B-double route) and the fact that at that point, Lloyd Conkey Avenue is not a road reserve under the *Roads Act, 1993* (it is private land owned by Council). These issues are resolved by the new access point, as Cowcumbla Street is a formal B-double route and a declared road reserve.

The new access point to the solar farm is proposed to be located opposite an existing access to the industrial development across Cowcumbla Street, forming a four-way intersection. It is

proposed as an unsealed, all-weather access (like that of the adjacent development) and would not require the removal of trees from the road reserve for its creation. Internal to the site, an access road of all-weather standard constructed of compacted crushed gravel, suitable for heavy vehicles, is proposed. It will cut through the middle of the solar array in an east-west direction, and run alongside key plant and have a vehicle turning area at its eastern end. A separate hardstand area is proposed at the western edge of the site (adjacent Lloyd Conkey Drive) to be used for the construction compound and for delivery and storage of materials, laydown and temporary amenities. Both hardstand areas will be of sufficient size to enable vehicles to park, manoeuvre and turn to support entering and leaving the site in a forward direction.

As an ongoing development, the solar farm would be unmanned, with no on-site office and would generate next-to-no additional traffic. Regular or ad-hoc maintenance would be carried out by contractors entering the site in light vehicles, with the occasional need to bring machinery such as a slasher onto the site to maintain grass under the solar array. This additional traffic load is considered negligible, with Cowcumbla Street well able to manage the demands of the ongoing operation of the development.

Figure 35 – Map showing location of proposed new access off Cowcumbla Street and internal roadways (image taken from SEE)

During the proposed six month construction period of the project, both light (construction worker and contractor) vehicles and heavy vehicles would travel to and from the site on construction days. In the beginning and end phases of construction, 10 light vehicles per day and 2 heavy vehicles are expected attend the site resulting in 20 light vehicle and 4 heavy vehicle movements. At peak construction, up to 30 light vehicles would attend the site each day (ie 60 movements per day) and a maximum of 5 heavy vehicles (10 movements per day).

Heavy vehicles would include delivery trucks carrying construction materials such as solar system components and modules, aggregate for civil works and trucks transporting construction equipment and machinery. Over the stated six month construction period, the applicant states that approximately 50 heavy vehicles in total are expected to access the site, with the largest being a B-double up to 26m in length. Cowcumbla Street links to the Olympic Highway to the west, and to Gundagai Road in the east, both of which are designated B-double routes and are suitable for the proposed heavy vehicle traffic.

As stated, Cowcumbla Street is a designated B-double route and as such, is capable of carrying the estimated load and frequency of the proposed development. It is not a heavily trafficked street; although no traffic count data is available to the assessing officer, however observations indicate relatively low-level and infrequent use by both light and heavy vehicles. While the six month construction period will see an increase in the use of Cowcumbla Street, the majority of the additional traffic will be light vehicles and the road is considered capable of sustaining that increase for that period. The ongoing impacts of the operation of the development on traffic are considered negligible.

No concerns are raised in relation to traffic or transport from this proposal and suitable conditions have been proposed for inclusion in any consent that establish standards for construction of the access point over the Cowcumbla Street reserve, including that no street trees be removed for the purpose.

Public Domain

The development will not impact negatively in terms of such things as recreational opportunities, or the amount, location, design, use and management of public spaces. The visual impact assessment as discussed earlier, has demonstrated that the solar farm will not detract from the public domain, will not result in glint or glare effects outside the site and may work to enhance the visual appearance of the area with additional plantings around the development and close to Muttama Creek. The development can connect into existing infrastructure in the road reserve and, other than a new access point on Cowcumbla Street, no new works or infrastructure in public areas are required to support the development. While no works are proposed in Muttama Creek or its buffer zone, the proposed planting works are expected to enhance views to and of the creek corridor.

The proposal raises no concerns in relation to the public domain.

Utilities

<u>Gas, water, sewage, telecommunications</u>

Reticulated water and sewerage are available to the property, but are not required for the development. Telecommunication facilities are available should they be required.

<u>Power</u>

As discussed earlier in the report in relation to the Transport and Infrastructure SEPP, there is an existing (Essential Energy) power line that runs through an easement on the site, although it does not serve the subject property. That assessment has not raised any concerns in relation to power that would support refusal of this application. The proposed development would generate electricity both for the wider network and for any it may need for its own operations.

The development would require a new section of overhead 11kV high voltage (HV) line to be constructed on the site, connecting the new Ring Main Unit to the existing 11kV Essential Energy line in Lot 1 DP1084448 and thereby to the national grid and market. As noted earlier in the report, the point of connection into the existing 11kV Essential Energy line is through an easement for electricity services on Council owned land (Lot 1 DP1084448). The new line would connect into the existing line using a load break switch installed on the existing power pole in that easement on Lot 1 DP1084448, with all new connection works being entirely contained within the easement. The connection works within Lot 1 DP1084448 will be undertaken by Essential Energy, and all new assets installed would be owned by Essential Energy as part of their distribution network. The existing 11kV line goes underground from Lloyd Conkey Avenue, down Cowcumbla Street and connects into the Cootamundra substation approximately 600m from the point of connection.

As discussed earlier in the report, Essential Energy raised no concerns with the proposal and the applicant has indicated that final approvals for the connection of the development to the Essential Energy network are underway. The standard conditions proposed by Essential Energy have been included as proposed conditions on any consent granted and there are no concerns in relation to power supply generated by this proposal.

As an energy generator, the development will produce up to 10 megawatt hours (Mwh) of renewable energy. According to the Clean Energy Authority, one Mwh is equal to 1000 Kilowatt hours (Kwh). That is, it is equal to 1000 kilowatts of electricity used continuously for one hour and about the equivalent of electricity used by about 330 homes during one hour. The 10Mwh of solar energy produced by the development would produce sufficient electricity to power around 3300 houses for an hour.

Heritage

Potential impacts on Aboriginal and European heritage have been extensively discussed under the assessment of the proposal against Section 5.10 of the CLEP and the application is assessed as able to be approved, with appropriate conditions as indicated earlier in this report.

Other Land Resources

The potential impacts of the development in relation to water resources and Muttama Creek have been discussed in detail earlier in the report and no aspects of the development have been assessed as requiring refusal of consent in relation to potential impacts on water resources or the riparian corridor. While there is no mapping that identifies strategic mineral resources, the development does not prevent any future extraction of mineral resources if they existed on-site and it was feasible and appropriate to do so, once the site is returned to pre-development status. Similarly, having been used for agricultural uses in the past, there is nothing in this proposal that would inhibit that use in the future, should the land be returned to its current state at the end of the useful life of the solar farm.

In terms of the impact on productive industrial land, a submission raised issues in relation to:

- the development being a lost opportunity for industrial land, noting that that there is a demand for industrial land in the area and its development as electricity generating works is therefore not the most suitable industrial use; and
- the flood affectation on the land does not limit other industrial development, as effectively stated in the Statement of Environmental Effects, as construction and engineering standards can work to lessen flood impacts on industrial developments.

These comments are noted but are not considered to be relevant to the proposal under consideration. Electricity generating works are both permissible in the industrial zone and under the Transport and Infrastructure SEPP and they are what has been applied for. A potential future industrial development that may, or may not be, applied for cannot be considered as part of this assessment. The land has been zoned industrial since at least 2013 and no other formal proposals for its industrial development have been lodged for assessment in this time, possibly indicating that the level of demand for industrial land is not as strong as the submitter may consider. The location of the flood-affected land next to a waterway in a catchment area, would likely be an inhibitor on investment in other kinds of industrial development on the land, despite the possibility of designing around those issues. The proposed development may be considered as having a lesser environmental impact than other permissible uses given the limitations of the land and it is considered a suitable and reasonable development for the site.

Water
The issues of water supply, and impact on ground and surface waters have been discussed at length earlier in the report. It has been assessed that the development will not have a detrimental effect on surface or groundwater, drainage flows or water quality, given the limited earthworks required, the stormwater management measures proposed and the increased planting to be provided to the site.

Soil
The NSW Department of Environment maintains a mapping system (e-SPADE) that provides location-based information on soils across the State. The e-SPADE data for Muttama Creek (the broad alluvial plains as a whole, rather than for the subject site itself) indicates the following 'qualities and limitations' of soils:

- Landscape - salinity, poor drainage, flood hazard, localised engineering hazard; localised dieback;
- Fertility – moderate to low;
- Erodibility and erosion hazard – generally low erodibility and erosion hazard;
- Urban capability – low limitations for urban development, moderate to high limitations for waterlogging in areas, very low absorption for septic absorption;
- Rural land capability – moderately productive for grazing and occasional cropping.

As discussed throughout this report, the proposed development is considered to present minimal impact in relation to many of the issues listed. It is assessed as having low impact on flood waters and levels, it proposes minimal earthworks, it is sited away from Muttama Creek itself, it does not require disposal of any by-products materials into the soil, and it proposes additional planting that would help restore the already degraded land and assist in water absorption across the site. Its impacts on the soil qualities and limitations are considered far lower than any of the other permissible uses on the site and imposition of suitable sediment and erosion controls during construction and subsequent vegetation of the site are considered to appropriately manage any short or longer-term impacts from earthworks and ongoing operation of the development.

Air and Microclimate
The solar farm is not expected to generate odours, fumes, gases and particulates from its construction and operation. However, and as noted in submissions received, there is potential for dust to be generated during the construction phase from activities such as earthworks, construction vehicle movements and soil blown from temporarily uncovered stockpiles, for example. A submitter indicated that sealing the internal roads would lessen the potential dust impacts from the development.

Once operational, vehicles visiting the site for maintenance and driving over internal roads in very dry weather may produce very short-term dust impacts. The Statement of Environmental Effects notes that 'regular' maintenance visits to the site may be twice in a six-month period – a level of site use that is not expected to raise substantial levels of dust and then only when the weather is very dry. Requiring the sealing of internal roads is not considered a reasonable solution to what is not expected to be a problem and would likely have the effect of reducing water absorption and changing water movement and impacts in floods. Re-vegetation of the site after construction, as proposed, is expected to virtually eliminate air quality impacts and to produce better outcomes with the additional planting to occur around the development.

During construction, the applicant has indicated a number of actions that will be taken to limit potential dust impacts, while noting that the majority of dust-producing activities would be limited to the 'site establishment' phase of approximately 2 weeks, when road and piling works would be undertaken. The proposed actions include dust suppression using a water cart and spray mechanism, stopping work in high-wind situations when water spraying is not effective, covering

of loads when transporting materials such as aggregate for the road to site, stabilisation of disturbed areas as soon as practicable, and vehicles leaving the site in a relatively clean condition to ensure soil spill onto roadways is limited. Again, the revegetation of the site is expected to have the best impact on reducing potential for dust from the site.

It is considered reasonable, however, for a dust management plan be provided to address the whole period until the site has been revegetated. A condition requiring a full Construction Environment Management Plan, including dust control, has been proposed for inclusion in any consent granted for this to occur.

Once fully planted and revegetated, it is expected that the development will have a nett positive impact in terms of air and microclimate, given the existing degraded state of the subject land.

Flora and Fauna

This issue has been partly discussed above in relation to Section 1.7 of the Act and is discussed in further detail below. The land is not mapped as affected by Terrestrial Biodiversity, and no native tree or native groundcover removal is proposed. The original proposal that included works in the Muttuma Creek corridor has been revised to remove any activities in the corridor and no additional approvals or assessments of impact on water species are required under relevant legislation.

A Flora and Fauna Assessment covering the subject site and the broader context (in a 5km radius of the site) was submitted with the application. That Assessment, carried out on the basis of the original, larger development footprint that also proposed works in Muttama creek corridor, sought to: identify known or potential habitat for threatened species and communities; assess the likely impact of the proposed works on any identified species or communities; and identify any controls or mitigation measures that would reduce identified impacts. The Assessment states that it incorporated reviews of relevant public databases, literature and mapping operating under both State and Commonwealth legislation, including: BioNet (Atlas of NSW Wildlife), Protected Matters Search Tool, aerial and vegetation mapping; final determinations, conservation and listing advices for threatened matters, native vegetation community mapping, Strahler stream order mapping and Fisheries NSW data.

A field survey of the study area was also conducted by ecologists, aiming to validate the data review and mapping, conducting a threatened flora and fauna habitat assessment, identifying hollow-bearing trees and recording fauna sightings. The habitat assessment sought to determine; the suitability of the study area to provide habitat for identified species; whether any threatened species are likely to be present; and to inform potential requirements for impact assessments and pre-clearance surveys prior to works commencing.

Flora

As noted earlier in the report, the subject site has been extensively cleared of native vegetation and the Muttama Creek corridor is also in poor condition with much of its original vegetation cleared. The Assessment notes (and as seen in Figure 37 below) that the vast majority of the site is exotic pasture/grass species and weed species (such as 'Prickly Lettuce', 'Capeweed', 'Stinging Nettle', 'Catsear' and 'Scotch Thistle').

Two native plant community types were identified in the survey:

- *River Red Gum shrub/grass riparian tall woodland or open forest wetland.* This occurs along the Muttama Creek corridor to the north and east of the subject land. The survey assessed this community as being in very poor condition, consisting of a number of large

River Red Gum and exotic tree species (Ash and Willow). The shrub layer was entirely made up of exotic shrub species (small-leaved Privet and African Olive), with the ground layer composed of exotic pasture species and weeds that were found throughout the site. Some of the River Red Gums contained hollows.

River Red Gums are not associated with any threatened ecological community.

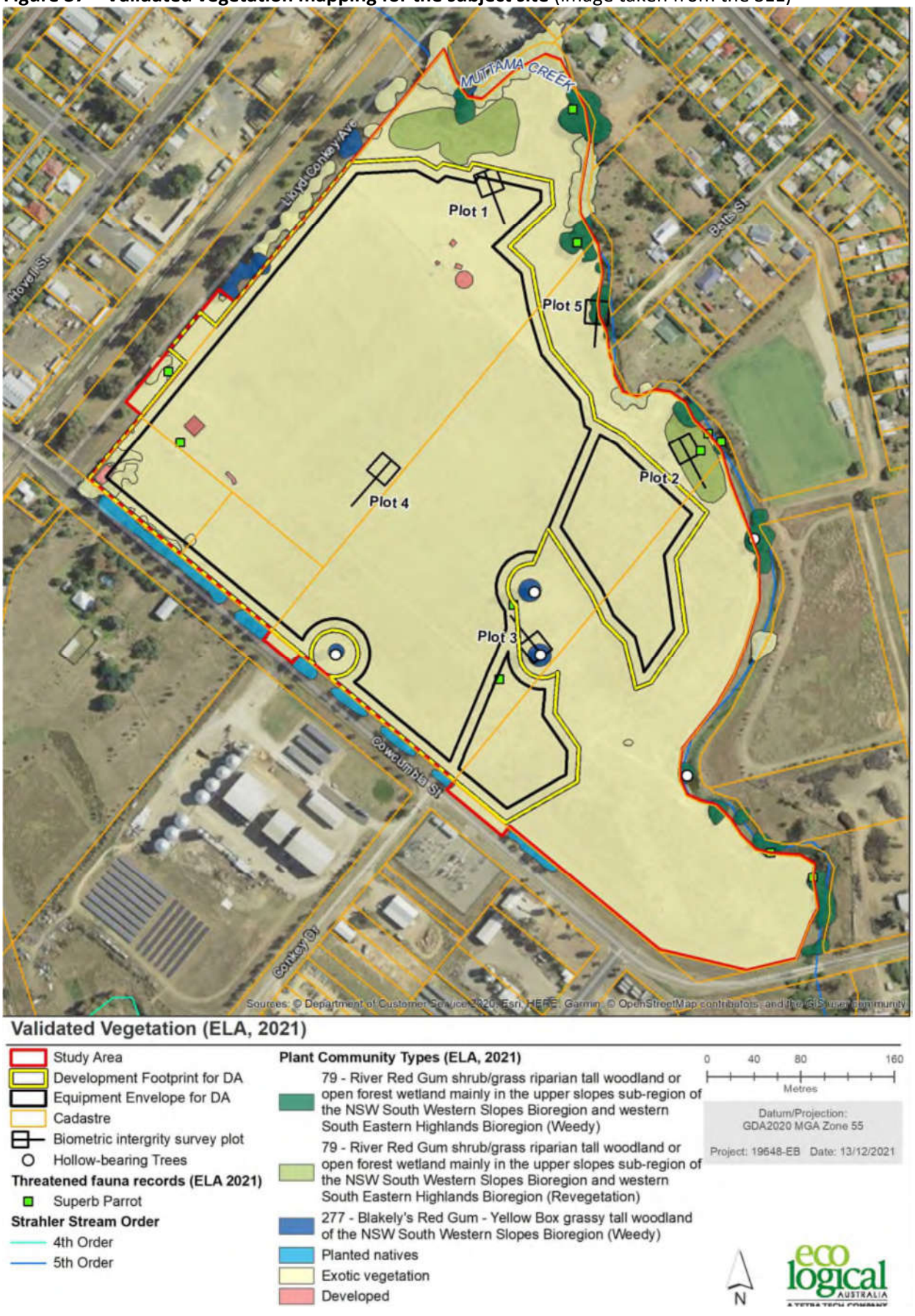
- *Blakely's Red Gum - Yellow Box grassy tall woodland (Box-Gum Woodland) of the NSW South Western Slopes Bioregion*. Three isolated and scattered paddock trees and two patches in Lloyd Conkey Avenue (adjoining the north-west boundary of the site) were identified as this plant type. In all locations, the trees were noted as having weed species as shrub layer and exotic pasture grass as ground layer. The paddock trees were noted as having hollows being used by Superb Parrots.

  While the Box-Gum Woodland is listed as a critically endangered ecological community (CEEC) under the NSW Biodiversity Conservation Act and the Commonwealth EPBC Act, the ecologist's assessment of the three paddock trees was that they do not meet the condition criteria to be considered Box-Gum Woodland. This assessment was based on the fact that the natural soil and seed bank of the paddock is not intact, nor does it contain characteristic remnants or attributes (other than the paddock trees themselves), as detailed in the Final CEEC Determination. The ecologists considered the extant examples have lost their natural integrity (due to years of pasture improvement) and would not, under appropriate management respond to assisted regeneration. The assessment further noted that the nearest mapped occurrence of the Box-Gum Woodland is some 250m to the south-west of the subject land and would not be affected, or impacted, by the proposed development.

No threatened flora species were identified during the field survey, which found that the vast majority of the site is exotic pasture and contains minimal biodiversity values. None of the native vegetation within the study area that was identified as potential habitat for listed threatened species.

Fauna
The Superb Parrot, listed as threatened under the NSW Biodiversity Conservation Act and the Commonwealth EPBC Act, was recorded using the paddock trees on the subject land, the riparian vegetation along its north and eastern boundaries and the Eucalypt trees along Lloyd Conkey Avenue. The parrots were noted as both flying over, and utilising (likely breeding in), the paddock trees.

Figure 37 – Validated vegetation mapping for the subject site (image taken from the SEE)



None of the paddock trees are proposed to be removed and the development footprint, which is entirely located in an area of exotic pasture with no biodiversity value, has been designed to exclude the paddock trees, with a 30m buffer being provided between them and the development. There are no works proposed along Muttama Creek and hollow-bearing trees in its corridor will not be directly affected by the development. That said, the submitted Flora and Fauna Assessment identified a number of potential impacts, both direct and indirect.

The direct impacts identified were:

- Noise, dust and heavy vehicle movement during construction, which would likely disrupt bird activity; and
- Solar panels reducing sunlight levels to ground cover, which may cause a change in grass cover and species, potentially represent a loss of a foraging resource for Superb Parrots which use ground layer vegetation as a feeding resource.

The Assessment states, however, that those impacts have been, or can be, ameliorated by:

- The design of the proposal that has excluded the paddock trees and riparian vegetation from the development footprint;
- Each of the paddock trees having a 30m buffer around them;
- No native vegetation being removed to facilitate or operate the development, as the proposal is contained entirely on exotic pasture; and
- Construction activities being carried out to avoid the Superb Parrot's breeding season between September and December.

It must be noted that the Flora and Fauna Assessment was carried out prior to the amended design which now ensures no activities in the Muttama Creek corridor and which also incorporates significant plantings of native vegetation around the site and close to Muttama Creek (as discussed above in relation to the visual impact of the development). As seen in Figure 1, the development footprint excludes the areas of the existing paddock trees and includes a buffer around them and no native vegetation is required to be removed to accommodate the development. The proposed measures to ameliorate potential direct impacts are considered both reasonable and accurate with a condition limiting construction to times outside the non-breeding season of the Superb Parrot drafted for inclusion in any consent issued.

In relation to indirect impacts, those that do not directly affect the habitat or species but have the potential to interfere through indirect actions, the Flora and Fauna Assessment identified the following potential impacts:

- Introduction of additional weed species or facilitation of weed spread via construction activities;
- Increased sediment runoff from construction activities entering Muttama Creek;
- Increased predation by feral / domestic animals, where structures may allow easier access to nests or provide greater cover for predators; and
- Increased numbers of common bird species competing for nest hollows, resulting from increased open habitat and additional feeding resources from human activity.

The Flora and Fauna Assessment has also identified measures that can be taken to reduce these identified potential indirect impacts from the development:

- Weed spread can be influenced by vehicle movement controls and ongoing weed management during both construction and operation;
- Runoff to Muttama Creek can be mitigated by good site management during construction, including erosion controls;

- The inclusion of a 30m buffer around the paddock trees will significantly minimise potential impacts of feral predators by ensuring no structure supports their access to the trees; and
- Good site management, including the removal of all waste during construction as part of a construction management plan (discussed earlier in the report), will manage the risk of increased common bird species using the site as competition.

As noted previously, the existing, hollow-bearing trees will be retained and the only change to existing shrub and tree cover will be an increase in potential habitat availability from additional native species plantings on the site. The proposed additional native vegetation will also assist with soil retention and management on the site. Additionally, all works are now located outside the Muttama Creek corridor, further minimising potential indirect risks on the watercourse.

Threatened Species, habitat and biodiversity offsets
None of the native vegetation on the subject land was identified as potential habitat for threatened species listed under the Biodiversity Conservation Act or the Environment Protection and Biodiversity Conservation Act and none will therefore be impacted by the construction and operation of the solar farm. No assessments of significance were therefore required for threatened species listed under those pieces of legislation.

The Superb Parrot is listed as vulnerable under both pieces of legislation and a number of trees within the subject site and the Muttama Creek corridor were observed to be used by these birds. The Flora and Fauna Assessment included an assessment by the ecologists of the 'five-part test of significance' under the Biodiversity Conservation Act to determine whether the proposed activity would significantly impact this species. The assessment against each of the five criteria showed:

1. *Whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction*:

   The local population of Superb Parrots would include multiple birds and would extend well beyond the subject site due to the species' local foraging range (up to 10km) and migratory movements. No native vegetation or hollow-bearing trees will be removed for the development and buffer zones will be placed around the three large paddock trees; measures that will mitigate the impact to the life cycle of the local population. While the Development Footprint may impact the ground-layer/grassed area vegetation that provides potential foraging habitat for the Superb Parrot, it is unlikely that any impact on this potential feeding resource would significantly disrupt the feeding behaviour of the local population due to their high level of mobility and ability to feed up to 10 km from their breeding habitat. The adjacent riparian zone, which is also likely to be utilised as foraging habitat, will be kept intact and will provide additional future foraging habitat, as a result of rehabilitation works.

2. *In the case of an endangered ecological community or critically endangered ecological community:*
   whether the proposed development or activity is likely to have an adverse effect on the extent of the ecological community, or substantially or adversely modify, the community such that its local occurrence is likely to be placed at risk of extinction.

   No endangered or critically endangered ecological community is present on the subject land and this criterion is not applicable.

3. *In relation to the habitat of a threatened species or ecological community: The extent to which habitat is likely to be removed or modified, be fragmented or isolated, such that it would affect the long-term survival of the species or community.*

   As no native vegetation will be removed for the proposed development and 30m buffer zones are provided around the three large paddock trees present on the site, it is unlikely to directly impact the breeding habitat of the Superb Parrot. Modification of the potential foraging habitat will occur with the construction of the solar panels within the development envelope, however foraging characteristics of the Superb Parrot (outlined above) mean that the proposed modification of the feeding resource is minimal within the larger landscape context and the unmodified adjacent riparian corridor. The relatively small amount of potential foraging habitat for the highly mobile species, compared with potential foraging habitat remaining within the wider landscape, indicates that the ground-layer to be modified with the construction of solar panels, would not be considered important to the long-term survival of these species within the locality.

4. *Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).*

   The activity would not directly or indirectly effect any declared area of outstanding biodiversity value (AOBV) identified by the NSW Department of Planning, Industry and Environment. The Development Footprint does not occur on or near an AOBV.

5. *Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.*

   The activity related to the proposed development is not part of, or is likely to increase the impact of, any key threatening processes of relevance to this species listed under the BC Act.

The conclusion drawn from the 'five-part' test by the conducting ecologists was that the proposed activity would not have a significant impact on the Superb Parrot species.

Similarly, the ecologists' assessment of the proposal against the Significant Impact Criteria for vulnerable species under the Environment Protection and Biodiversity Conservation Act was that no significant impact was likely to result from the development and a referral to the Commonwealth Department of the Environment and Energy for assessment under the legislation was not required. A summary of the ecologists' assessment against each of the criteria is provided below:

1. *The likelihood of an action leading to a long-term decrease in the size of an important population of a species*
   An important population was defined in 2013 by the (then) Department of the Environment as a population that is necessary for a species' long-term survival and recovery. The impact from the development is unlikely to cause a decrease in the size of any Superb Parrot population in the long-term as no native vegetation will be removed and therefore no breeding habitat directly impacted. Potential indirect impacts can be addressed by providing a 30 m buffer zone around each tree for all above ground infrastructure (excluding fences) and for construction work to be undertaken in the non-breeding period to avoid disturbance to breeding birds. Although ground-layer vegetation, which the species use as a foraging habitat, will be directly impacted by the development footprint, the highly mobile nature of the species, their tendency to forage

up to 10 km from their breeding grounds and the extent of similar grassy ground-layer vegetation that largely dominates the region, a significant impact on the feeding of the population is unlikely.

2. *The likelihood of the action to reduce the area of occupancy of an important population.*
   The extent of impact on the population is unlikely to reduce the overall occupancy as no native vegetation is to be removed.

3. *The likelihood of the action fragmenting an existing important population into two or more populations.*
   No physical barriers that would prevent flight of the birds for dispersal, foraging or breeding activities will be introduced by the development. The population is using land on the outer residential suburbs of Cootamundra, between the town and the surrounding agricultural land, therefore additional fragmentation is not likely to occur, particularly given the area is adjacent to similar ground-layer vegetation in its surrounds. In addition, the riparian vegetation which the birds also use, will be kept intact.

4. *The likelihood of the action adversely affecting habitat critical to the survival of a species.*
   Critical habitat for the Superb Parrot includes foraging and breeding habitat. No native vegetation will be removed and the three large hollow-bearing paddock trees on the site will be retained with a 30 m buffer zone around them, to prevent impacts from construction and ongoing operation of the solar farm. These mitigation measures mean adverse effects to breeding habitat critical to the survival of the species is unlikely. As noted above, the birds are highly mobile feeders and have a broader grassed landscape context within which to feed, with the amount of land covered by the development footprint in that broader context not being critical to the species' survival.

5. *The likelihood of an action disrupting the breeding cycle of an important population*
   The retention of existing native vegetation and the 30m buffer zone around them will continue the existing connectivity of breeding individuals and therefore not disrupt their breeding cycle.

6. *The likelihood of an action to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.*
   The retention of native vegetation and its enhancement with additional native plantings, will ensure the proposal will not destroy, remove, isolate or decrease the availability of habitat for the Superb Parrot.

7. *The likelihood of an action to result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat*
   The proposal is unlikely to increase the introduction and establishment of invasive species that would be harmful to the Superb Parrot. The understorey layer is already highly disturbed from long term pasture improvement and is presently dominated by exotic pasture species and weeds. As the study area is still utilised as foraging habitat for the birds in this disturbed condition, introduction of invasive flora species is not likely to present a threat to this species. The project's environmental management plan will guide weed management during the construction and operation of the solar farm. Nest predation and predation of adults (by both native and introduced predators) have been identified as a minor threat to Superb Parrots. The proposed development will not introduce any factor that will likely increase the numbers and pressure of any invasive species that will result in nest predation.

8. *The likelihood of an action to introduce disease that may cause the species to decline, or interfere substantially with the recovery of the species.*
   The draft recovery plan for the Superb Parrot, currently in preparation by the Australian Government lists potentially fatal diseases that are exacerbated by ongoing loss of nest hollows, which results in intensified competition and use of remaining hollows. As no existing nesting hollows will be removed with the development, it is unlikely to contribute to the introduction or increased transmission of this disease, which may lead to a decline in the Superb Parrot. The construction will only take place when the birds are not breeding and the impact of noise, dust and heavy vehicle movement on the nesting trees will be eliminated for that critical period.

The ecologists also concluded that the development was assessed as not requiring entry into the Biodiversity Offsets Scheme as it did not meet trigger thresholds:

1. *Exceeding the clearing of native vegetation area threshold.*
   No native vegetation is proposed to facilitate the development
2. *Impacts on land included on the Biodiversity Value Map.*
   Neither the subject land, nor any surrounding land, is mapped as such.
3. *Significant impact on a threatened species.*
   Assessments under the Biodiversity Conservation Act and Environment Protection and Biodiversity Conservation Act found that, although a threatened species, Superb Parrot, was identified on site, the proposed activity would not have a significant impact on this species.

A submission received on the proposal raised an issue in relation to the effect on native wildlife along Muttama Creek, which (according to the submitter) includes the "rare" Azure Kingfisher, kookaburras, mammals and amphibians. The concern raised related to the use of spraying to control grass growth, with implications for runoff into Muttama Creek and from spray drift.

A search carried out by assessment staff indicates that, while the Azure Kingfisher is a bird that is generally found around freshwater rivers and creeks, billabongs, lakes, swamps and dams, where there is shady overhanging vegetation, it is recorded as 'widespread', occurring across northern and eastern Australia and east of the Great Dividing Range, including along major rivers of the Murray-Darling Basin. It is listed as endangered in Tasmania but no other State has recorded it as under threat. The Flora and Fauna Assessment did not identify it as a species found on the subject site or in the Muttama Creek corridor. It is not therefore easily established that the presence of the Azure Kingfisher is 'rare' as noted by the submitter; it may be simply that Muttama Creek is not a common habitat for the bird, given the creek's poor state of health. This is not to diminish the concerns of the submitter, including in relation to other fauna using Muttama Creek.

While no particular focus on the Azure Kingfisher is required, the submitter's concerns in relation to impacts on the river corridor and its flora and fauna must be considered and have been discussed earlier in the report in relation to Clause 6.5 of the CLEP and in relation to proposed earthworks and revegetation of the subject land. It must be noted that the submission was received in response to the initial proposal that included works in the riparian corridor, while the revised proposal moved the development footprint away from that area with no works proposed in the corridor. Additionally, planting has been proposed around the development footprint and adjacent to the creek corridor, actions that are expected to provide additional habitat, assist in soil health and management on the site and adjacent to the creek and to mitigate the development's visual impact to residents across the creek. It must also be noted that, as discussed throughout the report, Muttama Creek itself has been reported as in poor existing health and that the subject land is already degraded from extensive land clearing and past agricultural uses. As discussed in depth here, direct and indirect impacts from the development have been assessed by ecologists as being able to be ameliorated, managed and/or mitigated

The Flora and Fauna Assessment has concluded that the subject land has minimal biodiversity value and no threatened flora. It has also found that, while the development may have impact on a threatened species, Superb Parrot, that impact is not significant and can be managed, mitigated and/or ameliorated by a range of actions that have formed the basis of a number of recommendations made by the applicant's consulting ecologists. Given the assessment above, there is no clear reason why the application should be refused on the basis of flora and fauna impacts. The recommendations provided in the Flora and Fauna assessment are considered appropriate and reasonable to be imposed as conditions, where approval of the development is determined. These conditions would work to mitigate potential ecological impacts from the development and would ensure:

- A minimum 30m buffer zone is established and maintained around the three existing, large paddock trees. No aboveground infrastructure, other than fencing, should be be erected within the 30m buffer, with signage during construction and operation to clearly provide direction on the maintenance of this buffer zone;
- No construction work between September and December during the Superb Parrot breeding season;
- Weed management is to be undertaken during construction and operation phases to control existing weeds and ensure no new weed species are introduced. Weed management will need to be consistent with the Vegetation Management Plan submitted with the application and include techniques such as slashing, cut and paint, mechanical, with herbicide treatments as necessary.
- Prior to construction work beginning, the following controls should be implemented and maintained throughout the entire construction period:
    - Temporary tree protection around all vegetation to be retained, including physical barriers and signage;
    - Erosion and sedimentation controls around earthworks areas to prevent increased runoff and sediment entering Muttama Creek;

As discussed earlier in the report, an additional condition limiting the use of herbicides to those areas and reasons established in the Vegetation Management Plan submitted with the application would ensure potential impacts on Muttama Creek would be minimised.

Waste

The Statement of Environmental Effects notes that the likely wastes to be produced during the construction phase are:

- Wooden pallets, cardboard and plastic packaging from materials
- Wooden and steel cable reels
- Domestic waste generated by construction personnel, including food scraps, aluminium cans, plastic and cardboard containers
- General office waste from the construction site office (paper, printer toner etc.)
- Wastewater from portable onsite amenities.

The applicant has stated that wastes would be segregated and classified onsite in accordance with the EPA's Waste Classification Guidelines. In the first instance, suppliers would be encouraged to take back any leftover pallets or cable reels for reuse where possible. All residual wastes would be held on site in suitable containers (skip bins/recycling bins) and removed from the site by a licenced waste contractor as appropriate (including for sanitary facilities and asbestos as discussed earlier), or sent for recycling or disposal at an appropriate waste facility. The project is not expected to generate excess spoil material that can't be reused onsite, however if that occurs excess soil would be stockpiled and analysed by a suitably qualified environmental consultant for waste classification prior to offsite disposal or offsite reuse.

In its ongoing operations, the development is expected to generate little, to no, waste, and limited to solid waste occasionally generated from maintenance activities such as redundant/faulty equipment and packaging material from new parts. Waste generated during operation would be removed from the site at the completion of the maintenance activity, likely by O&M personnel or a waste contractor if required, and either recycled or disposed at an appropriate waste facility.

It is not expected that the waste generated from the construction or ongoing operations of the development would place pressure on the region's waste disposal/recycling facilities and all wastes can be suitably managed.

Replacement/Upgrading/Decommissioning of the development

A draft Decommissioning and Upgrading Plan was provided by the applicant to address how waste from the site will be managed, including its potential rehabilitation, into the future. As the life of the development is expected to be 25-30 years, it is reasonable that a draft be submitted as future technological and waste systems may alter substantially over the next three decades; to lock in certainty now may be counter-productive to future management of the site. The Plan states:

- Replacement

As project components become faulty or fail from time to time over the life of the development, replacement parts will be procured and delivered to the main site operator who would then attend the site and replace the part, following electrical isolation and restoration procedures and standards. Faulty parts under warranty would be returned to the manufacturer, otherwise would be taken to a suitable recycling or disposal facility. As recycling services for solar panels are available, all failed panels would be recycled (the Plan notes that solar panels contain approximately 80% of crystalline silicon that can be recovered through a refined recycling process, as well as glass, aluminium frames and other parts of the panels). Recycling will be the first option for faulty components where available, with appropriate disposal at a waste facility for elements that cannot be recycled.

- Upgrading

This would be a major upgrading of key infrastructure such as all of the solar modules when they reach the end of their operational life, expected to be some 25-30 years after their original installation, to enable the solar farm to continue to operate. A program of major upgrading would allow the ongoing operation of the facility and would be the preferred option where it is more economically favourable to do so. Where required, consents would be gained for the upgrade which would involve:

  - Installation of temporary site amenities such as portable offices and toilets;
  - Electrical isolation of the facility;
  - Un-installing components to be upgraded and their removal for reuse, recycling or disposal;
  - Installation of new materials;
  - Electrical restoration, testing and commissioning of the facility;
  - Stabilisation and rehabilitation of any disturbed ground; and
  - Removal of temporary site amenities.

- Decommissioning

Where it is determined that the solar farm is unviable, its decommissioning would be generally the reverse of its installation. While belowground infrastructure would likely remain in place to minimise ground disturbance, most of the materials removed are recyclable and can be dismantled and removed using conventional construction equipment. The Plan indicates it would

take approximately two months to finalise and, beyond obtaining relevant approvals/consents, would involve:

- Establishing a temporary compound of prefabricated offices and amenities that can be removed from the site at the end of the process;
- De-energising the electrical infrastructure and disconnecting the facility from the grid, to be undertaken according to relevant requirements and safety standards;
- Dismantling of solar arrays using conventional construction equipment to remove each panel from the tracking framework. They would then be recycled or re-used. The tracking infrastructure (including piles) would be removed from the ground and transported to a metal recovery or recycling facility. The inverter and other electrical equipment would also be sent to a metal recycling facility, while shipping containers can be used elsewhere;
- The battery system and components would be transported in their prefabricated forms to a specialist recycling facility. The Plan states they can be recycled, reused or reconditions, with cobalt, lead, iron, plastic, lithium, aluminium and other materials able to be recovered;
- Below ground concrete footings/foundations for the inverter, battery, shipping container, RMU and fence posts would be left in ground to minimise disturbance. Concrete footings would be covered with clean fill and stabilised, while aboveground materials such as gravel would be removed and managed in accordance with contemporaneous requirements;
- Fencing around the site may remain, depending on likely future uses, but if removed, would be reused or recycled;
- Underground electrical (encapsulated) cabling along the ends of the tracker rows would be left in place to minimise ground disturbance. Other cabling removed would be transported to a suitable recycling facility;
- The internal access road materials, if removed, would be classified and managed in accordance with contemporaneous requirements. The road may stay in place, depending on possible alternative uses for the site;
- Disturbed areas would be backfilled, graded to match the slope and contour of surrounding land and revegetated with grass cover to minimise erosion.

The Plan indicates standard practices and legal requirements would be followed, including for spills, unanticipated finds, retention of vegetation, dust suppression and protection of flora and fauna.

There can be no way of knowing what legislation, practices, systems and opportunities might exist 30 years into the future however, the Plan as submitted emphasises re-use, recycling and recovery of materials. It also seeks to minimise site disturbance which would lessen potential impacts on Muttama Creek and vegetation that will have grown around the development during its operating years. The approach outlined in the draft Plan is considered reasonable, and a condition has been included for any consent that would require a full decommissioning plan to be provided to the appropriate regulator at the time when the site is proposed to cease functioning as a solar farm.

Energy

The development has minimal energy requirements, and the issue of solar passive design is not relevant to this proposal. The development in itself is a form of renewal energy, and is consistent with the Australian Government's Renewable Energy Target (RET) scheme, which encourages the additional generation of electricity from sustainable and renewable sources to reduce greenhouse gas emissions in the electricity sector. The RET scheme works by allowing both large-scale power stations and the owners of small-scale systems to create large-scale generation certificates and small-scale technology certificates for every megawatt hour of power they generate. Certificates

are then purchased by electricity retailers (who supply electricity to householders and businesses) and are submitted to the Clean Energy Regulator to meet the retailers' legal obligations under the Renewable Energy Target. This creates a market which provides financial incentives to both large-scale renewable energy power stations and the owners of small-scale renewable energy systems. This development is consistent with the scheme.

Noise and Vibration

Noise was raised as an issue in a received submission, with concerns raised over noise from moving parts of the solar array, including trackers, inverters, transformers and relays cutting in and out. The Statement of Environmental Effects indicates that noise generating equipment from the development includes the solar tracker motors, Medium Voltage Power Station containing the inverter and transformer and the Battery Energy Storage System units and accompanying DC Converters.

A Noise Impact Assessment (NIA) was submitted with the application that assesses the operational noise impacts from the noise generating equipment. The NIA assessed the proposal for compliance with the NSW Environment Protection Authority's *Noise Policy for Industry (2017)* that sets assessment noise levels, consistent methods, and best practice measures to manage industrial noise, and is based on the latest scientific research regarding noise's health effects. It seeks to balance the need for industrial activity with the community's desire to minimise intrusive sounds.

The NIA methodology involved:

- Undertaking background noise monitoring at the nearest sensitive receivers to quantify existing noise levels;
- Identifying surrounding sensitive receivers potentially impacted by operational noise from the proposal;
- Determining operational noise criteria;
- Identifying noise sources associated with the proposal and assessing operational noise impacts at the nearest receivers using 3D noise modelling; and
- Recommending noise mitigation measures where required, to reduce noise levels to within compliant levels and minimise impacts on the community

Although the proposed development is located in an industrial zone, there are residences in the vicinity of the subject land. The NIA identified the potential noise sources from the operation of the development as being the trackers/modules (operating from approximately 5.45am to approximately 8.30pm, depending on the season with winter operating hours starting later and finishing earlier; and the MVPS, BESS and DC converters that would operate 24 hours a day. Additional operational noise sources are anticipated as maintenance vehicles entering and leaving the site during daylight hours (one vehicle every few months), and the operation of maintenance machinery (such as slashers) to keep ground cover at a reasonable level.

The noise modelling conducted for the NIA concluded that the project is predicted to comply with the Noise Policy for Industry for all sensitive receivers (including residential) during all time periods, including night time which has the most stringent noise criteria (and when the tracking machinery, in particular, would not be operating). Despite compliance of the development with relevant standards, the NIA recommended additional measures that could be taken to further reduce potential noise:

- Incorporation of a noise reduction kit into the design, construction and operation of the development. Such a kit would include a silencer for both the inlet and outlet of the MVPS which would eliminate tonal noise (at the 3150 Hz third octave band) and is anticipated to reduce the overall noise from the MVPS by approximately 3 dBA; and

- The positioning of the inlets and outlets of the MVPS and DC units to face in a north/south direction, away from the nearest residential receivers which are located to the east and west of those mechanical elements.

There is no clear reason why these recommendations should not be adopted and a condition to this effect has been proposed for inclusion in any consent granted. Given the stated compliance of the development with formally adopted EPA standards, including for night-time noise, and the additional noise control measures proposed by the developer, there is no reason to consider the noise generated by the proposal is of a level to warrant refusal of the proposal.

In relation to construction of the development, the SEE states that works will be carried out only in the 'standard' construction hours of Monday to Friday 7am – 6pm and on Saturdays from 8am – 1pm. Council's standard approach to construction working hours is from 7am to 6pm on Mondays to Friday, 8am to 5pm on Saturdays, with no work on Sundays. This is considered reasonable and a condition restricting the works to these hours has been proposed. An additional condition requiring a full Construction Environmental Management Plan to be prepared and submitted to Council prior to works commencing on site, has also been proposed. This would ensure the development proceeds according to defined standards, including noise containment measures. Overall, it is not expected that there will be any long-term adverse noise impacts from the development, and while all efforts will be made to minimise noise impacts during construction, any construction noise impacts are short-lived and transient in nature.

The development is not anticipated to result in vibration impacts, including from traffic to and from the site (discussed above in relation to traffic generation for the development) or from ongoing operations.

Natural Hazards
Issues relating to soils, flooding, bushfire and flooding have been discussed at length in this report, and there are no foreseeable or unmanageable risks that would preclude the approval of the development.

Technological hazards
There are no known risks to people, property or the biophysical environment from industrial and technological hazards, land contamination and remediation or building fire risk, with these issues and associated risks discussed throughout the report and particularly in relation to fire, flooding and land and water degradation.

Safety, security and crime prevention
The proposal includes the installation of a chain-wire mesh security fence, up to 2.1m height, around the perimeter of the solar farm footprint to prevent public access. It may have straight or cranked galvanised steel posts and 2-3 of rows of barbed wire for added security. The barbed wire is important to prevent unauthorised access to a high voltage facility. Lockable access gates would also be established in the security fence at the solar farm site entrance and one other location for emergency use. Emergency services would have access to the site, as discussed earlier in the report in relation to bushfire.

It is considered entirely reasonable for the proponent to secure their development from public access and for them to reduce public risk by installing such a fence. Vegetation provided to the development will help ameliorate any visual impact from the fence, although its transparency will also assist in that regard. It is not considered that the development would, in itself, create any additional safety, security or crime risks, nor its design or operation encourage criminal activity. Neither is it considered that the proposed development will negatively impact on the security and safety of adjoining properties.

Social Impacts in the Locality

It is not considered that the development will have a negative social impact in terms of the health and safety of the community, social cohesion, community structure, character, values or beliefs, social equity, socio-economic groups or the disadvantaged, or social displacement.

Economic Impact in the Locality

A concern in relation to the negative impact of the development on property values was raised in submissions received. Property values never have been, and still are not, a legal matter for assessment under the *Environmental Planning and Assessment Act, 1979*. Property values are very much a market-driven, and to a large degree, subjective matter; any given property is only worth an amount that a buyer is prepared to spend, no matter the property's location, condition or nearby development. The applicant has submitted that the visual impact of the proposal will be far less than any of the other permissible uses on the site and will be mitigated through landscape planting along the boundaries of the development footprint, a measure that would lessen any perceived impact from the proposal. As discussed earlier in the report, the landscape planting to be provided is an acceptable response to potential visual impact and the applicant cannot be expected, or required to do more than has been proposed, consistent with relevant legislation.

The applicant was asked specifically by the Southern Region Planning Panel to address issues of ongoing economic benefit/impact for the local community. The applicant's response stated:

- The proposed project has a construction value of approximately $11m and represents a significant contribution to regional investment and employment in the region;
- Based on the delivery of similar projects by the Proponent, it is anticipated the construction workforce will comprise approximately 30 workers, with local contractors and suppliers playing a major role in the project delivery. Early engagement has been undertaken with locally based contractors who are eager for the opportunity to participate in the construction of the project, which will take approximately six months;
- The project will provide opportunities for local workers to up-skill and gain experience in the growing renewable energy sector.
- Based on data published by the Clean Energy Council (The Clean Energy Australia report, 2022), Australia's renewable energy industry powered is generating more clean energy than ever before and adding a record amount of new capacity. The report notes that 68 large-scale projects were under construction or financially committed at the end of 2021, representing more than 9 GW of new capacity, over 35,000 jobs and over $18 billion of investment. The proposed project supports opportunities for locally based contractors and workers to accelerate their pathway into this growing industry, as well as strengthening the association of Cootamundra with renewable energy and clean energy technologies;
- The proposed project will provide additional long term economic benefits to the region through the opportunity to power local businesses and allow them to lower their energy costs with renewable energy. NSW is currently in the grips of an energy crisis threatening severe impacts to businesses and manufacturers if energy prices remain at current levels;
- The provision of low-cost renewable energy to Australian businesses is a core offering of the proponent, which currently supplies energy to well-known Australian businesses such as the Sydney Opera House, Westpac and RM Williams. Major Australian manufacturer, Molycop, with locally based operations in Cootamundra is another example of a NSW business utilising renewable energy to manage energy costs, which are provided through the proponent. The proposed project will bring low-cost renewable energy to the door of locally based businesses, producers and manufacturers, offering the opportunity to

manage long-term energy costs and remain competitive in high price conditions. With an expected project lifespan of approximately 30 years, this represents significant potential for the local region.

- In addition to the economic benefits offered through cost savings, the project also offers the opportunity for manufacturers and producers to increase the value of locally made products through improving the sustainability of their offering. Through becoming powered by clean energy and reducing the carbon footprint of their operations, businesses can add additional value to their product and access new markets. The proponent has worked with many NSW organisations which have achieved these goals through renewable energy and improved sustainability.
- The potential opportunity cost of the site for alternate industrial developments is considered to be low due to the flood-prone nature of the site which may preclude other industrial developments;
- The proponent understands that the demand for other industrial developments on the site has been limited for some time, with the site remaining undeveloped to date.
- Should there be future demand for industrial development on the site, there may be opportunity to explore the co-location of new industrial premises with the solar farm on greenfield areas. This arrangement may be well-suited to industries benefiting from higher sustainability credentials. Any such potential development would need to carefully consider the flood prone nature of the site.

None of these arguments by the proponent can be negated with any great strength. Federal and State governments are pushing for developments such as these and they use the arguments raised by the applicant; immediate construction employment, skills gains, access to lower-cost power which are key NSW State Government outcomes. There is no requirement in the legislation for a developer to 'give back' to the community in terms of sponsorship, grants or the like and it is considered that the assessed low impact of this development does not lend itself to something like a voluntary planning agreement. Where relevant, the development would be subject to Council's contributions policies that are developed and adopted principally as a means to provide for developments to 'give back' or contribute to community outcomes in an ongoing way. While questions as to the usefulness of the flood prone land for other industrial developments are not a valid development assessment issue, it is not a valid development assessment issue to require a developer to put forward an ongoing community benefit. Accordingly, in this instance, it is not considered that refusal of the development on the basis of economic impacts is warranted.

Site Design and Internal Design:

As this assessment has shown, the design of the development has responded to to environmental conditions and site attributes including flooding, the size and shape of the land, identified Aboriginal cultural heritage, bushfire risk, the potential for visual impact on adjoining properties and the ability to maximise the renewable energy gain from the solar panels. There is no identified reason to refuse the development on the basis of its site and internal design.

Construction Matters:

The environmental issues and impacts associated with the construction phase of the development have been addressed throughout this report as necessary. This includes such things as erosion and sedimentation control, dust control, traffic etc., and whilst there may be short-term impacts during the construction phase, overall the impacts will be minimal and acceptable. A condition requiring a full Construction Environment Management Plan has been proposed that would detail how the construction site would be managed and any impacts (noise, dust, waste etc) would be mitigated.

Cumulative impacts
Cumulative impacts relate to different impacts occurring so close in time, or so close in location, that the impacts overlap and cause a greater impact. Cumulative impacts can also take the form of repetitive, often minor impacts that erode environmental conditions, or different types of impacts interacting to produce another impact. This assessment has considered a range of potential cumulative impacts of the development, in issues such as glint and glare, noise, traffic, flood and bushfire. The assessment is that, given the short-lived nature of the impacts of the construction phase, and the minimal long-term impacts of the development, the cumulative impacts are not expected to be different or significantly greater than that already posed by the existing use of the site.

4.15(1)(c) - The suitability of the site for the development:

Does the proposal fit in the locality ?
There are no constraints posed by adjacent developments that would prohibit or limit the development, given the size of the property, the likely impacts of the development and the amelioration measures proposed. Visual impact, including glint and glare, has been considered and can be appropriately managed and/or eliminated; potential air quality and microclimate impacts are appropriate for the development or can be managed. It is an industrial development in an appropriately zoned area with no negative impacts on surrounding industry; ambient noise levels have been assessed as suitable for the development; and flooding and bushfire risk appropriate responses built into the design of the development. Additionally, a Preliminary Hazards Analysis has found that identified risks can be managed throughout the operation of the development. No concerns are raised in relation to the fit of the development in the locality and it is considered a preferable development outcome than any other of the permissible uses in the zone, given the flooding constraints of the site and its proximity to Muttama Creek.

Are the site attributes conducive to development ?
Flooding risk has been assessed and considered reasonable for the type of development. Subsidence, slip or mass movement is not likely. Bushfire management and mitigation measures will be installed. Impacts on Muttama Creek have been virtually eliminated by removing any works from the 40m buffer zone of the creek and there are no critical habitats, or threatened species, populations, ecological communities or habitats evident in the Creek or on the subject land. The development will not prejudice future industrial development in the long-term as the land can be used for such purposes when the site is decommissioned (or co-located while it is operating), and there are no known mineral or extractive resources on the site. This issue of potential site contamination has been discussed previously and is considered satisfactory. Potential visual impacts from the development have been identified and ameliorated. The site is suitable for the development.

4.15(1)(d) - Any submissions made:

The majority of issues raised in the submissions have been addressed throughout this report, with remaining issues discussed as follows:

- Heat production from under the solar panels.
  The submission raised issues in relation to increased heat effects from de-vegetated land under the solar array, and suggested grass be left under the panels to reduce heat effects. This is exactly what is proposed by the applicant; all areas of the site that are not given over to internal roads, tracking rows on which the solar panels are mounted or to ancillary

structures such as the battery storage unit, will be vegetated and grass will be left to grow (maintained) under the panels.

- Loss of property values
  Impacts on property prices are not an assessment issue under s.4.15 of the Act and in reality, are subject to market (not regulatory) forces. A property in any development context, is only worth an amount that a purchaser is prepared to pay at a given point and those in residential premises in close proximity to industrial land must always expect industrial development. Where Council was validly able to assess an impact on property prices over time, it could reasonably be argued that a solar farm is a lower impact development than any of the other, more intrusive and intensive industrial developments that are permissible and could be developed on this site.

- The site location plan is not intelligible and is a copy of very old tatty maps. Council should require better of developers.
  This submission is understood to relate to a copy of an original Deposited Plan for one of the subject land parcels that was submitted with the application; that copy is indeed somewhat the worse for wear and obviously does not show any details of the proposal. The site plan submitted by the developer is considered sufficiently clear and detailed to show the proposed development.

Each of the issues raised in submissions has been considered in the assessment of this proposal and it is considered that none of them would require the application to be refused, particularly where the applicant has directly responded to an identified issue, such as visual impact, with a reasonable response that clearly ameliorates, or eliminates, the identified concern.

4.15(1)(e) - The public interest:

Whilst not applicable to this development based on its size, the NSW Government's publication *Large-Scale Solar Energy Guideline for State Significant Development* (December 2018), has been considered in the assessment of this proposal, in regard to the following key issues:

- ***strategic context*** – this development contributes to NSW achieving net-zero emissions by 2050 as set out in the NSW Climate Change Policy Framework, and delivers on the Commonwealth's Renewable Energy Target Scheme and NSW's Renewable Energy Action Plan,
- ***permissibility*** – the development is permitted in accordance with both the Cootamundra LEP 2013 and SEPP (Transport and Infrastructure) 2021;
- ***approvals*** – the proposal is to be considered and determined by the Southern Region Planning Panel, with no other formal approvals required. The applicant has shown that they have liaised with Essential Energy and made necessary arrangements for connection to the wider electricity network;
- ***site constraints*** – the site is not constrained by areas of biodiversity, nearby residential zones, Biophysical Strategic Agricultural Land (BSAL), irrigated cropping land, land with soil capability classes 1, 2 and 3 or prospective resource developments. The application has shown flooding constraints are appropriate for the development with minimal wider impact on flood behaviour. Constraints relating to visibility and topography (in relation to Aboriginal heritage) have been addressed by placing the whole of the development (solar panel array) outside identified areas and by additional vegetation planting;
- ***assessment issues –*** the issues of land use conflicts, traffic and transport, biodiversity, heritage, visual impact, water, hazards, health, waste, cumulative impacts, social and economic impacts, noise and the public interest have been thoroughly considered above.

The *Riverina Murray Regional Plan 2036* has been developed to plan for future population's needs for housing, jobs, infrastructure and a healthy environment, in the Region. The Plan comprises four goals, 29 directions and 116 actions. The goals articulate the intended outcome; the directions identify the broad issues or policy areas that need to be focused on and the actions represent the steps to be taken or initiatives to introduce / implement to achieve the goals. Actions are either implemented as strategies or as initiatives.

Given the diversity of the issues in the Plan, and the large region it covers, it stands to reason that not every action is relevant to every activity or development. It is considered that this report has shown that the development is consistent with the following direction and actions in the Plan:

Direction 11: Promote the diversification of energy supplies through renewable energy generation

- 11.1 Encourage renewable energy projects by identifying locations with renewable energy potential and ready access to connect with the electricity network.
- 11.3 Promote appropriate smaller-scale renewable energy projects using bioenergy, solar, wind, small-scale hydro, geothermal or other innovative storage technologies.

The policy positions of the Australian and NSW Governments, relating to renewable energy targets, and how it applies to other developments, have been discussed elsewhere in this report.

Staff are not aware of any other policy statements from either Federal or State Government that are relevant to this proposal, nor any other planning studies or strategies. Overall, the proposal would not contravene the public interest.

OTHER MATTERS:

Section 7.11 and 7.12 Contributions Policies:

Section 7.12(2) of the EPA Act, states that "*a consent authority cannot impose as a condition of the same development consent a condition under this section as well as a condition under section 7.11*". Accordingly, Council can only require payment of either a 7.11 or 7.12 contributions.

Section 7.11 Contributions Plans

The only Section 7.11 plan in force is the "Development Generating Heavy Vehicle Usage of Local Road", which only applies in Gundagai and therefore not to this proposal.

Section 7.12 Contributions Plans

The *Cootamundra-Gundagai Regional Council Section 7.12 Fixed Development Consent Levy Contributions Plan 2018*, applies to this development and determines that, for developments over $200 000, a levy of 1% of the development cost is applied. For this development valued at $11.3 million, a levy of $113 000.00 is payable and a condition requiring payment of the levy prior to issue of a construction certificate has been proposed for inclusion in any consent granted.

Disclosure of political donations and gifts:

The applicant and notification process did not result in any disclosure of Political Donations and Gifts.

CONCLUSION:

In the assessment of a development application, Council must consider the issues identified in this report, consistent with the requirements of the *Environmental Planning and Assessment Act, 1979*,

and essentially weigh up the positive and negative impacts of the proposal. In doing so, Council does not necessarily have to be assured that there are no impacts at all, but must be confident that those that do exist, are acceptable. In fact, there is no rule that says that if a development proposal meets with a negative reaction on any particular factor, that consent must be denied (a position supported by various Land and Environment Court outcomes).

The assessment of this development application, including studies and reports from suitability qualified consultants has considered addressed the mandatory matters under Section 4.15 of the Act. That assessment has shown that:

- the site is appropriate for the development;
- that the development has been designed to address the constraints of the site (flooding, visual impact, presence of Muttama Creek, Aboriginal cultural heritage);
- potential impacts on flora and fauna can be ameliorated or managed to ensure no significant or negative long-term loss of species or communities;
- impacts such as stormwater drainage, construction traffic, noise and dust can be managed through conditions of consent;
- the development would not result in any significant reduction in the industrial productivity or opportunities of the LGA, the township or the region. Additionally, the site could be easily returned to, or co-located with other, industrial uses after the project is decommissioned, without its existing industrial capability being affected; and
- the 10Mwh of renewable energy generated by the development will support both State and Federal Government action and strategies to reduce reliance on fossil-fuels and reduce carbon emissions.

It is believed that this report demonstrates that the development is an appropriate use of the site, and has been designed to minimise the potential impacts on surrounding land users and the environment. All matters under the relevant legislation have been considered, and it has been determined that there are no reasonable grounds upon which to refuse the application.

SCHEDULE 1, DIVISION 4, CLAUSE 20 - REASONS FOR THE DECISION:

This section of the Act requires the public notification of certain decisions, the date of the decision, the reasons for the decision and how community views were taken into account in making the decision. The reasons for the decision (as recommended) and how community views were taken into account, as it relates to this application are:

- the proposed development is not inconsistent with the objectives of the zone,
- the proposed development is permitted in the zone,
- assessment of the development against Section 4.15 matters for consideration, demonstrates that the proposed development will not cause significant adverse impacts on the surrounding natural environment, built environment and infrastructure, community facilities, or local character and amenity;
- the site is appropriate for the development;
- the development has been designed to address the key constraints of the site, being flooding, visual impact, Aboriginal cultural heritage and its location in relation to Muttama Creek;
- there will be no short or long-term impact on the overall industrial productivity of the region, local government area or township of Cootamundra;
- the development is consistent with the Federal and State Government's actions plans and schemes relating to emissions reduction and renewable energy production;
- the proposed development is appropriate having regard to all relevant matters and can be managed through recommended conditions in accordance with that of the department; and

- neighbour notification was carried out consistent with statutory requirement, and each of the issues raised has been addressed within the report, and shown to be either of no relevance, appropriately ameliorated or managed by an element of the design of the development, or able to be managed by conditions of consent.

DEVELOPMENT ASSESSMENT SIGNING OFFICER:

Tanya Cullen
Town Planner (casual)

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