

COUNCIL ASSESSMENT REPORT

Panel Reference	2018STH008
DA Number	2018/11
LGA	Junee Shire Council
Proposed Development	Construction and operation of a 26MW solar farm
Street Address	346 Old Sydney Road, Marinna
Applicant/Owner	Terrain Solar/ John Moloney
Date of DA lodgement	14 February 2018
Number of Submissions	Five
Recommendation	Approval, subject to conditions
Regional Development Criteria (Schedule 7 of the SEPP (State and Regional Development) 2011)	In accordance with Schedule 7 of the SEPP (State and Regional Development) 2011 the subject development is private infrastructure and community facilities over \$5 million. The proposal has a capital investment value of \$28 million dollars.
List of all relevant s4.15(1)(a) matters	Environmental planning instruments: s79C(1)(a)(i) <ul style="list-style-type: none"> • State Environmental Planning Policy (Infrastructure) 2007 • State Environmental Planning Policy (Rural Lands) 2008 • Junee Local Environmental Plan 2012 • Junee Section 94A Levy Contributions Plan 2016
List all documents submitted with this report for the Panel's consideration	<ul style="list-style-type: none"> (a) The Development Application 2018/11 dated 15 February 2018, submitted to Junee Shire Council (b) The Statement of Environmental Effects, dated February 2018, prepared by Geolyse (c) The Aboriginal Archaeological Due Diligence Assessment, Junee Solar Farm, dated 2 January 2018 prepared by EMM Consulting (d) The Biodiversity Assessment, Junee Solar Farm, dated 13 February 2018 prepared by EMM Consulting (e) The Junee Solar Farm – Noise and Vibration Impact Assessment, dated December 2017 prepared by Assured Monitoring Group (f) The Visual Amenity Assessment prepared by IRIS Visual Planning + Design, dated July 2018 and Memo and photomontages dated 11 October 2018, Landscape Concept Plan, Landscape Concept Sections, Plant Lists and Photomontages of Viewpoints 3 and 6. (g) The Concept Farm Plan and Detail Views, prepared by Geolyse, dated 4 October 2018 (h) The Site Design and Ground Cover Assessment for Junee Solar Farm, prepared by Terrain Solar (includes copy of Manildra Solar Farm Operations Environmental Management Plan) (i) Copy of Manildra Solar Farm Groundcover Management Plan
Report prepared by	Temora Shire Council
Report date	18 October 2018

Summary of s4.15 matters

Have all recommendations in relation to relevant s79C matters been summarised in the Executive Summary of the assessment report?

Yes / No

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 / No / Not Applicable

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?	Yes / No / Not Applicable
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Special Infrastructure Contributions

Does the DA require Special Infrastructure Contributions conditions (S94EF)?

Yes / **No** / Not Applicable

Note: Certain DAs in the Western Sydney Growth Areas Special Contributions Area may require specific Special Infrastructure Contributions (SIC) conditions

Conditions

Have draft conditions been provided to the applicant for comment?

Yes / No

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

PLANNING REPORT

JUNEE SOLAR FARM

Report to Southern Joint Regional Planning Panel

Prepared by Claire Golder, Town Planner, Temora Shire Council, on behalf of Junee Shire Council

EXECUTIVE SUMMARY

This amending planning report has been prepared in response to the second provision of additional information by Terrain Solar, in response to the decision of the Southern Joint Regional Planning Panel (SJRP) to defer their determination of an application to construct and operate a 26MWp solar farm at 346 Old Sydney Road, Marinna. The deferral decision was made at the electronic meeting of the SJRP held between 21 August 2018 and 31 August 2018. The SJRP required that the decision be deferred for the following:

1. The Panel defers the determination of Development Application No. 2018/11 at 346 Old Sydney Road, Marinna for a solar farm for the applicant to provide the following:
 - Details in metres of the actual spacing between panels at the Mt. Majura solar farm, (which is used as evidence of appropriate ground cover), and similar details for a comparable (to Marinna) solar farm site.
 - Details of the condition of ground cover over an extended period at the Mt. Majura site and any other comparable site (with single axis solar cells in similar layout and similar soil and climate to the proposed arrangement at Marinna). Details to demonstrate how ground cover condition has been monitored and managed over time to maintain cover and manage weeds and fire risk.
 - Photomontage with the solar cells to be included in the visual impact assessment. The visual assessment should include locations when viewed from the immediately adjoining site, within proximity to the common boundaries.
 - Landscape plan to include provision for canopy trees.
2. The applicant should be advised that the panel is not supportive of a vegetation buffer of less than 10 metres, and that the Panel's requirement as outlined in the resolution of the 6th June 2018 remains.

The applicant has provided additional information to respond to the deferral decision of the SJRP, through the following information:

1. Request for further information #2 letter
2. Site design and ground cover assessment
3. Addendum to the Visual Impact Assessment, including photomontage and updated landscape plan to increase screening and include canopy trees
4. Updated solar farm plans, specifying the 5m tracker spacing and 10m vegetation buffer

5. Detailed analysis of the most similar operational solar farm, being the Manildra Solar Farm, located in central west NSW. This includes copies of the Operational Environmental Management Plan and Groundcover Management Plan, to provide guidance on the level of detailed information that would be required to be prepared and accepted in relation to the proposed Junee Solar Farm.

Conditions of consent have been amended in response to the recommendations of the SJRPP.

By way of review, the proposal involves the installation of solar photovoltaic panels, with supporting inverter stations and transformer substation across a 93 hectare footprint. The subject land is a predominantly cleared agricultural property.

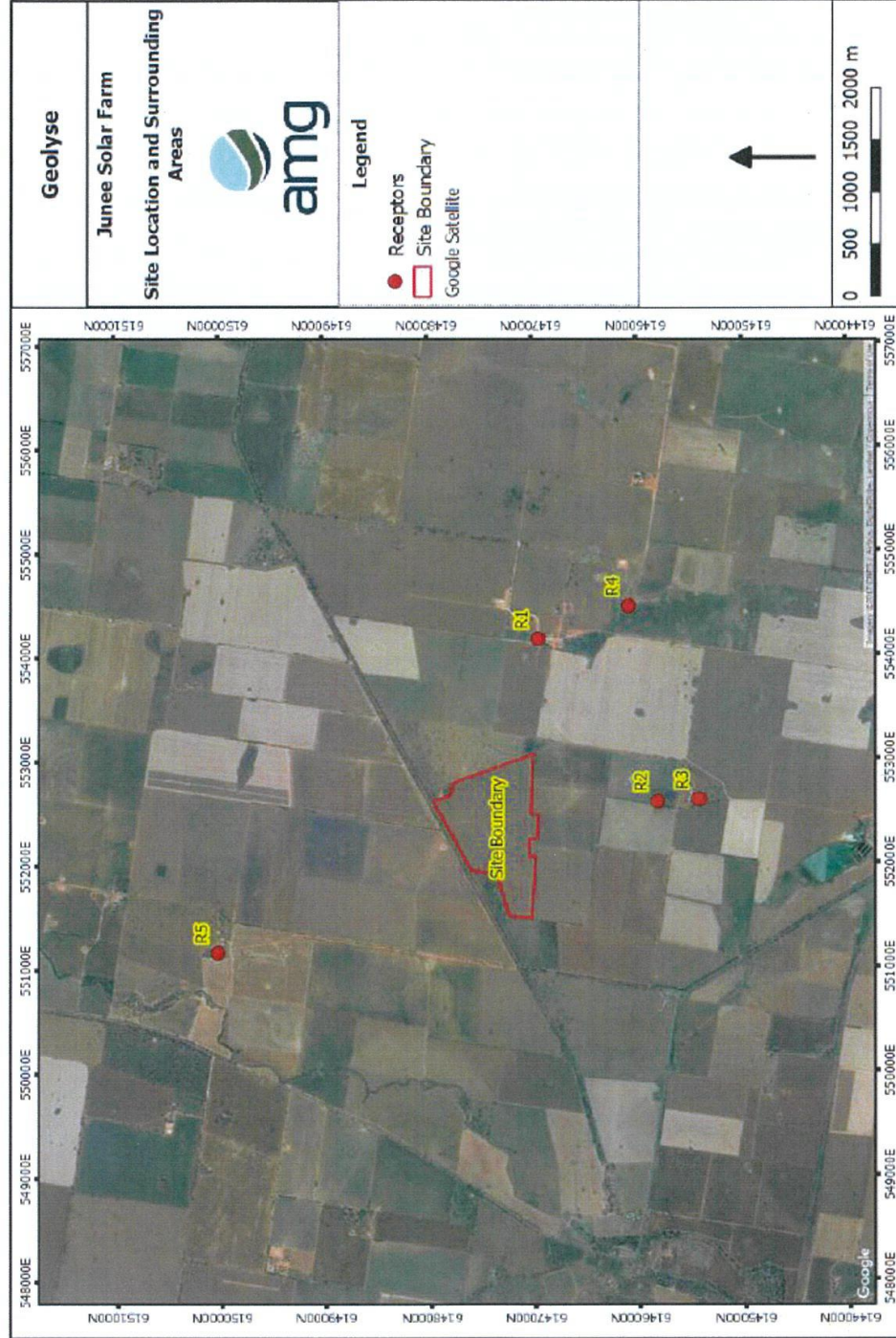
The proposal is private infrastructure and community facilities over \$5 million. The proposal has a capital investment value of \$29.28 million dollars.

The proposal was placed on public exhibition from 22 February 2018 to 22 March 2018 in accordance with the *Environmental Planning and Assessment Act 1979*, *Environmental Planning and Assessment Regulation 2000* and the Junee Shire Development Control Plan 2015. Five submissions were received during the notification period. Issues covered by submitters included biodiversity, Aboriginal cultural heritage, loss of agricultural land, vegetation management, including managing herbicide resistance, site rehabilitation, visual impact, bushfire risk, water runoff and related weed management issues.

The application is recommended for approval as the development will have a positive economic benefit for the broader community by providing renewable energy using efficient solar panels. Impacts of the proposed development can be suitably mitigated through suitable environmental management plans, including ongoing groundcover monitoring and management, retention of existing patches of native vegetation and provision of 10m wide vegetation screen.

DA No.	2018/11
APPLICANT	Terrain Solar
PROPERTY	Part Lot 2 DP 585471 and Part Lot 3 DP 585471, 346 Old Sydney Road, Marinna
OWNER	John Maloney
PROPOSAL	<p>The construction and operation of a 26MW solar farm, including:</p> <ul style="list-style-type: none">• Solar voltaic modules• Steel racking and pile supports• Electrical transformers and inverters• Electrical cabling• Telecommunications equipment• An operations and maintenance building• Site substation,• Perimeter fencing,• Landscape screen planting, and• Access from Old Sydney Road

NOTIFICATION	<p>Advertising of this application for a period of thirty-two (32) days was provided as part of the assessment process, from 22 February 2018 to 22 March 2018.</p> <ul style="list-style-type: none"> • Notification letters to twenty-three (23) adjoining/nearby landowners, located within 3 kilometres of the subject lot boundaries. • Notification letters to NSW Office of Environment and Heritage and NSW Department of Primary Industries • Newspaper advertisements on Thursday 22 February and Thursday 1 March 2018 • Council's website and social media awareness
SITE DESCRIPTION	<p>The development site is located approximately 5 kilometres north of Junee, and consists of part of two adjoining lots, with an irregular shape, fronting Old Sydney Road and covering an area of 93 hectares.</p> <p>The site is predominantly cleared and used for agricultural purposes, cropping and grazing, and contains a few scattered paddock trees.</p> <p>Adjoining land is also used for similar agricultural purposes. The closest dwellings to the subject site are five dwellings, two located 1.1km away from the development site, and the remaining closest dwellings located at 1.5km, 1.6km and 2.4km from the development site.</p> <p>The following two maps show shows the location of the proposed development site within the existing lot configuration; and the location of the proposed development, within the rural land setting, and the proximity of nearby residences.</p>



<p>DEVELOPMENT DESCRIPTION</p>	<p>Specific details of the development are:</p> <p>The development consists of solar panels, arranged in rows, proposed to be spaced a minimum of 5m apart, which will tilt to a maximum height of 2.6m. The project includes the provision of inverter stations, with dimensions of small shipping container size of 2.5m high, 6.05m long and 2.43m wide. These are located on elevated platforms to give an overall height of 3.5m.</p> <p>The project also includes the provision of a substation, with dimensions being a secure enclosure, up to 50m x 30m with several items of electrical equipment and supporting structures.</p> <p>The proposal also includes an operations and maintenance building, approximately 9.6m long, 3.4m wide and 3m high.</p> <p>The row spacing of the solar panels has been supported through additional information supplied by the applicant. This is detailed information about the most similar operational solar farm to the proposed Junee Solar Farm, this being the Manildra Solar Farm, located in central west NSW. The proposed 5m tracker spacing is consistent with these approvals.</p> <p>In addition, the applicant has provided photographs of the Manildra Solar Farm, in order to demonstrate the ability of groundcover to be maintained using a similar tracker spacing that is proposed for the Junee Solar Farm. This is considered to be satisfactory evidence that the solar panels may be installed and operated, whilst still achieving suitable levels of groundcover. The proposed development will be conditioned to ensure that the groundcover remains in a suitable condition for the life of the project.</p> <p>The proposal includes the provision of a 10m wide landscape buffer, which includes native grasses, shrubs and canopy trees, to be planted around the entire development site boundary, in order to reduce the visual impact of the proposed development to a satisfactory level. Two photomontages of views towards the development site are provided as evidence of the reduction in visual impact of the proposal, as a result of the inclusion of the vegetation screen planting.</p>
<p>ASSESSMENT</p>	<p>The following matters are considered under section 79(C) of the Environmental Planning and Assessment Act, 1979, as part of the assessment of the proposal.</p> <p><u>State Planning Controls</u></p> <ol style="list-style-type: none"> 1. State Environmental Planning Policy (SEPP) (Infrastructure) 2007 is relevant to this application. <p>The application is considered under Division 4, Electricity generating works or solar energy systems. The application falls within the definition of a solar energy system, which includes a photovoltaic electricity generating system. Under Clause 34,</p> <p>(7) Solar energy systems</p>

	<p>Except as provided by subclause (8), development for the purpose of a solar energy system may be carried out by any person with consent on any land.</p> <p>(8) Development for the purpose of a photovoltaic electricity generating system may be carried out by a person with consent on land in a prescribed residential zone only if the system has the capacity to generate no more than 100kW.</p> <p>As the proposal is not located on land that is zoned prescribed residential land, the proposal can be considered for consent.</p> <p>2. SEPP (Rural Lands) 2008 is relevant to this application.</p> <p>The aims of this Policy are as follows:</p> <ul style="list-style-type: none"> (a) to facilitate the orderly and economic use and development of rural lands for rural and related purposes, (b) to identify the Rural Planning Principles and the Rural Subdivision Principles so as to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State, (c) to implement measures designed to reduce land use conflicts, (d) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations, (e) to amend provisions of other environmental planning instruments relating to concessional lots in rural subdivisions. <p>The proposal responds to these aims, as the proposal is limited to a total development area of 93 hectares of rural land. The landowner has sufficient remaining agricultural land to continue farming operations. The design has responded to the need to reduce land use conflicts by separating the proposed structures from existing rural dwellings. The proposed use will not impact upon the ability of adjoining and nearby landowners to carry out normal farming operations.</p> <p>The Rural Planning Principles within the Policy are as follows:</p> <ul style="list-style-type: none"> (a) the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas, (b) recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State, (c) recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development, (d) in planning for rural lands, to balance the social, economic and
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	<p>environmental interests of the community,</p> <ul style="list-style-type: none"> (e) the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land, (f) the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities, (g) the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing, (h) ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General. <p>The proposal has responded to the rural planning principles by presenting a sustainable economic activity in a rural area, which provides both social and economic benefits to a rural community, and will not result in adverse environmental outcomes.</p> <p>The proposal manages impacts upon local native vegetation and biodiversity to acceptable levels through siting the development around existing native vegetation patches and limiting clearing to eleven isolated paddock trees.</p> <p>The proposal will not result in demands on water resources and local flooding, drainage and erosion risks can be managed as part of proposed controls.</p> <p>During the proposed twelve month construction period, vehicle movements will be higher than current levels. Peak daily movements during construction are expected to be up to 140 light vehicle movements and 40 heavy vehicle movements. This would require management to ensure construction activity does not adversely impact upon normal agricultural operations or road safety for other road users.</p> <p>Following completion of the project, the expected low levels of maintenance vehicle traffic will not result in significant demands upon local road infrastructure.</p> <p>There are no deemed SEPPs which relate to this Region.</p> <p>The applicant proposes that any required subdivision of the site, as part of future lease or purchase arrangements, will be dealt with as part of a future application, if the consent for the solar farm is approved. This is acceptable under the Junee Local Environmental Plan 2012.</p> <p><u>Local Planning Controls</u></p> <p>The site is zoned RU1 Primary Production under the Junee Local Environmental Plan (LEP) 2012.</p> <p>The proposed use of solar energy system is not permitted with consent in this zone. However, the proposal relies on permissibility with consent under SEPP</p>
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	<p>(Infrastructure) 2007.</p> <p>The objectives of the RU1 Primary Production zone are:</p> <ul style="list-style-type: none"> • To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To encourage diversity in primary industry enterprises and systems appropriate for the area. • To minimise the fragmentation and alienation of resource lands. • To minimise conflict between land uses within this zone and land uses within adjoining zones. • To allow the development of processing, service and value adding industries related to primary production. • To encourage tourist and visitor accommodation that does not have an adverse impact on agricultural activities. • To allow for the development of non-agricultural land uses that are compatible with the character of the zone <p>The proposal responds to the objectives of this zone, as it is a non-agricultural use, compatible with the character of the zone, with low noise and low traffic generation once construction is complete. The development responds to the local natural resources of high solar radiance and gently undulating topography. The proposal does not inhibit the nearby routine farming operations, as these can continue around the operations of the solar farm.</p> <p>The proposal has been designed to minimise conflict with adjoining land uses by separating the proposed solar structure from existing dwellings, with screening of the site through existing vegetation and gentle changes in the topography to shield broad views of the proposed solar farm. The applicant also includes a ten metre wide landscape screening buffer around the development site boundary, consisting of suitable native grasses, shrubs and canopy trees, to achieve a softening of the visual impact of the development to an acceptable level.</p> <p>The proposal is obviously a change from a primary production use of the land, however the proposal includes a concept decommissioning plan, for a future return back to primary production land use.</p> <p>The Junee Shire Council Development Control Plan 2015 is relevant to this</p>
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<p>LIKELY IMPACTS</p>	<p>application. The chapters relevant to this proposal are:</p> <ul style="list-style-type: none"> • Notification of Development Applications The application has been notified to the adjoining landowners and public authorities, and has been advertised in accordance with the above chapter of the DCP. • Advertising Signs No advertising signage is proposed, however suitable site identification signage will be provided, including emergency contact details. • Onsite sewage and wastewater management The applicant proposes temporary amenities during the construction period. Post construction, the applicant proposes a small scale onsite disposal system suitable for approximately three permanent onsite employees. This is considered to be acceptable. <p>Environmental</p> <ul style="list-style-type: none"> - Natural <p>The proposal is located on cleared farmland. Eleven paddock trees are proposed to be removed as part of the development. The applicant has included a proposed process to mitigate impacts of the removal of these trees, including procedures for selecting an appropriate time of year for tree felling, tapping trees with machinery prior to felling, and leaving trees on the ground for one day after felling to allow for relocation of any fauna. The proposal will also require the clearing of up to 0.02 hectares of Blakey's Red Gum – Yellow Box grassy tall woodland in order the support site access.</p> <p>The proposal requires the planting of a 10m wide vegetative screen of native vegetation. This will provide additional native vegetation in a largely cleared area.</p> <p>The site is not identified as being with a Flood Planning area. Erosion risk during and post construction can be managed through relevant conditions of consent.</p> <p>The site is not identified as contaminated land.</p> <p>Noise impacts during construction will be managed through conditions to limit the timing of construction to approved construction hours. No noise impacts post construction are expected.</p> <p>Air quality impacts will require management during construction, to suppress dust generation. This will include strategic watering and suspending works during excessively dry and windy conditions.</p> <p>The applicant has provided additional information in response to the panel's request for:</p> <ul style="list-style-type: none"> • Details in metres of the actual spacing between panels at the Mt. Majura solar farm, (which is used as evidence of appropriate ground cover), and similar details for a comparable (to Marinna) solar farm site
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- Details of the condition of ground cover over an extended period at the Mt. Majura site and any other comparable site (with single axis solar cells in similar layout and similar soil and climate to the proposed arrangement at Marinna). Details to demonstrate how ground cover condition has been monitored and managed over time to maintain cover and manage weeds and fire risk.

Comparable operating solar farm and tracker spacing

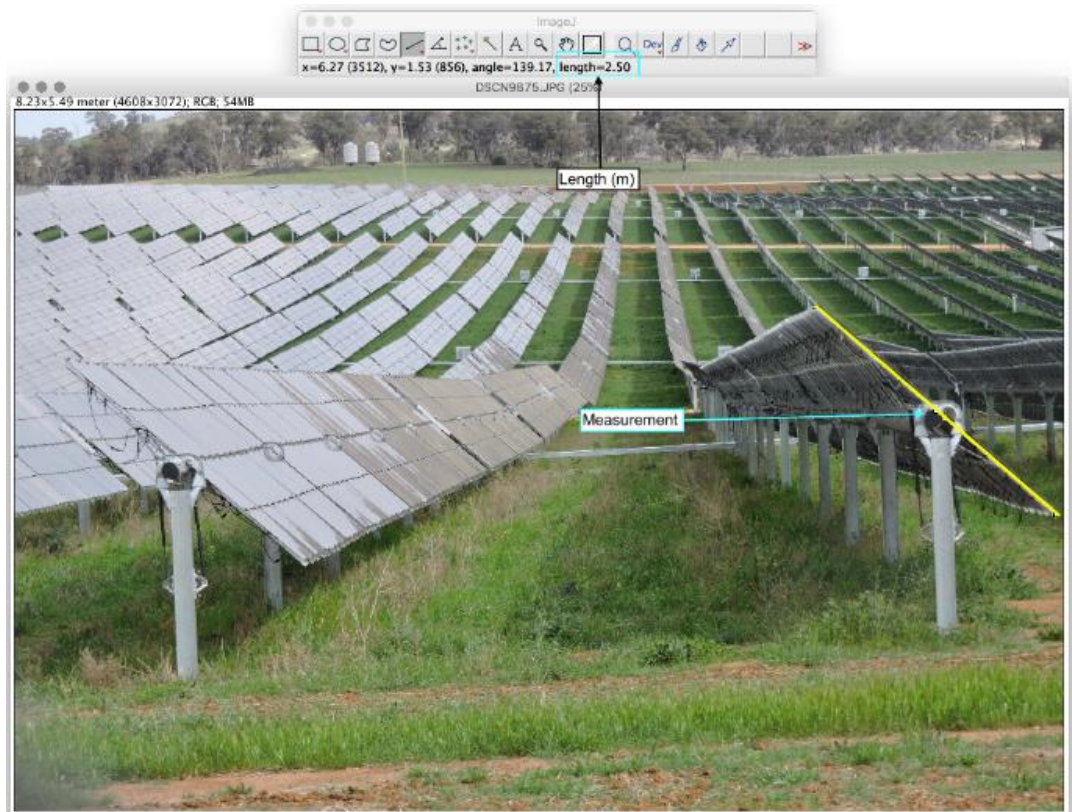
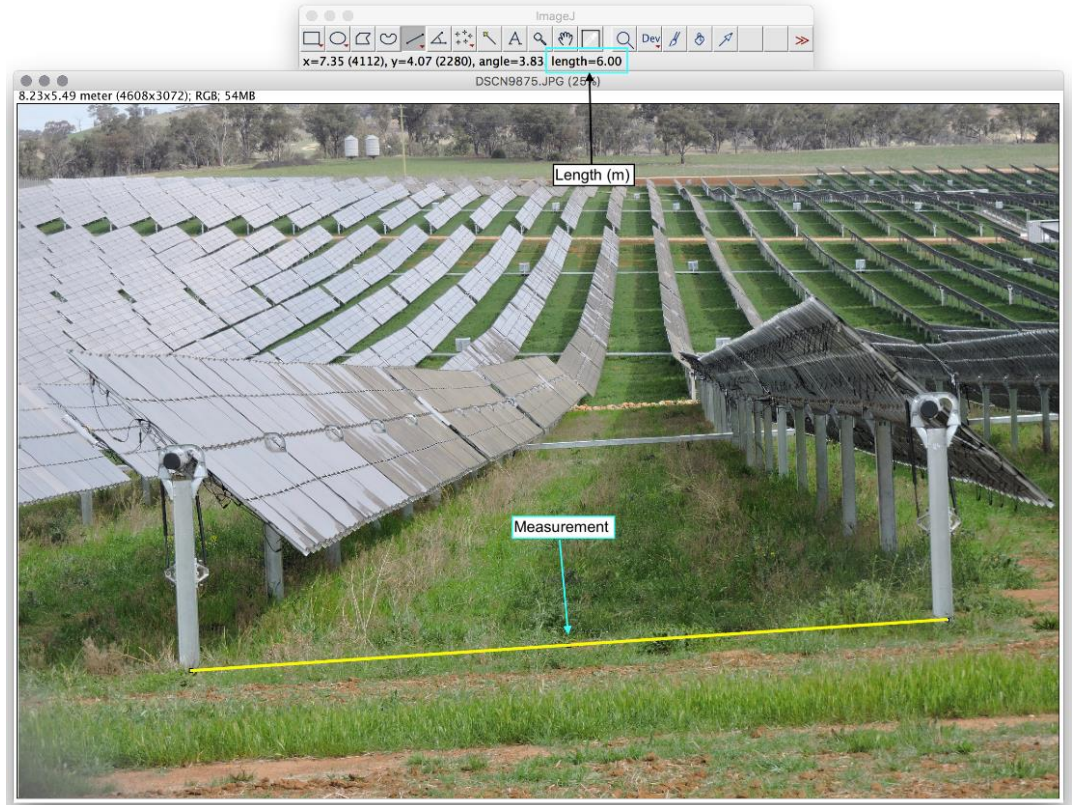
The applicant has advised that:

In providing a response to these requests, Terrain Solar assessed operational solar farms within the same climate that shared the same soil type and site design characteristics. Adopting this approach, it was determined that the Manildra Solar Farm, located in the central west region of NSW, was the most comparable solar farm site to the proposed Junee Solar Farm, due to the shared characteristics in land and soil capability, being Class 3 agricultural land, similar temperate climates and site design. The Manildra Solar Farm commenced construction in October 2017, with works completed in April 2018. The Manildra Solar Farm has been operational since May 2018. During the construction and operational period, the region has experienced drought and winter frost conditions. Suitable groundcover has been maintained during these extreme conditions. Although the site has not experienced a high rainfall season, it is expected that when such conditions are faced, these can also be managed through undertaking necessary adaptive groundcover management, including grazing and spraying.

The Mount Majura was site was referenced in a previous letter to the SJRPP to visualise the grass condition beneath the panels of the Mt Majura Solar Farm. Whilst this ground cover is in good condition, considering the Mt Majura site is in a different climate zone, the focus of the assessment is on the comparison of the Manildra Solar Farm to the proposed Junee Solar Farm.

The applicant has provided further details to explain the separation of panels, being the distance between each tracker row.

The example of the Manildra site is shown in the following photograph, where the spacing between panels is 6m, and a panel width of 2.5m.



The applicant is proposing that the spacing at the June Solar Farm site is 5m, with a panel width of 2m. This is considered to be a reasonable comparison.

Groundcover conditions at comparison solar farm site

The applicant has provided photographs of the operational Manildra Solar Farm, taken 22 September 2018. These photographs are reproduced below:







The photographs show a suitable level of groundcover in place at the Manildra Solar Farm, even during recent drought and winter frost conditions. This provides confidence that a suitable groundcover may be able to be maintained at the proposed Junee Solar Farm site, with its similar climate and soil conditions.

The applicant has provided a light assessment to determine the amount of light reaching the surface of the ground. Using modelling software, it was determined that the proposed Junee Solar Farm, with 5m tracker separation, will have very similar levels of sunlight reaching the ground, compared to the Manildra solar farm site. This modelling, combined with the evidence shown in photograph above, provides further confidence that suitable levels of sunlight will reach the ground at the proposed Junee Solar Farm, in order to support a viable level of suitable groundcover at the development site.

Ground cover monitoring

In response to the request of by the Planning Panel for details of how the groundcover has been monitored and managed over time to maintain cover and manage weeds, the applicant has included a copy of the Manildra Solar Farm Operational Environmental Management Plan (OEMP) as an indication of the detailed procedures that will be prepared to monitor and manage the groundcover at the site, once the Junee Solar Farm is operational. This will include maintaining cover, managing weeds and managing fire risk. Refer in particular to Section 6.1 Groundcover Management of the OEMP.

In addition, the applicant has provided a copy of the Groundcover Management Plan prepared for the Manildra Solar Farm as a guide to detailed document that will be prepared to manage groundcover at the proposed Junee Solar Farm site. In particular, refer to requirements within this document for procedures during the

	<p>installation of the solar panels to manage groundcover and weeds, involving minimising disturbance, managing weed infestations and communicating these management requirements to construction workers to ensure required practices are carried out. Following completion of construction, any disturbed areas not required for operations require rehabilitation, including laydown areas and temporary access routes.</p> <p>Once the solar farm is operational, managing and monitoring groundcover, with regard to identified management issues of shading, weed management, rainfall distribution and vehicle movements. The groundcover management plan will include regular monitoring of vegetation cover and composition and allow for adaptive management. This would include:</p> <ul style="list-style-type: none"> • Establishment of a shade tolerant perennial groundcover across the cropping and exotic dominated grazing paddocks prior to the installation of the solar panels • Advice from an agronomist in relation to preferred species/varieties, establishment methods of alternative pastures and best practice management, including use of suitable grazing, slashing or spraying strategies • Adapt grazing strategies to changing grassland conditions and composition, involving consultation with a qualified agronomist to review the suitability of existing grazing regimes and adapt if recommended • Where information is lacking, trials may be required onsite • The space between the solar panel rows should be maintained and kept clear to enable access by vehicles for ongoing weed control, and pasture renovation if required. • Use of monitoring plots for data collection and analysis purposes, to support ongoing management practices and actions. <p>These procedures and techniques will be detailed in the future Junee Solar Farm Groundcover Management Plan. The requirement to prepare this document is included as part of the conditions of consent.</p> <p>The good condition of the groundcover located at the Manildra Solar Farm demonstrates that the procedures and actions relating to monitoring and management identified within the Manildra Groundcover Management Plan have been undertaken to a suitable standard. The proposed Junee Solar Farm would be required to undertake relevant monitoring and management practices to achieve a similar condition of site groundcover.</p> <p><u>Bushfire Management of the site</u></p> <p>The site is not identified as Bushfire Prone land. However, as the site is located in a farming area, there is always a risk that a grassfire could occur on nearby or on the subject land. The applicant has included details of their intention to develop a Construction Environmental Management Plan and an Operational Environmental</p>
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	<p>Management Plan in order to develop procedures to reduce the risk of a bushfire threat and to manage a fire emergency event. These procedures will be developed in conjunction with the Rural Fire Service, Essential Energy and nearby residents. Measures will include ongoing maintenance to reduce fuel load, staff training, access arrangements, isolation of electricity operations during a fire emergency and onsite fire fighting equipment.</p> <p>The applicant has attached a copy of the Manildra Solar Farm OEMP as an indication of the level of detail of information that will be prepared to support the future operations of the Junee Solar Farm. Refer in particular to Section 6.3 Bushfire Hazard. This document is considered to be a suitable standard to guide the predation of a similar plan for the Junee Solar Farm development.</p> <p><u>Visual Impact Assessment</u></p> <p>The applicant has provided additional information, through a Visual Amenity Assessment, prepared by consultant firm IRIS Visual Planning + Design. The visual amenity assessment considered the proposed infrastructure to be installed, clearing required to facilitate the development, existing native vegetation, existing roads, topography and the existing visual landscape, including views in the foreground, middle ground and distant background, considering hills, ridgelines, scattered trees, vegetated patches and existing structures within the landscape. The assessment detailed the methodology used to determine the zone of visual influence, visual absorption capacity and use of representative viewpoints to conduct a visual impact assessment.</p> <p>The visual impact assessment focused on five public roads located within the visual landscape, which included views from some rural properties. At all sites selected, the overall outcome of the visual impact assessment was that the development will have a negligible visual impact. The basis for these conclusions were due to:</p> <ul style="list-style-type: none"> - the existing undulating topography shielding views of the development at some locations, - existing vegetation, including scattered trees and vegetation patches, breaking up the view of the site, thereby reducing the view of the future solar panels, - hills in the background of the view limiting the visual impact of the structures standing out, - separation by distance from some viewpoints, and - the proposed installation of a five metre wide landscape screening buffer of low trees and shrubs, to reduce the visual impact of the development from the closest viewpoints. <p>The visual amenity assessment is considered to provide a structured and thorough investigation of the issue of the visual impact of the proposed development.</p> <p>The assessment has included relevant photographic diagrams to interpret the visual landscape.</p> <p>At the request of the Planning Panel, a ten metre wide landscape screening buffer along all boundaries of the site will limit the visual impact of the development to an</p>
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	<p>acceptable level.</p> <p>The landscaping plan has provided a list of suitable species, planting requirements, as well as sketches to indicate the 10m width of the plantings in cross section. The cross section indicates the location of the 10m wide asset protection zone. At the request of the Planning Panel, the landscaping plan includes the provision of canopy trees, refer to Figure 2-3 Plant Lists and Landscape Notes.</p> <p>The applicant has provided additional information in response to the request from the Planning Panel to provide:</p> <ul style="list-style-type: none"> - Photomontage with the solar cells to be included in the visual impact assessment. The visual assessment should include locations when viewed from the immediately adjoining site, within proximity to the common boundaries. <p>The proposal does represent a significant change to the rural landscape, as it is a change from cleared farmland to a large scale electrical installation. The visual impact of such a change has been independently assessed and includes a ten metre wide screen planting buffer, with the provision of canopy tree plantings as part of the screen planting. Refer to Figure 2-1 Landscape Concept Plan, Concept Sections A-A and B-B and Figure 2-2 Landscape Concept Sections. Figure 2-3 provides plant lists and landscape notes to accompany the plans.</p> <p>Figure A – Existing Site Conditions, indicates the viewpoints from where the independent visual assessment professional viewed the site, known as views 1-7. The selected viewpoint sites are all from public roads. The memo provided as additional information to the visual impact assessment details the distinction between viewpoints that are accessible from public spaces, such as roads, and private residential views.</p> <p>The public road viewpoints 3-6 are also located at the extent of the ownership of the land owned by the applicant. Viewpoints 1,2 and 7 are taken from the closest public roads located to the north, east and south-east. The plans of viewpoints show the areas of land, highlighted in light blue, which can be seen from the viewpoint. Due to the undulating topography, the development site cannot be viewed from viewpoints 1, 2 and 5. With the inclusion of the vegetation buffer, the development site will also be unable to be viewed from viewpoints 3, 4 and 6. Due to the topography, the additional screen vegetation does not change the areas of solar panels that are able to be viewed from viewpoint 7. However, the areas that can be seen are only partial views of the site, viewed from over 2.5km away. Therefore this is considered acceptable.</p> <p>With the inclusion of the 10m wide screen planting buffer, this will achieve a very limited impact within the visual landscape. The species proposed to be planted within the buffer are suitable to the site and for screening purposes.</p> <p>The applicant has also provided an independently prepared photomontage of two viewpoints where the development can be viewed from a public road. Figure A-Existing Site Conditions provides the location of public roads within proximity to the proposed Junee Solar Farm, with other roads shown on this aerial image being</p>
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	<p>private roads used to access farm paddocks and farm infrastructure. The</p> <p>The first photomontage viewpoint is located looking south towards the site from Old Sydney Road (indicated as “3” on Figure A Site conditions). The photomontage provides a computer generated view of the installed panels, as well as computer generated 10m wide screen planting. With the inclusion of the screen planting, the installed solar panels will be shielded from public view from Old Sydney Road. This is considered to be a satisfactory outcome.</p> <p>The second photomontage viewpoint is located looking east from Old Sydney Road (indicated as “6” on Figure A Site conditions). The photomontage provides a computer generated view of the installed panels, as well as computer generated 10m wide screen planting. With the inclusion of the screen planting, the installed solar panels will be shielded from public view from Old Sydney Road. This is considered to be a satisfactory outcome.</p> <p><u>Vegetation buffer</u></p> <p>The applicant has confirmed their agreement to the Panel's request that the vegetation buffer, 10m in width, apply to the entire development site boundary. The vegetation buffer will include the provision of canopy trees.</p> <p><u>Site selection</u></p> <p>The applicant has provided the following details about how the site was selected and the techniques to minimise the visual intrusion of the development to the rural landscape.</p> <p>The site at 346 Old Sydney Road Marinna was selected as the preferred site for the solar farm in Junee Shire for the following reasons:</p> <ul style="list-style-type: none"> - Access to solar resource, given Junee's high number of days with clear skies - Proximity to existing suitable electricity infrastructure - Gently undulating topography, reducing the need for substantial earthworks - Cleared landscape, reducing impact upon biodiversity <p>The applicant acknowledges that the proposed use is substantially different from the current landuse of open farmland. However, the applicant provides the following information about the means to minimise the level of visual impact of the proposed development:</p> <ul style="list-style-type: none"> - Separation of the development from neighbouring residences, through design of the layout - Preservation of existing roadside vegetation to screen the development - Low scale of the development. With the majority of the development at just over two metres, when viewed from a distance of 500m and beyond, the development will not protrude to a large height above the view of natural ground level. - Choice of colours of fencing and buildings is designed to blend into the landscape, not stand out. - Although the development will be able to be seen; at it is of broad scale; the combination of separation, design, native vegetation, low height and muted
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	<p>colours will limit the visual impact to an acceptable level in a rural landscape.</p> <p>- Built</p> <p>The development site is cleared, with no existing built structures, apart from the existing electricity infrastructure being electricity transmission lines and poles.</p> <p>The development has been designed to minimise impact upon nearby residents, by providing as much separation as possible from the closest residence and retaining planting to reduce visual impact, as well as retaining biodiversity value</p> <p>Road impact following construction of the development is expected to be minimal. However, there will be an increase in the number of heavy vehicles using Old Sydney Road, and connecting roads, during construction. The condition of Old Sydney Road will be assessed prior to construction commencing and any deterioration of the road as a result of the development will be required to be repaired following completion of construction, to the satisfaction of Council.</p> <p>Social</p> <p>The social impacts of the development are positive with the opportunity to provide additional employment opportunities, and sourcing of local goods and services, during construction, as well as skilled employment opportunities covering long term maintenance of the site.</p> <p>Economic</p> <p>The economic impacts of the development are positive with the opportunity to provide alternative energy supply services in Junee, as well as employment opportunities, supply of materials and demands for locally sourced services, such as accommodation, fuel and meals for visiting workers.</p>
SUITABILITY OF THE SITE	<p>The suitability of the site relates to its access to regular solar radiation, gently undulating topography, predominantly cleared site, access to electricity infrastructure, and proximity to road infrastructure. The site is sufficiently separated from major urban centres, yet has reasonable proximity to enable ease of access to supplies, services and workforce. The site has existing native vegetation that assists with screening the development. This is supported by the proposed inclusion of a 10m wide vegetation screening buffer to reduce the visual impact of the development to an acceptable level.</p>
SUBMISSIONS	<p>As a result of the notification of the development proposal, five written submissions were received. Issues raised by submitters including biodiversity, Aboriginal cultural heritage, loss of agricultural land, vegetation management, including managing herbicide resistance, site rehabilitation, visual impact, bushfire risk, water runoff and related weed management issues.</p> <p>A summary of these submissions is provided in Table 1. Copies of the submissions are included at Appendix 2.</p>

Table 1: Summary of submissions received relating to proposed Juneec Solar Farm		
Submitter name	Issues	Council comments
Office of Environment and Heritage	<p>Advised that biodiversity impacts are not considered significant and proposed measures to minimise impact upon biodiversity are considered suitable</p> <p>Provided advice on protecting any potential Aboriginal objects found during construction</p>	<p>Noted. The application includes a Biodiversity Assessment, prepared by EMM Consulting. The consulting ecologist inspected the site, including all eleven of the paddock trees proposed to be removed, and the roadside vegetation. A small section of the roadside vegetation is proposed to be cleared to create access to the site. The applicant proposes to limit this clearing to the minimum required to provide a 6m wide road access, suitable for heavy vehicles, including good sight distances along a straight length of road. The applicant has proposed to retain other patches of native vegetation on the site. This is considered to be acceptable, as the vast majority of the roadside vegetation is retained in order to provide habitat for native fauna, including 12 threatened birds species that have a moderate potential to forage in the roadside woodland. Conditions to manage impacts of the development on native vegetation are included as part of the consent.</p> <p>The applicant agrees with the advice provided on this issue. Controls to protect any Aboriginal objects will be included as conditions of consent.</p>
Department of Primary Industries Agriculture	<p>Concern that the development is not consistent with the zone objectives, as it represents a large scale industrialisation of the land and the long term if not permanent removal of the land from agricultural production.</p>	<p>Noted, however consider that the zone objectives offer some flexibility, particularly:</p> <ul style="list-style-type: none"> • To allow for the development of non-agricultural land uses that are compatible with the character of the zone, and • To encourage diversity in primary industry enterprises and systems appropriate for

		<p>the area</p> <p>The character of farmland throughout the country is transitioning to include solar energy production as an alternative to traditional agricultural production where suitable infrastructure and locations exist, in order to support additional renewable energy sources and provide alternative sources of rural income.</p> <p>The applicant has responded that they do not consider the installation of a solar farm to be an industrial activity. The applicant supports Council's conclusion that the development does not need to comply with all of the zone objectives in order to be supported.</p> <p>Noted. This can be included as a condition of consent as part of the Operations Environmental Management Plan, to be prepared by a suitably qualified person and to be undertaken as part of the work routine of the onsite maintenance staff. The applicant has stated their approach to vegetation management at the site, including use of selective grazing by livestock, mechanical slashing and the establishment and maintenance of a suitable vegetative groundcover that provides effective competition for weeds, maintained through regular inspection by site managers.</p> <p>The SEE includes a preliminary outline of the decommissioning management plan. The request for the Decommissioning Management Plan to be submitted as part of the Operations Environmental Management Plan has been included in Condition 29, with the agreement of the applicant. The request for monitoring and mitigation measures to be adopted for rehabilitation remedial actions is included in</p>
	SEE requires a description of the approach to herbicide management.	
	The SEE should include an outline of the Rehabilitation and Decommissioning/Closure Plans	

	<p>The SEE should make reference to DPI Primefact 1063 "Infrastructure proposals on rural land".</p>	<p>Condition 16 as part of the Operations Environmental Management Plan, with the intention of monitor the condition of the land and mitigate against impacts upon the land that would inhibit its future return to agricultural use.</p> <p>The applicant originally was uncertain about the need to bury cables to at least 800mm, as they expect current and future agricultural activities would not warrant soil disturbance to this depth and they are in favour of protecting topsoil from unnecessary disturbance. However, they have agreed to the DPI Agriculture request of removing all solar farm infrastructure to a depth of 800mm during decommissioning.</p> <p>The provision of a full soil survey to assist in determining construction limitations and land management operations, and to provide a baseline to measure soil characteristics post closure is included in Condition 15.</p> <p>Noted. Copy obtained. The proposal does not seek to fragment existing rural lands, as farming operations are proposed to continue alongside the operations of the solar farm. The development is sited beside a road, which provides a boundary for farming to continue beside the development.</p> <p>The applicant is seeking to manage weeds effectively on the site, thereby reducing the likelihood of future land use conflicts.</p> <p>Once construction is complete, there will be very few vehicle movements associated with the development, therefore avoiding issues associated with increased vehicles using rural roads.</p> <p>The applicant has provided additional</p>
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	<p>Class 3 agricultural land is defined as “High Capability Land” and is an important agricultural resource</p>	<p>comments stating that the development will not inhibit neighbouring farming operations and reinforced their commitment to managing weeds and fuel loads at the site.</p>
	<p>Concern about lack of detail of consultation about the proposed project with adjacent landowners within a 5km radius, as the development can be seen from a significant distance, due to the flat topography. Consider using a Land Use Conflict Risk Assessment.</p>	<p>Noted and agreed that high capability land is an important resource, however there will always be competing priorities for land use. The use of rural land to support the production of renewable energy in proximity to existing transmission infrastructure is also a priority for rural communities.</p> <p>The applicant advises that there is 198,372.8 hectares of land that is zoned for Primary Production within Junee Shire and that this development site is proposed to occupy 93 hectares, thereby only requiring a very small proportion of land that is available for agricultural purposes.</p> <p>As part of the notification of the Development Application, neighbours located within a 3km radius were notified of the development, comprising 23 landholders. Only two written submissions were received. The 5km radius was not considered necessary due to this capturing many landowners within the town of Junee who would be unable to view the development.</p> <p>As the panels will be no more than 2.6m in height, the visual impact of the development beyond 1km is significantly reduced. The development is screened on the northern and western sides by existing vegetation. The owner of the land immediately surrounding the development site on the western, southern and eastern sides is the same landowner as the development site, which indicates their support for</p>

		<p>the proposal. The closest dwelling is just over 1km from the development site, which mitigates against the visual impact of an industrial development within a rural landscape.</p> <p>The development will not result in adverse impacts upon air quality or noise. The development will not impact upon livestock, water movement or road access. The applicant proposes measures to manage the impacts of weeds and bushfire risk. Additional risk assessment is not considered necessary, as the applicant has considered and addressed the likely land use conflict situations.</p> <p>The applicant has advised that the SEE provides a thorough explanation of the project and this document is exhibited during the public consultation process. The applicant advises that the landowner and the applicant discussed the project with neighbouring landowners prior to lodgement of the Development Application, in order to discuss the proposal.</p>
Landowner Millbank Lane Old Junee	<p>Concern about water runoff bringing seeds of noxious weeds onto adjoining properties.</p> <p>Request that the developer undertake six-monthly weed control checks and subsequent actions</p> <p>Concern that proposed groundcover only has a lifespan of 5 years and will require renewal in order to manage weeds</p>	<p>Noted. This can be managed as a condition of consent, for inclusion as part of the Operations Environmental Management Plan, to be prepared by a suitably qualified person and to be undertaken as part of the work routine of the onsite maintenance staff.</p> <p>Noted and agree that this can be included as part of the Operations Environmental Management Plan</p> <p>Noted. This can also be managed as a condition of consent as part of the Operations Environmental Management Plan, requiring the maintenance of a suitable groundcover for the lifetime of the</p>

		solar farm, to be renewed as required, due to the much lower level of grazing as part of the solar farm operations.
Landowners Millbank Lane Old Junee	<p>Concern about seeds of noxious weeds transported by wind onto adjoining properties, due to inability of landowners to undertake broadacre spraying of the property following the installation of the solar panels</p> <p>Request that the developer undertake six-monthly weed control checks and subsequent actions</p> <p>Request that solar panels be sufficiently separated to allow spraying of weeds by machinery</p>	<p>Noted. This can be managed as a condition of consent, for inclusion as part of the Operations Environmental Management Plan, to be prepared by a suitably qualified person and to be undertaken as part of the work routine of the onsite maintenance staff.</p> <p>Noted and agree that this can be included as part of the Operations Environmental Management Plan</p> <p>The solar panels will be spaced 5m apart, which is sufficient space to allow for spraying using a spray unit towed by a utility vehicle, or similar.</p>
Landowner	<p>Concern about weed control and the requirement for landowners to manage weeds on their own property.</p> <p>Concern about risk of bushfire and the need to maintain a fire break around the property. Request that work be restricted on high fire danger and total fire ban days.</p>	<p>Noted. Weed management will form part of the Operations Environmental Management Plan, to be prepared by a suitably qualified professional.</p> <p>Noted. The SEE includes details of a proposed Asset Protection Zone, comprising a 10m wide fire break. This will be located outside the perimeter fence. The fire break and the internal access roads can be used for fire fighting purposes if required.</p> <p>The Construction Environmental Management Plan will include specific procedures and responsibilities for minimising bushfire risk through work practices, which includes managing risks during high fire danger periods and total fire bans.</p> <p>The Operations Environmental Management Plan will include controls that require the maintenance of the site to prevent a grass fire from occurring within the development</p>

		site, as well as reducing fuel load within the site to prevent intensification of a bushfire that may originate outside of the development site.
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Table 1: Summary of submissions received and Council comments

In addition, the Department of Primary Industries was provided the opportunity to comment further on the response prepared by Geolyse, on behalf of the applicant.

The comments are summarised in Table 2, with Council comments.

DPI Issues raised	Council response
Industrial activity within the rural landscape. Disagree with the proponents' interpretation. However, the main point is that often a change in the landscape results in some form of land use conflict, and it is desirable to avoid this.	Noted and agree that the proposal does represent a significant change to the rural landscape. However, the applicants have selected a site that proposes to minimise these impacts and response to the concerns raised by neighbouring landholders.
Reminding consent authorities that the objectives of land zoned RU1 are to facilitate primary production and consent authorities may approve some form of land use that is not consistent with this	Noted and agreed that the main intention of the RU1 zone is to facilitate and support use of rural land for primary production. However, there will be, at times, applications for other uses that must be considered on their merits, as other types of land uses are also needed by the community. The compatibility of the alternate land use and the ability of other landholders to continue with their land use is a primary consideration.
Agree that the applicants have provided a sound vegetation management plan. The proposed use of herbicides in conjunction with other weed management practices of retaining a suitable weed-free groundcover and selective grazing is acceptable	Noted
The applicants have agreed to bring forward the preparation of the Decommissioning Management Plan to form part of the Operations Management Plan, which is noted.	Noted and included in Condition 29.
DPI has agreed to the revised timing of the provision of a soil survey to occur immediately prior to construction.	Noted and included in Condition 15.
Issue of retaining cables below 500mm is still an area of concern as DPI states that in 30-50 years time, the type of agriculture	The applicant has agreed to remove any solar infrastructure that is located up to 800mm below the land surface.

and the need for deep ripping of areas of land that have been compacted over time. Is unknown. Suggest removing all infrastructure as other solar farm proposals have included.	
Advice on the Primefact and assessment tool is provided as standard information to alert proponents and consent authorities that this tool is available	Noted
The advice that the land is deemed 'High Capability Land' and that even though one LGA or region may contain significant amounts of such land, the same cannot be said on a state-wide basis	Noted. Land with lower land capability in the LGA or region is likely to be constrained from solar farm development due to other factors such as large areas of native vegetation or steeply sloping, rocky land. Although the use of high capability land for uses other than agriculture is not preferred, there is always a need for other land uses for infrastructure that is needed by the community, and the extent of land required remains a very small percentage, which will not significantly impact upon overall productivity of the region.
There remains some disagreement about how the outcomes of community consultation prior to submission of the Development Application and DPI would have preferred that more information about the outcomes of this consultation was provided.	Noted. However the formal consultation process conducted as part of the DA process has been thorough and there were only three submissions received from nearby landowners, with a small number of concerns that can be addressed as part of the conditions of consent.

Table 2: Additional comments from the Department of Primary Industries in response to additional information provided by the applicant

PUBLIC INTEREST

The proposal has some public interest, however this has generally been related to those landowners with proximity to the proposed development, as well as comments from Government agencies.

It is in the public interest to support development that provides an overall benefit to the community, which responds to the intentions of planning controls, provides investment, is located on a suitable site, responds to the constraints and features of the site, is sufficiently serviced and mitigates against the adverse impacts associated with the development.

Equally important, it is in the public interest to protect existing residents and the wider community from development that is unsuitable, that will have overall adverse impacts upon their livelihood, and where these adverse impacts cannot be overcome.

In relation to this proposal, there is an overall benefit to the public in supporting the development of the Junee Solar Farm, as the proposed use is suitable for the site. Measures to reduce the

impacts of the proposal on those located closest to the infrastructure have been included within the development plan.

CONCLUSION

The proposal represents a significant change in land use for the subject site from the existing broad scale agriculture use to a constructed broad scale energy infrastructure system. However, the applicant has chosen a site that has benefits in access to solar supply, gently undulating topography, predominantly cleared location, ease of access to electricity infrastructure, suitable road infrastructure access, and existing native vegetation located in patches on some boundaries, supplemented by the inclusion of a 10m wide vegetation screen buffer.

The applicant has sought to respond to the concerns of nearby residents through the commitment to development management plans to mitigate against adverse impacts of the development during construction and during operations of the proposed solar farm. The applicant has also sought to respond to the concerns of Government agencies through their support for relevant conditions. The applicant has provided strong evidence of the ability of the proposed Junee Solar Farm to sustain a suitable level of groundcover based on the proposed 5m spacing of 2m wide solar panels, based upon the conditions of groundcover at a similar operational solar farm at Manildra in central west NSW.

The use of productive agricultural land for non-agricultural purposes not actively encouraged, as this land is a valuable resource. However, the community does also need the provision of infrastructure in order to support broader economic, social and environmental requirements, in this case being the provision of energy supplied through renewable solar resources. The development will not inhibit agricultural activities from continuing on adjoining land and the proposal includes requirements for a decommissioning plan to enable a return to future farming operations, when the solar farm is no longer required.

The provision of a solar farm in Junee Shire provides additional economic benefits of a diversifying economy, investor confidence and responding to broader national needs of renewable energy supply.

The proposal for the construction and operation of a 26MW solar farm a 346 Old Sydney Road, Marinna is supported.

RECOMMENDATION

That approval be given to Terrain Solar to construct and operate a 26MW solar farm at Part Lot 2 DP 585471 and Part Lot 3 DP 585471, 346 Old Sydney Road, Marinna

GENERAL

1. The applicant shall carry out the proposal, and works shall be undertaken, generally in accordance with the information supplied to Council, detailed as follows:
 - (a) The Development Application 2018/11 dated 15 February 2018, submitted to Junee Shire Council

- (b) The Statement of Environmental Effects, dated February 2018, prepared by Geolyse
- (c) The Aboriginal Archaeological Due Diligence Assessment, Junee Solar Farm, dated 2 January 2018 prepared by EMM Consulting
- (d) The Biodiversity Assessment, Junee Solar Farm, dated 13 February 2018 prepared by EMM Consulting
- (e) The Junee Solar Farm – Noise and Vibration Impact Assessment, dated December 2017 prepared by Assured Monitoring Group
- (f) The Visual Amenity Assessment prepared by IRIS Visual Planning + Design, dated July 2018 and Memo dated 11 October 2018, Landscape Concept Plan, Landscape Concept Sections, Plant Lists and Photomontages of Viewpoints 3 and 6.
- (g) The Concept Farm Plan and Detail Views, prepared by Geolyse, dated 4 October 2018
- (h) The Site Design and Ground Cover Assessment for Junee Solar Farm, prepared by Terrain Solar

unless otherwise specified by the conditions of this consent.

- 2. The use not commencing until such time as **ALL** the requirements of the conditions of this consent have been carried out to the reasonable satisfaction of Junee Shire Council, as signified in writing.
- 3. The builder must at all times maintain on the job, a legible copy of the plans and specifications bearing the stamp and building permit of Council.
- 4. A notice bearing the lot number and the builders name and license number shall be prominently displayed at the front of the land from the time the development application is submitted to Council until the building is complete.
- 5. The building works shall be carried out in conformity with the provisions of the Environmental Planning and Assessment Act, 1979, and the Regulations made thereunder, in accordance with the plans and specifications approved by Council. No departure from the approved plans and specifications shall be made unless the prior approval of Council has been obtained in writing.
- 6. Toilet facilities are to be provided, at or in the vicinity of the work site, on which a building is being erected.
- 7. All building works must be carried out in accordance with the provisions of the Building Code of Australia.
- 8. All practicable measures must be taken to prevent and minimise harm to the environment as a result of the construction and operation of the development.
- 9. All operations and activities occurring at the premises must be carried out in a manner that will minimise dust at the boundary of the premises.
- 10. Construction works may only be carried out between 7.00 am and 6.00 pm on Monday to Friday, 8am and 1pm on Saturday and no construction is to be carried out at any time on a Sunday or a public holiday.

11. Building materials and equipment must be stored, in a neat and tidy manner, wholly within the work site unless an approval to store them elsewhere is held.
12. The work site must be left clear of waste and debris at the completion of the works.

PRIOR TO CONSTRUCTION

13. A Construction Certificate must be obtained from Council or an Accredited Certifier prior to work commencing.
14. In order to ensure the structural adequacy of the structure, additional details in regard to the following matters shall be submitted to and approved by the Certifier prior to the issue of a Construction Certificate.
 - a. Structural drawings prepared and signed by a suitably qualified engineer certifying compliance with the relevant Australian Standard.
 - b. Site movement plan comprising directional signage, speed limits, pedestrian movements, road maintenance and dust suppression, and lighting in order to manage site safety
15. Prior to the issue of the Construction Certificate, a full soil survey shall be prepared to assist in determining construction limitations and land management operations, and to provide a baseline to measure soil characteristics post closure of the Junee Solar Farm.
16. Prior to the issue of the Construction Certificate, a Construction Environmental Management Plan shall be prepared, submitted and approved by Council. The approved plan shall be implemented during construction of the solar electricity system. The plan shall include a range of management controls as outlined in the approved SEE and other conditions listed in this consent. The plan shall include, but not limited to:
 - a) Aboriginal Heritage Management
 - b) Native Vegetation Management
 - c) Construction Traffic Management
 - d) Bush Fire Management
 - e) Waste Management
 - f) Erosion and Sediment Control
 - g) Noise Management
 - h) Dust Management
 - i) Soil and Water Management
 - j) Weed Management
 - k) Integrated Site Restoration
 - l) Operation Hours
 - m) Security Management
 - n) Requirements and conditions of Essential Energy to connect to the state power grid
17. Clearing of roadside vegetation to facilitate site access shall be kept to a minimum, with the final plan indicating trees to be removed, to be approved by Council prior to construction commencing.

18. Contact shall be made with the Local Brigade of the NSW Rural Fire Service and details about the construction schedule, contact numbers and site access arrangements shall be shared.
19. Consultation with nearby landowners shall occur, prior to construction commencing, to advise of the construction schedule and the Construction Environmental Management Plan (CEMP). The CEMP shall include management of interactions between construction vehicles and farm machinery movements on roads, to avoid impeding on cropping activity or impacting on the safety of road users.
20. The site shall be monitored and maintained to a satisfactory condition by maintenance staff, for the management of grass and weeds growth including maintenance of ground cover, and any indications of erosion. Prior to the commencement of the annual Bushfire Danger Period, a joint inspection shall be conducted in conjunction with Junee Shire Council representatives and the local Rural Fire Service, to ensure that vegetation mitigation measures have been conducted to a satisfactory standard.
21. Appropriate safety signage shall be displayed adjacent to the site entrance on Old Sydney Road advising of emergency contact details.
22. Pursuant to Section 7.12 of the Environmental Planning and Assessment Act 1979, the monetary contribution applicable as a S7.12 development levy is to be paid to Junee Shire Council prior to the issue of Construction Certificate. The contribution is current as at the date of this consent and is levied in accordance with the Junee Shire Section 94A Contributions Plan 2016, which may be viewed during office hours at Council's Customer Service Centre, 29 Belmore Street, Junee, or on Council's website www.junee.nsw.gov.au.

The contribution payable will be calculated in accordance with the contributions plan current at the time of payment, and will be adjusted at the time of payment in accordance with the Consumer Price Index (CPI) (All Groups Index for Sydney) published by the Australian Bureau of Statistic (ABS). Contribution amounts will be adjusted by Council each financial year.

PRIOR TO RELEASE OF OCCUPATION CERTIFICATE

23. Prior to the commencement of the solar energy system an Operations Environmental Management Plan (OEMP) shall be prepared, submitted and approved by Council. The approved plan shall be implemented for the lifetime of the development on the subject site. The Plan must include a range of measures as outlined in the SEE which include, but are not limited to:
 - a) General maintenance and operation of the site e.g. inspection times, contact details of the site manager/maintenance staff;
 - b) Addressing complaints relating to the operation of the premise;
 - c) Access arrangements to the site;
 - d) Emergency, safety and security;
 - e) Groundcover management
 - f) Weed management and biosecurity;

- g) Monitoring and mitigation measures for future rehabilitation remedial actions
 - h) Bushfire management, including annual inspection of the site prior to the Bushfire Danger Period;
 - i) Reviews, amendments and updates to the plan;
 - j) Management of water runoff and risk of erosion; and
 - k) Future site decommissioning
24. The OEMP shall include details of the proposed management practices to occur at the development site in relation to managing weeds at the site involving appropriate invasive weed management techniques and procedures. This shall include use of appropriate chemical sprays to reduce the transfer of weed seeds to neighbouring properties by water and wind. The OEMP shall include measures to manage herbicide resistance. The weed management section of the OEMP shall be prepared by a suitably qualified professional.
25. The OEMP shall include a minimum of six inspections per year, by an agronomy specialist in order to provide weed management actions, to be completed by the onsite maintenance staff.
26. The OEMP shall require the maintenance of a suitable groundcover at the development site, for the lifetime of the solar farm, to be renewed as required under the advice of the agronomy specialist. The groundcover shall be a suitable native or non-invasive groundcover to minimise the potential for weed invasion to native vegetation on the roadside of Old Sydney Road, and to neighbouring properties.
27. The OEMP shall include specific controls to maintain a suitable fire break around the development site, manage fuel load onsite, and manage the risk of bushfire during high fire danger periods and total fire ban days.
28. Prior to construction work commencing, the applicant shall prepare and provide a report to the satisfaction of Council, detailing the condition of Old Sydney Road and Millbank Road. Following completion of construction, a dilapidation report shall be prepared by the applicant detailing the subsequent condition of Old Sydney Road and Millbank Road. Any deterioration of Old Sydney Road and Millbank Road as a result of project construction shall be rectified by the applicant to the satisfaction of Council.
29. As part of the OEMP, a Rehabilitation and Decommissioning/Closure Plan shall be prepared and submitted for approval by Council. The plan shall include rehabilitation objectives and strategies, including:
- a. A description of the design criteria of the final landuse and landform;
 - b. indicators to guide the return of the land back to agricultural production;
 - c. expected timeline for the rehabilitation program;
 - d. management controls regarding decommissioning and removal of all solar arrays, above and below ground infrastructure and any structures or infrastructure relating to the solar energy works, upon cease of solar energy works;
 - e. a commitment to remove all solar farm infrastructure located to a depth of 800mm below the land surface.
- All works shall follow the same management principles outlined in the Construction Management Plan.

30. Consultation with nearby landowners, located within 1.5 kilometres of the development site, shall occur prior to the completion of the Operations Environmental Management Plan (OEMP).

BUILDING/CONSTRUCTION

31. Prior to commencement of work, the person having the benefit of the Development Consent and a Construction Certificate shall:
- (a) appoint a Principal Certifying Authority and notify Council of the appointment (if Council is not appointed), and
 - (b) notify Council of their intention to commence the erection of the building (at least 2 days notice is required).
32. Twenty four (24) hours notice is to be given by the Builder to Council to enable inspections to be carried out and Compliance Certificate issued at each of the following steps -
- (a) Excavation for pier, strip footings and slabs with steel if required, before pouring concrete.
33. The applicant shall be responsible for compliance with the requirements of the WorkCover Authority of NSW.
34. The applicant shall minimise the creation of dust due to vehicles movements onsite through reduced construction vehicle speed and dust suppression using a water truck, where required.
35. The paddock trees shown to be retained on Figure 3.1 of the Biodiversity Assessment prepared by EMM Consulting shall be retained and protected during construction using appropriate tree protection measures, including installation of tree protection fencing, to be maintained throughout the construction period.
36. Clearing of the hollow-bearing Black Cypress Pine, identified on Figure 3.1 of the Biodiversity Assessment prepared by EMM Consulting shall occur outside of winter, due to the tree being a potential nesting habitat.
37. The clearing of the hollow-bearing tree must occur using a three stage clearing protocol whereby the tree is
- Disturbed/tapped by machinery 24 hours prior to felling to allow fauna to self-relocate
 - Felling the tree the following day
 - Leaving the felled tree in situ for at least 24 hours to allow any fauna present to self-relocate.
38. If, during construction, a potential site of Aboriginal heritage or potential Aboriginal object, is uncovered, all work in the vicinity of that area shall cease.

39. If any Aboriginal object is discovered and/or harmed in, on or under the land, while undertaking the proposed development activities, the proponent must:
1. Not further harm the object
 2. Immediately cease all work at the particular location
 3. Secure the area so as to avoid further harm to the Aboriginal object
 4. Notify OEH as soon as practical on 131555, providing any details of the Aboriginal object and its location
 5. Not recommence any work at the particular location unless authorised in writing by OEH.
40. In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and the NSW Police and OEH contacted.

Appendix 1

Location Photographs



Photograph 1: Subject site, looking south-east, near transmission lines



Photograph 2: Subject site, looking south



Photograph 3: Subject site, looking south-west, near transmission lines



Photograph 4: Roadside vegetation adjoining Old Sydney Road at existing site entrance near transmission lines



Photograph 5: Roadside vegetation adjoining proposed new site entrance



Photograph 6: Old Sydney Road, looking east, adjacent to proposed new site entrance



Photograph 7: Old Sydney Road, looking west, adjacent to proposed new site entrance



Photograph 8: Subject site, looking east, near retained native vegetation patch



Photograph 9: Retained native vegetation path, looking south



Photograph 10: Subject site, looking south-east, near retained native vegetation patch

Further Appendices

Appendix 2 - Copies of written submissions

Appendix 3 – Applicant response OEH Comments

Appendix 4 – Applicant response DPI comments

Appendix 5 – DPI Primefact

Appendix 6 – Applicant response landholders

Appendix 7 – Landowner submission and applicant response

Appendix 8 – DPI comments to applicant

Appendix 9 – Email Terrain Solar DPI comments

Appendix 10 – Letter Terrain Solar – Southern Joint Regional Planning Panel – Request for Further Information

Appendix 11 – Visual Amenity Assessment, prepared by IRIS Visual Planning + Design

Appendix 12 – Letter Terrain Solar – Row Spacing Between Trackers

Appendix 13 – Letter Terrain Solar – Southern Joint Regional Planning Panel – Request for Further Information #2

Appendix 14 – Junee Solar Farm Site Design and Ground Cover Assessment, Terrain Solar (includes copy of Manildra Solar Farm Operations Environmental Management Plan)

Appendix 15 – Concept Farm Plan and Detail Views, prepared by Geolyse dated 4 October 2018

Appendix 16 – Memo and Visual Impact Assessment Figures prepared by IRIS Visual Planning + Design, dated 11 October 2018, as addendum to Visual Amenity Assessment, including photomontages

Appendix 17 – Copy of Manildra Solar Farm Groundcover Management Plan