NSW GOVERNMENT

Orange Grove Solar Farm

State Significant Development Assessment (SSD 8882)

April 2019

Cover photo

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Executive Summary

Orange Grove Sun Farm Pty Ltd proposes to develop a new 110 megawatt (MW) solar farm near Gunnedah in north-eastern NSW.

Engagement

The Department exhibited the Environmental Impact Statement for the project from 6 June 2018 until 5 July 2018 and received 86 submissions, including nine from Government agencies, 76 from the public and one from a special interest group.

Gunnedah Shire Council supports the project and none of the other Government agencies objected to the project. Of the 77 submissions received from the public, 66 objected to the project. The majority of these objections were from community members residing more than 10 kilometres from the project site.

The Department inspected the site and met with the residents of three adjoining properties that lodged submissions on 25 July 2018. In response to concerns raised by the community and advice received from agencies, the Applicant revised the project layout. This has led to better outcomes for the community and the environment, including increased setback distances from receivers, the inclusion of onsite vegetation screening for nearby receiver and a reduction in native vegetation disturbance.

Assessment

The four key issues for the project are land use compatibility, potential amenity impacts (visual, traffic and noise), flooding and biodiversity.

The project would use around 248 hectare (ha) of agricultural land and with the nearby Gunnedah Solar Farm would contribute to the loss of around 550 ha of agricultural land to solar development, if both projects are developed. The Department considers the loss of this land would have a negligible impact on the agricultural output of the region, given it represents about 0.007% of the agricultural land in the region.

In relation to amenity impacts, the Department notes that solar development is relatively low-lying in nature and the project site is largely flat. As such, subject to the implementation of visual impact mitigation measures, including vegetation screening, the Department considers there would be no significant visual impacts on the surrounding residences, and the rural character and visual quality of the area would be preserved. The potential noise and traffic impacts would largely be short-term, relatively minor in nature and can be managed in accordance with Government policy. Nevertheless, the Department has recommended strict conditions requiring restricted construction hours, relevant road upgrades and a comprehensive Traffic Management Plan.

Summary

Overall, the Department considers the site to be suitable for the project as it has good solar resources and is close to the existing electricity network.

The Department considers the project would achieve a reasonable balance between maximising the use of the site's solar resources and minimising the impacts on the local community and environment. The project is consistent with both the Commonwealth's *Renewable Energy Target* and NSW's *Renewable Energy Action Plan* as it would contribute 110 MW of renewable energy to the National Electricity Market. The project would also provide flow-on benefits to the local community, including up to 100 construction jobs, with a capital investment value of $94 million.

As such, the Department considers that the project would result in benefits to the State of NSW and the local community and is therefore in the public interest and approvable, subject to the recommended conditions of consent.

Contents

1. Introduction

Orange Grove Sun Farm Pty Ltd (the Applicant) proposes to develop a new 110 megawatt (MW) solar farm (the project) approximately 12 kilometres (km) northeast of Gunnedah in the Gunnedah local government area (LGA) (see **Figure 1**).

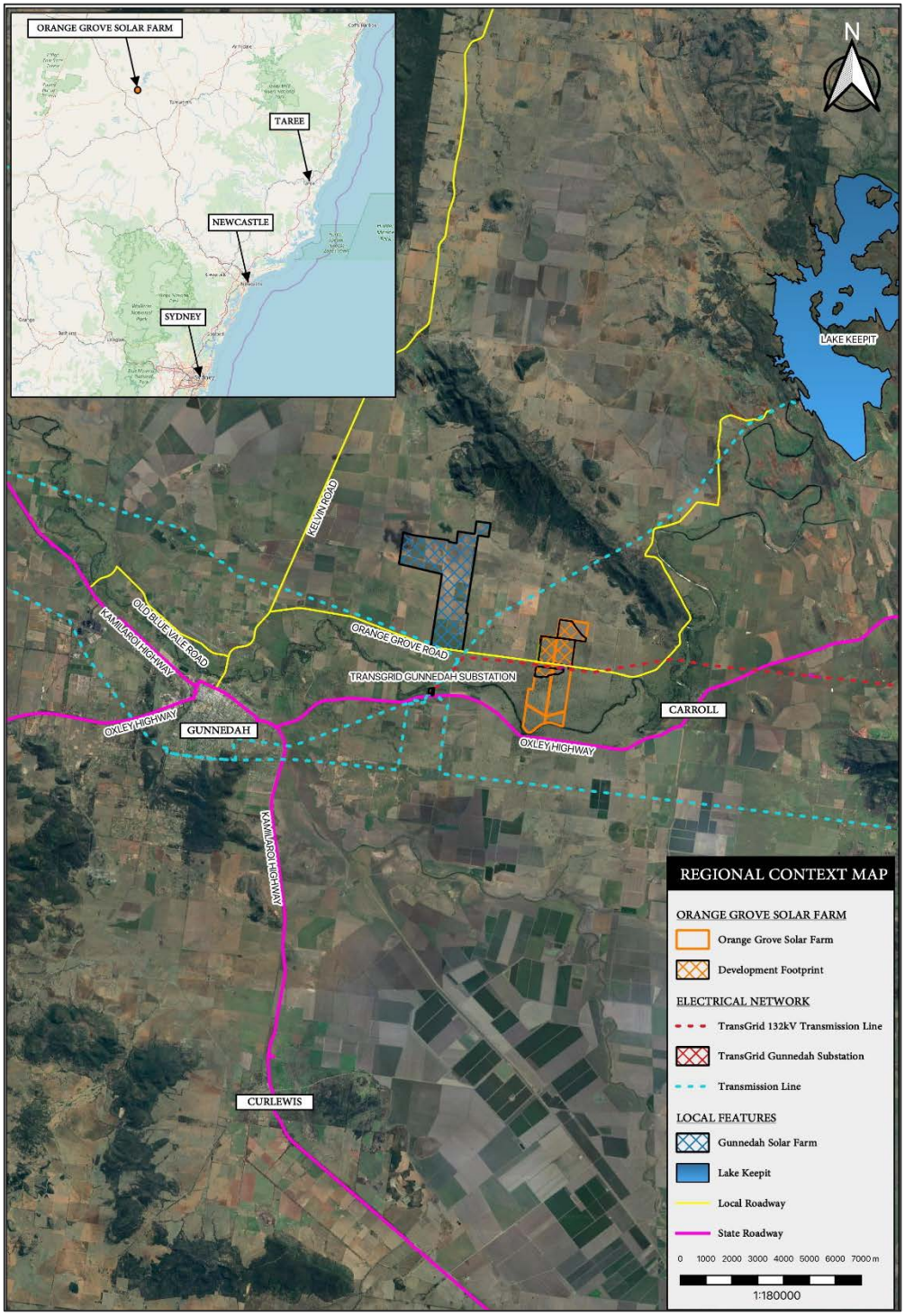

Figure 1 | Regional Context Map

2. Project

The project involves the construction of a new solar farm with a generating capacity of 110 MW. It also involves the upgrading and decommissioning of infrastructure and equipment in the future. While the capacity of the project may increase over time as technology improves, the footprint of the development would not increase.

The key components of the project are summarised in **Table 1**, depicted in **Figure 2**, and described in detail in the Environmental Impact Statement (EIS) (see **Appendix B**), amended development application and additional information provided during the Department's assessment of the project (see **Appendix C**).

Table 1 | Main Components of the Project

Aspect	Description
Project summary	The project includes: • approximately 330,000 single-axis tracking solar panels (up to 2.4 m high) and up to 40 inverters (up to 2.6 m high); • an on-site 132 kilovolt (kV) substation and connection to Transgrid's 132 kV transmission line which transects the site adjacent to Orange Grove Road; • internal access tracks, staff amenities, maintenance buildings (up to 3 m high), offices, laydown areas, an onsite car park, vegetation screening and security fencing; • an area for potential future battery storage, however no battery storage is currently proposed; and • subdivision of the project site for the substation (about 1 ha).
Project area	817 ha (with a 248 ha development footprint)
Designated haulage route	Over-dimensional and heavy vehicles would access the site via the Kamilaroi Highway, Blue Vale Road, Old Blue Vale Road, Kelvin Road and Orange Grove Road.
Site entry and road upgrades	The site would be accessed via two new access points on Orange Grove Road, including: • eastern access point to access the northern portion of the site and substation; and • western access point to access the southern portion of the site. Key roadworks include: • upgrading Old Blue Vale Road a minimum of 100 m from its intersections with both Kelvin Road and Blue Vale Road to a standard that allows two-way heavy vehicle movements; • removing loose gravel material at the Kelvin Road and Old Blue Vale Road intersection; and • constructing access points off Orange Grove Road.
Operational life	• The expected operational life of the infrastructure is approximately 30 years. However, the project may involve infrastructure upgrades that could extend the operational life. • The project also includes decommissioning at the end of the project life, which would involve removing all infrastructure.
Construction	• The construction period would last for up to nine months. • Construction hours would be limited to Monday to Friday 7am to 6pm, and Saturday 8am to 1pm.
Hours of operation	• The project would operate during daylight hours. • Daily operations and maintenance would be undertaken Monday to Friday 7am to 6 pm.
Employment	Up to 100 construction jobs and 3 operational jobs.
Capital investment value	$94 million

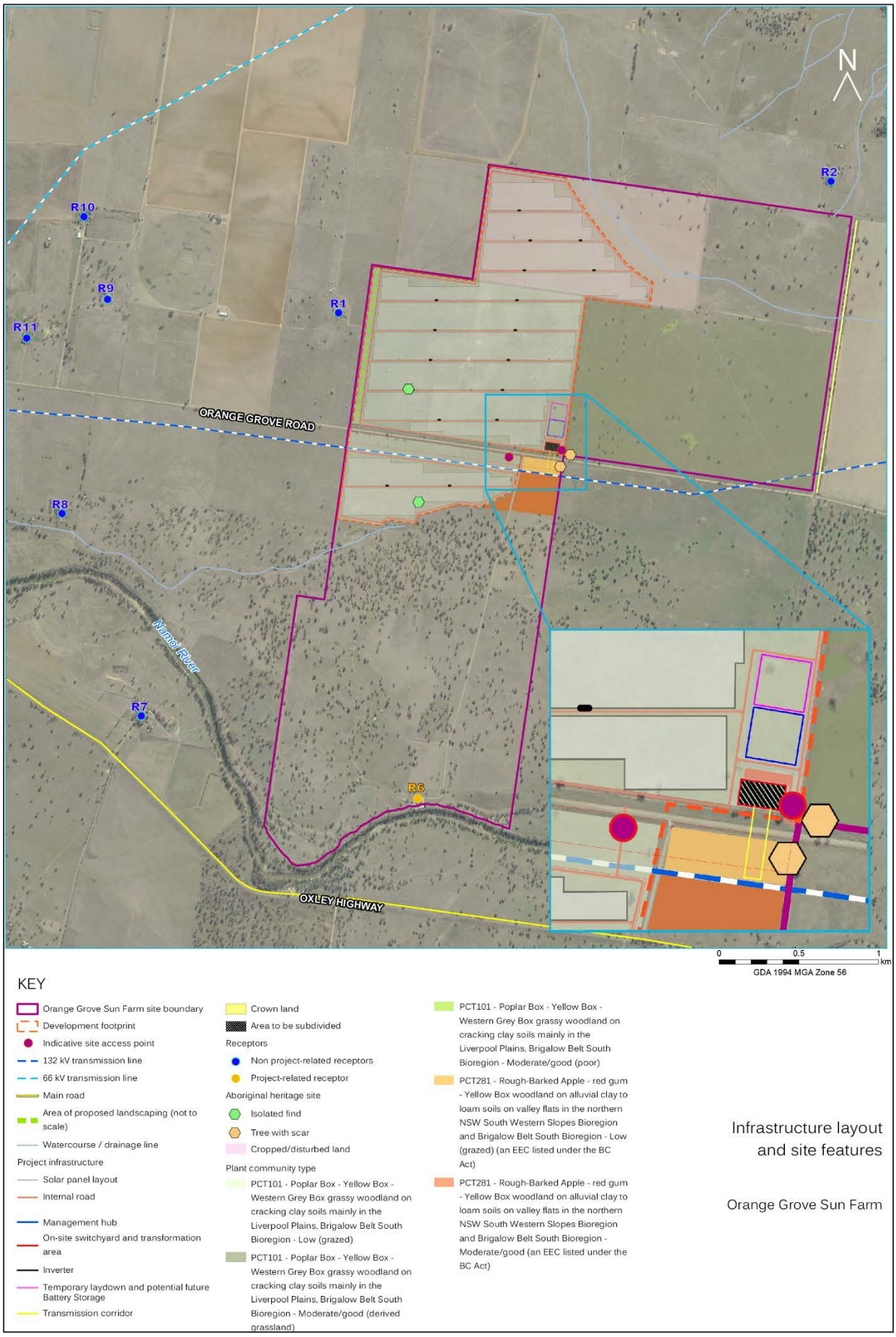

Figure 2 | Project Layout

3. Strategic Context

3.1 Site and Surrounds

The project is located on an 817 ha site divided by Orange Grove Road into two portions, northern and southern. The site is relatively flat, sloping gently from east to west with the lowest point in the south-west. The median elevation across the site is approximately 9 m above the Namoi River channel. The site is zoned RU1 – Primary Production under the *Gunnedah Local Environmental Plan 2012* (Gunnedah LEP).

The proposed development footprint is 248 ha and was designed to minimise biodiversity, Aboriginal cultural heritage and visual impacts.

The land surrounding the site is also zoned RU1 and is predominantly used for agricultural purposes.

The site is located within the Namoi River Catchment. The Namoi River flows adjacent to the southern boundary of the project site, approximately 2 km south of the development footprint, and the Keepit Dam is about 40 km north-east. There is a first order natural watercourse on the site and a network of constructed irrigation and drainage channels located throughout the site.

A Travelling Stock Reserve and Crown Land is located south of the project site and is separated from the site by the Namoi River and Oxley Highway.

There are six non-associated residences located within 2 km of the site, with the two closest dwellings located approximately 200 m west and 1.3 km north-east of the development footprint respectively. The Namoi Pistol Club is approximately 1.8 km from the north-eastern corner of the development footprint.

3.2 Other Solar Farms

The New England North West region has attracted considerable interest from solar developers given the proximity of major transmission lines and existing electricity substations.

In this regard, there are five approved or proposed State significant development solar projects located in close proximity to the towns of Gunnedah, Tamworth and Narrabri that may be used to accommodate the workforce for the project (see **Table 2** and **Figure 3**).

Table 2 | Nearby solar farms

Project	Capacity (MW)	Status	Approximate distance from the project (km)
Gunnedah	150	Approved	3
Tamworth	80	Proposed	25
Narrabri South	60	Approved	80
Silverleaf	120	Proposed	95
Wee Waa	55	Proposed	116

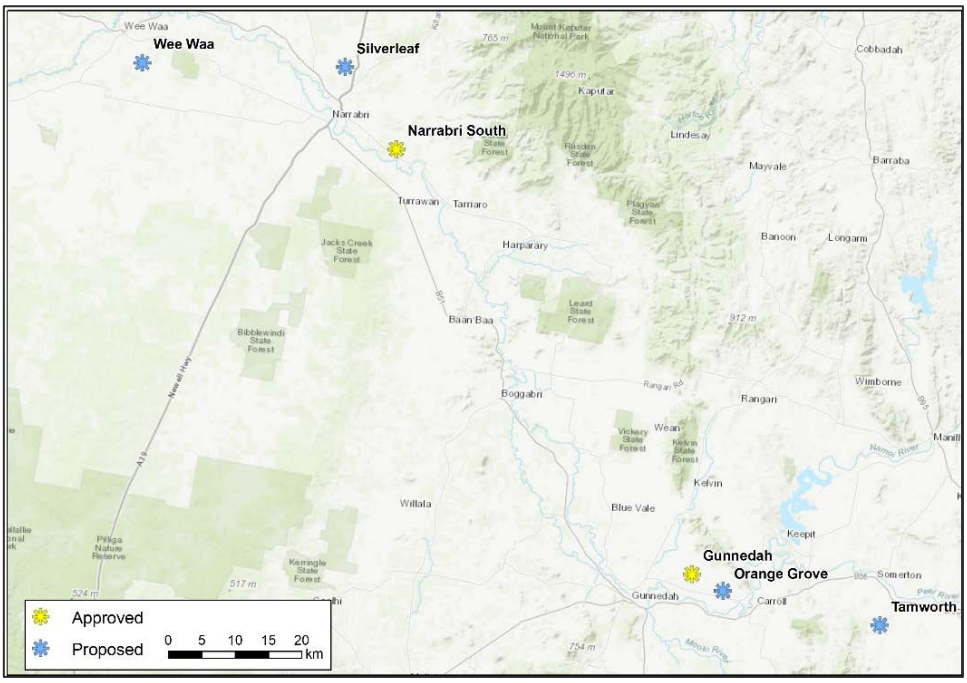

Figure 3 | Nearby Solar Farms

The key issues for cumulative impacts relate to workforce accommodation, traffic, agricultural land, and potential visual impacts.

Of these projects, only Narrabri South Solar Farm and Gunnedah Solar Farm are currently approved, with the other projects being at various stages of the application process. The approved Gunnedah Solar Farm, located approximately 3 km west of the project, would be a 150 MW capacity project with a 304 ha development footprint.

In regard to workforce accommodation, the construction workforce for these solar projects would be sourced from the local and wider region, including neighbouring LGAs and the towns of Gunnedah, Tamworth and Narrabri, as discussed further in **section 6.5**.

The project is proposing to use the same transport routes for heavy and light vehicles as Gunnedah Solar Farm. As there is uncertainty around the timing of the two projects, the Department has assessed the potential cumulative traffic impacts of both projects on the basis that construction may occur concurrently, and both projects may be operational at the same time. These considerations are discussed further in **section 6.2**.

Potential cumulative visual impacts from the project and the Gunnedah Solar Farm project are considered in **section 6.2**.

The broader potential cumulative impacts on agricultural land in the region is discussed further in **section 6.1**.

3.3 Energy Context

In 2017, NSW derived approximately 15.8% of its energy from renewable sources. The rest was derived from fossil fuels, including 79.3% from coal and 4.8% from gas. However, there are currently no plans for the development of new coal power stations in NSW, and the development of renewable energy sources, like wind and solar farms, is experiencing rapid growth.

This is highlighted in the 2017 *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review), which outlines a strategic approach to ensuring an orderly transition from traditional coal and gas fired power generation to generation with lower emissions. It notes that Australia is heading towards zero emissions in the second half of the century.

The *United Nations Framework Convention on Climate Change* has adopted the Paris Agreement, which aims to limit global warming to well below 2°C, with an aspirational goal of 1.5°C. Australia's contribution towards this target is a commitment to reduce greenhouse gas emissions by 26% to 28% below 2005 levels by 2030.

One of the key initiatives to deliver on this commitment is the Commonwealth Government's *Renewable Energy Target*. Under this target, more than 20% of Australia's electricity would come from renewable energy by 2020. It is estimated that an additional 5,400 MW of new renewable energy capacity will need to be built by 2020 to achieve the *Renewable Energy Target*.

The *NSW Climate Change Policy Framework*, released in November 2016, sets an aspirational objective for NSW to achieve net zero emissions by 2050. The NSW Government also has a *Renewable Energy Action Plan*, which promotes the development of renewable energy in NSW.

NSW is one of the nation's leaders in large-scale solar, with eight major operational projects, including the largest solar farm in Australia.

In March 2018, the NSW Government identified 10 potential Energy Zones across three broad regional areas, including the New England, Central West and South West regions of NSW.

While the project would not be located in any of the three priority energy zones, it would be located within one of the five Solar Energy Zones. With a capacity of 110 MW, the project would generate enough electricity to power up to 41,000 homes, and is therefore consistent with both the Commonwealth's *Renewable Energy Target* and NSW's *Renewable Energy Action Plan*.

4. Statutory Context

4.1 State Significant Development

The project is classified as State significant development under Section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is because it triggers the criteria in Clause 20 of Schedule 1 of *State Environmental Planning Policy (SEPP) (State and Regional Development) 2011* (SRD SEPP), as it is development for the purpose of electricity generating works with a capital investment value (CIV) of more than $30 million.

Under Section 4.5 (a) of the EP&A Act and clause 8A of the SRD SEPP the Independent Planning Commission is the consent authority for the development as there were more than 25 public submissions by way of objection.

4.2 Permissibility

The site is located wholly within land zoned RU1 - Primary Production under the Gunnedah LEP, the provisions of which are discussed in **section 6.1**.

Under the *SEPP (Infrastructure) 2007* (Infrastructure SEPP) electricity generating works are permissible on any land in a prescribed rural, industrial or special use zone. Consequently, the project is permissible as it is located wholly within land zoned RU1, which is a prescribed rural zone.

4.3 Integrated and Other Approvals

Under Section 4.41 of the EP&A Act, a number of other approvals are integrated into the State significant development approval process, and consequently are not required to be separately obtained for the proposal.

Under Section 4.42 of the EP&A Act, a number of further approvals are required, but must be substantially consistent with any development consent for the proposal (e.g. approvals for any works under the *Roads Act 1993*).

The Department has consulted with the relevant government agencies responsible for the integrated and other approvals, considered their advice in its assessment of the project, and included suitable conditions in the recommended conditions of consent to address these matters (see **Appendix H**).

The project is not considered a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

4.4 Mandatory Matters for Consideration

Section 4.15 of the EP&A Act outlines the matters that a consent authority must take into consideration when determining development applications. These matters are summarised as:

- the provisions of environmental planning instruments (including draft instruments), development control plans, planning agreements, and the EP&A Regulations;
- the environmental, social and economic impacts of the development;
- the suitability of the site;
- any submissions; and
- the public interest, including the objects in the EP&A Act and the encouragement of ecologically sustainable development (ESD).

The Department has considered all of these matters in its assessment of the project, as well as the Applicant's consideration of environmental planning instruments in its EIS, as summarised in **section 6** of this report. The Department has also given consideration to the relevant provisions of the environmental planning instruments in **Appendix D**.

5. Engagement

5.1 Department's Engagement

The Department publicly exhibited the EIS from 6 June 2018 until 5 July 2018, and advertised the exhibition in the *Namoi Valley Independent* and *Narrabri North West Courier*.

The Department inspected the site on 25 July 2018 and visited three adjoining landowners and the Namoi Pistol Club shooting range areas, as discussed further in **section 5.4**. The Department used this opportunity to inform the residents about the planning assessment process.

The Department has also consulted with the relevant Government agencies throughout the assessment process.

5.2 Submissions and Response to Submissions

During the exhibition period of the EIS, the Department received a total of 86 submissions, including:

- nine from government agencies;
- one from a special interest group; and
- 76 from the general public.

A full copy of all submissions is provided in **Appendix E**. The Applicant provided a response to the issues raised in submissions (see **Appendix G**), as well as a range of additional information to address matters raised by the Department and other agencies during the assessment process (see **Appendix C**).

5.3 Key Issues – Government Agencies

Gunnedah Shire Council supports the development of the project, but initially raised concerns on aspects related to traffic, flooding, social and economic and koala habitat protection. It also advised on timing for the proposed landscaping and waste disposal to Council's Waste Management Facility, as well as aspects of the proposed subdivision. All of the matters raised were addressed by the Applicant in the Response to Submissions (RTS), and Council has advised that it has no residual concerns. The Department has recommended a range of conditions of consent to address these issues, which are discussed in **section 6**.

The **Department of Industry – Lands and Water (DoI L&W)** recommended an additional flood assessment to identify whether the existing first order creek located within the initial development footprint is a breakthrough channel of the Namoi River. The Applicant subsequently undertook the study and revised the project layout to remove all infrastructure from the first order creek area. DoI L&W has confirmed it has no residual concerns and is satisfied with the recommended conditions of consent. These matters are discussed in **section 6.3**.

The **Office of Environment and Heritage (OEH)** initially noted some inconsistencies between the Biodiversity Development Assessment Report (BDAR) and the Biodiversity Assessment Method (BAM) calculator and asked for clarifications from the Applicant. The Applicant addressed these matters in the RTS. OEH also acknowledged the adequacy of Aboriginal cultural heritage assessment and consultation, and advised that it has no objection to the project subject to recommended conditions of consent. These matters are further discussed in **section 6.4**.

Roads and Maritime Services (RMS) recommended that the Applicant develops a Traffic Management Plan and completes the relevant road upgrades prior to the commencement of construction. These recommendations have been incorporated into the recommended conditions of consent and are discussed in **section 6.2**.

The **Rural Fire Service (RFS)** and **Fire & Rescue NSW** recommended fire and emergency response plan conditions, which have been incorporated into the recommended conditions of consent.

The **Division of Resources and Geoscience (DRG)** noted that mining and exploration land uses were adequately addressed in the EIS, and that the Applicant provided sufficient evidence of consultation with the potentially affected titleholders. DRG has no residual concerns.

The **Environment Protection Authority (EPA)** and **TransGrid** raised no concerns and made no recommendations.

5.4 Key Issues – Community

Of the 76 submissions received from the public, 65 objected, 10 supported and one provided comments on the project. A summary of all submissions received from the public is provided in **Table 3**.

Of the 65 objections, only six (9%) were received from residents within 10 km of the project site. The vast majority of objections (91%) were received from people residing more than 10 km away, with 15 objections received from interstate. Matters raised in these submissions focused on local impacts and were consistent with the those raised by the local community.

Similarly, the vast majority of supporting submissions (70%) were received from people living more than 10 km from the project site, with three submissions received from residents located within 10 km of the project.

Table 3 | Summary of Community Submissions

Submitters	Object	Support	Comment	Total
< 5 km	5	3	0	8
5 – 10 km	1	0	0	1
10 – 50 km	9	4	1	14
> 50 km	50	3	0	53
TOTAL	**65**	**10**	**1**	**76**

The key issues raised in the public submissions related to flooding and land use compatibility, specifically regarding the use of prime agricultural land.

Other issues raised included potential amenity impacts (including visual, traffic and noise impacts), biodiversity, water and soil, and project benefits to the local community.

Concerns were also raised regarding insufficient consultation undertaken by the Applicant with the local community. Of these submissions, approximately 60% were received from over 50 km from the project site. During the assessment phase, the Department visited three properties adjoining the project site (residences R1, R2 and R8) and met with the landowners to get an appreciation of the potential impacts associated with the proposed development and to further understand the concerns of individual landowners.

A breakdown and summary of the key issues raised by the public is provided in **Figure 4** and summarised in **Appendix F**. **Section 6** of the assessment report provides a summary of the Department's consideration of these matters and recommended conditions.

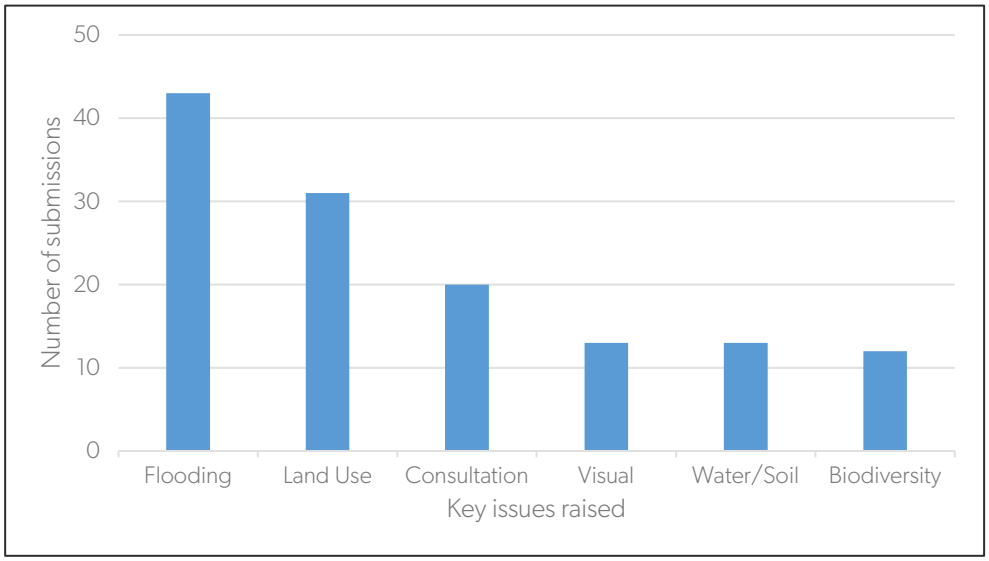

Figure 4 | Key Issues Raised in Public Submissions

5.5 Key Issues – Special Interest Group

The **Namoi Pistol Club** objected to the project on the basis that its 900-metre shooting range situated on a hill approximately 1.8 km away within the adjoining property may be visually affected by the project. It also suggested that the initially proposed screening around the perimeter of the project's north-east boundary would not be sufficient. The Department visited the Namoi Pistol Club shooting range areas during its site visit. The concerns raised by the Pistol Club have been resolved by the amended development footprint, as discussed in **section 6.2**.

6. Assessment

The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the key issues, including land use compatibility, potential impacts on amenity (visual, traffic and noise), water and flooding, and biodiversity.

The Department has also considered the full range of potential impacts associated with the project, including the potential cumulative impacts of the approved Gunnedah Solar Farm, and has included a summary of the conclusions relating to these in **section 6.5**.

The key constraints for the project are depicted in **Figure 2** and a list of the key documents that informed the Department's assessment is provided in **Appendix A**.

6.1 Compatibility of Proposed Land Use

Provisions of the Gunnedah LEP

The site is located wholly within the RU1 Primary Production zone under the Gunnedah LEP. A solar farm is a permissible land use with consent under the LEP zoning table.

The project is also consistent with the objectives of the RU1 zone under the Gunnedah LEP, including in regard to:

- minimising conflict between land uses;
- minimising fragmentation and alienation of resource lands; and
- encouraging diversity in primary industry enterprises.

The project would not fragment or alienate any resource lands during operations and would be easily returned to agricultural land or other suitable uses following decommissioning. Further, Council supports the development of the project, subject to the implementation of appropriate environmental mitigation measures.

The introduction of solar energy would contribute to a more diverse local industry, thereby supporting the local economy and community, which is consistent with the *Gunnedah Community Strategic Plan 2013-2023.*

Finally, the project is consistent with the Department's *New England North West Regional Plan 2036*, which identifies the development of renewable energy generation as a future growth opportunity for the region.

Potential Impacts on Agricultural Land

The project is located within the New England North West Region, one of the State's most fertile and productive agricultural areas. Over 1.5 million ha of this region have been mapped as Biophysical Strategic Agricultural Land (BSAL).

The whole of the project site is mapped as BSAL and historically it has been used for livestock grazing and cropping. The land is mapped as capability Class 2 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017), which means that the land is not suited to continuous cultivation.

The development footprint was designed to avoid fragmentation of the landowners' residual agricultural land, allowing the landowners to continue using the residual land for agricultural purposes. The revised development footprint would occupy 248 ha of the total 817 ha of the site, which leaves about 569 ha of BSAL available for agricultural production throughout the project life. As such, the agricultural output of the site would not be significantly reduced by the project throughout its operation.

The development footprint of the project combined with the approved Gunnedah Solar Farm would be 550 ha. However, the loss of 550 ha of agricultural land represents a very small fraction (~ 0.007%) of the land being used for agricultural output in the New England North West Region and would result in a negligible reduction in the overall productivity of the region.

Additionally, the inherent agricultural capability of the land would not be affected by the projects due to the relatively low scale of the development. Managed grazing may be used to maintain the height of ground cover during operations and the land would be returned to agricultural use following decommissioning.

The potential loss of a small area of cropping and grazing land in the region must be balanced against:

- the broader strategic goals of the Commonwealth and NSW governments for the development of renewable energy into the future;
- the environmental benefits of solar energy, particularly in relation to reducing greenhouse gas emissions;
- the economic benefits of solar energy in an area with good solar resources and capacity in the existing electricity infrastructure; and
- the benefits of dispatchable energy for grid stability and reliability.

The Applicant proposes to return the land back to existing levels of agricultural capability and the Department has included rehabilitation objectives in the recommended conditions to maintain the productivity of the agricultural land during the construction and operation of the project, and to fully reinstate the agricultural capability of the land following decommissioning of the project.

Based on these considerations, the Department is satisfied that the proposed solar farm represents an effective and compatible use of the land within the Gunnedah region. In addition, the Department has recommended suitable conditions to maintain the productivity of the agricultural land during the construction and operation of the project to reinstate the agricultural capability of the land following the decommissioning of the project.

Potential Impacts on Agricultural Activities

Concerns were raised in some submissions regarding potential impacts on neighbouring agricultural operations, particularly receivers R1 and R2. These concerns included impacts on grazing livestock and cropping from the spread of weeds from the project site, soil and groundwater contamination, and dust and noise generated by the development. No concerns regarding this matter were raised by Council, DoI L&W and LLS.

The Department considers that, with the implementation of the recommended conditions of consent, the project would not significantly impact the agricultural operations of neighbouring landholders given the relatively low impacts associated with the solar farm.

The Department has recommended strict land management conditions to control the growth of weeds, reducing the potential spread of weeds to neighbouring properties. In this regard, the Applicant would be required to restore the ground cover of the site following construction or upgrading, maintain the ground cover with appropriate perennial species and manage weeds within this ground cover.

The recommended conditions also require the Applicant to ensure that the solar panels and ancillary infrastructure are designed, constructed and maintained to reduce impacts on flooding and groundwater and to ensure the development does not cause any water pollution.

The Applicant would also be required to minimise dust generated by the development, and the Traffic Management Plan would be required to include dust management measures along the unsealed section of Orange Grove Road.

In addition, noise associated with the construction, operation, upgrading and decommissioning of the project would comply with the relevant criteria, as discussed further in **section 6.2**.

6.2 Amenity

Visual

Concerns about visual impacts as well as glint and glare were raised in a number of public submissions as well as in the Namoi Pistol Club submission.

The EIS includes a comprehensive visual impact assessment (VIA) based on six viewpoints, including the two nearest residences, and contains a viewshed analysis for these viewpoints. A separate glint and glare study was prepared as part of the RTS and predicted 'no glare' for any of the identified viewpoints.

Visual Context

The two nearest residences are located approximately 200 m west (R1) and 1.3 km north-east (R2) of the development footprint at a similar elevation to the project site.

Namoi Pistol Club is located approximately 1.8 km from the north-eastern corner of the development footprint within the adjoining property boundary.

Four non-associated residences (R8, R9, R10, R11) are located between approximately 1.6 km and 2.1 km west of the development footprint. It is unlikely that these residences would have views of the project infrastructure due to the distance from the development footprint and the low height of the project infrastructure.

Avoidance and mitigation

Following the exhibition, the Applicant has amended the design of the project development footprint to mitigate visual impacts on surrounding residents (see **Figure 5**), including:

- setting back the project infrastructure in front of residence R1 by 50 m for a length of approximately 1 km, allowing a total separation distance of about 200 m between the dwelling and the nearest project infrastructure;
- committing to installing a vegetation buffer along a portion of the site's western boundary to screen views towards residence R1;
- increasing the distance between residence R2 and the nearest project infrastructure by approximately 500 m, allowing a total separation distance of about 1.3 km (representing the removal of 41 ha of the development footprint); and
- increasing the distance between the Namoi Pistol Club shooting ranges and the development footprint by approximately 550 m, allowing a total separation distance of about 1.8 km.

Assessment

The maximum solar panel height would be up to 2.4 m, and the inverter stations and maintenance buildings would be up to 2.6 m and 3 m high respectively. All project related infrastructure would be a similar size to agricultural sheds commonly used in the local area. Additionally, the photovoltaic panels are designed to absorb rather than reflect sunlight and the project would not cause noticeable glint or glare compared to other building surfaces.

The VIA notes that without any mitigation measures in place, only R1 would have the potential for significant visual impacts. The owner of residence R1 raised concerns regarding the visual impacts of the project, including the proximity of the dwelling and driveway, the main aspect of the dwelling facing east towards the project and the effectiveness of planting seedlings as part of the proposed vegetation buffer.

In this regard, the Applicant has amended the project layout to increase the total separation distance between the dwelling and the nearest project infrastructure to 200 m.

The Department has required the Applicant to establish and maintain a mature vegetation buffer, rather than seedlings, which must also consist of species that facilitate the best possible outcome in terms of screening views from residence R1. This vegetation screening would extend the length of the far western boundary of the site, including the entire length of the driveway to R1.

The dwelling is at the same elevation as the project site and given the height of the panels, the Department considers the vegetation buffer would be effective at screening views from the residence.

As such, the Department considers that the residual visual impacts to R1 would be suitably mitigated.

Residence R2 and the Namoi Pistol Club shooting ranges would have minor visual impacts due to the increased separation distance to about 1.3 km and 1.8 km respectively. The visual impacts to the remaining viewpoints would be negligible.

The Department considered potential cumulative visual impacts to four residences (R8, R9, R10 and R11) located between the project and the proposed Gunnedah Solar Farm (see **Figure 2**). Due to the distance between the projects (3 km) and the relatively low-lying nature of the developments, the Department considers the potential cumulative impacts would be negligible.

The project is located approximately 130 km from the Siding Spring Observatory and therefore falls inside the Dark Sky Region covered by the NSW Government's *Dark Sky Planning Guideline*. A consent authority must consider this guideline for an SSD that is likely to impact the night sky and is within 200 km of the Observatory. There would be some night security lighting, however there would be negligible light spill beyond the horizontal plane. Consequently, the Department is satisfied that the project would not affect the observing conditions at the Observatory.

Recommended Conditions

To address the residual visual impacts, the Department has recommended a range of stringent conditions requiring the Applicant to establish and maintain a mature vegetation buffer along part of the site's western boundary. This buffer must:

- be planted prior to the commencement of operation;
- consist of a variety of species that would facilitate the best possible outcome in terms of visual screening;
- be effective at screening views of the solar panels and ancillary infrastructure from residence R1 within 3 years of the commencement of construction; and
- be properly maintained with appropriate weed management.

Furthermore, the Applicant must prepare a detailed Landscaping Plan for the site, in consultation with the landowners of residence R1, which must include a description of measures that would be implemented to ensure the effectiveness of the vegetation buffer. This plan must also include a program to monitor and report on the effectiveness of these measures.

The Department has also required that external lighting is minimised and complies with the relevant Australian Standards and principles of the *Dark Sky Planning Guideline*, and prohibited any signage or advertising on the site, unless it is required for safety purposes.

Subject to the implementation of these measures, the Department considers that there would be no significant visual impacts on surrounding residences, and the rural character and visual quality of the area would be preserved.

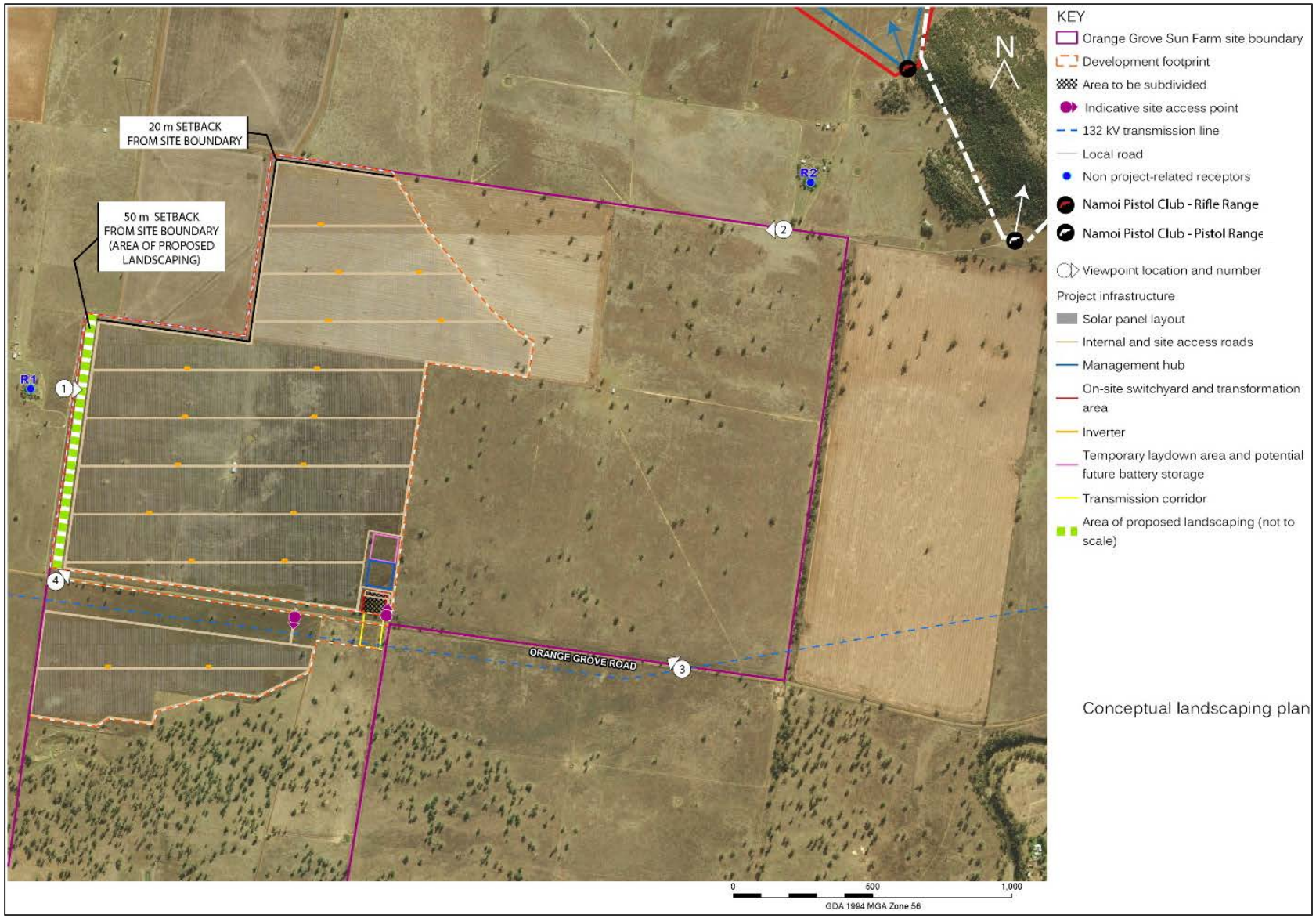

Figure 5 | Landscape Plan and Visual Impact Assessment

Traffic

Several submissions from local residents raised concerns about the potential traffic impacts of the project on local roads during the construction period.

Transport Routes and Site Access

The over-dimensional and heavy vehicles transport route would be via the Kamilaroi Highway, Oxley Highway, Blue Vale Road, Old Blue Vale Road, Kelvin Road and Orange Grove Road (see **Figure 6**). This route utilises the existing designated heavy vehicle route that avoids driving through the centre of Gunnedah.

Light vehicles would access the site via Chandos Street, Cohens Bridge, O'Keefe Avenue, Kelvin Road and Orange Grove Road. This would allow direct access between the Gunnedah town centre and the project site.

The Gunnedah Solar Farm would also use these transport routes for heavy vehicles (with the exception of Oxley Highway) and light vehicles.

The site would be accessed via two new site access points located on Orange Grove Road to access northern and southern portions of the development footprint respectively (see **Figure 2**).

Traffic Volumes

There would be minimal traffic to and from the project site during the operation of the developr
4 heavy and 6 light vehicle movements per day). Consequently, the only material traffic impacts would occur during construction, decommissioning and major upgrades.

Traffic volumes would vary during the nine month construction period but the daily vehicle movements during construction would not exceed 116 vehicle movements per day, comprising 60 light vehicle and 56 heavy vehicle movements. Additionally, up to 4 over-dimensional vehicles would be required. As construction activities would be restricted to daytime hours, construction related vehicles would only be using the local road network during the day.

If the Gunnedah Solar Farm is approved and constructed concurrently, the cumulative worst-case traffic volumes for the two projects would peak at 106 heavy vehicle movements and 135 light vehicle movements per day during construction.

Projected traffic during decommissioning and major upgrades would be similar to construction traffic levels, but over shorter durations.

Any potential traffic impacts on local road users would be minimised and managed through stringent measures developed as part of the Traffic Management Plan (TMP), including scheduling construction activities and deliveries to minimise peak road transport movements and avoid conflict with school buses. RMS and Council have agreed to this approach, and the Department has included this requirement in the recommended conditions.

Road Upgrades and Maintenance

Both RMS and Council support the proposed site access, provided the required road upgrades are undertaken to support the increased traffic volume. These include:

- construction of two site access points off Orange Grove Road to Typical Rural Property Access Standards;
- increasing the extent of the two-lane seal width (to 7 m) for 100 m at the eastern and western ends of Old Blue Vale Road; and
- removing loose gravel material at the Old Blue Vale Road and Kelvin Road intersection.

Additionally, the Applicant has committed to preparing road dilapidation surveys, repairing any damage resulting from the development related traffic and developing a flood response plan as part of the TMP in consultation with RMS and Council.

In line with Gunnedah Solar Farm, the Department has included a condition requiring the Applicant to undertake a dilapidation survey of the condition of the heavy vehicle transport route prior to commencing construction, upgrading and/or decommissioning, and within one month of the completion of these stages, in order to ensure that local roads at the time of any future upgrading or decommissioning are upgraded to support such works.

Recommended Conditions

The Department has recommended conditions of consent requiring the Applicant to:

- undertake the relevant road upgrades prior to the commencement of construction;
- undertake dilapidation surveys of the heavy vehicle transport route prior to commencing construction, upgrading and/or decommissioning and repair any damage to local roads following these activities;
- share the cost of the relevant road upgrades with the applicant of the Gunnedah Solar Farm, if both projects proceed;
- ensure the number of vehicle movements a day does not exceed:
  - 56 heavy vehicle movements during construction, upgrading or decommissioning;
  - 4 over-dimensional vehicle movements during construction, upgrading or decommissioning; and
  - 4 heavy vehicle movements during operations;
- ensure the length of vehicles accessing the site (excluding over-dimensional vehicles) does not exceed 26 m; and
- prepare and implement a TMP in consultation with RMS and Council that includes the preparation of a flood response plan detailing procedures and options for safe access to and from the site in the event of flooding.

Subject to the recommended conditions, the Department, RMS and Council are satisfied that the project would not result in significant impacts on road network capacity, efficiency or safety.

Noise

Some of the submissions from local residents raised concerns about the noise impacts of the project, both from construction activities and ongoing operations.

The EIS includes a noise impact assessment of both operational and construction noise, including an assessment of the noise impacts associated with construction traffic.

The noise impact assessment concluded that the noise associated with the proposed construction, upgrading and decommissioning activities would be well below both the 'highly noise affected' criterion of 75 dB(A) and the 'noise affected' criterion of 45 dB(A) in the EPA's *Interim Construction Noise Guideline* (ICNG).

The noise impact assessment concluded that the noise levels from the general operation of the project would comply with the relevant noise criteria of 35 dB(A) established under the *Noise Policy for Industry* at all residences under all scenarios and meteorological conditions.

The Department considers that any noise impacts would be limited to the construction period and would be short-term and minor, and has recommended conditions requiring the Applicant to:

- minimise the noise generated by any construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG, including consultation with nearby landowners; and
- restrict construction hours to Monday to Friday 7 am - 6 pm, and Saturday 8 am - 1 pm, with no works on Sundays and NSW public holidays.

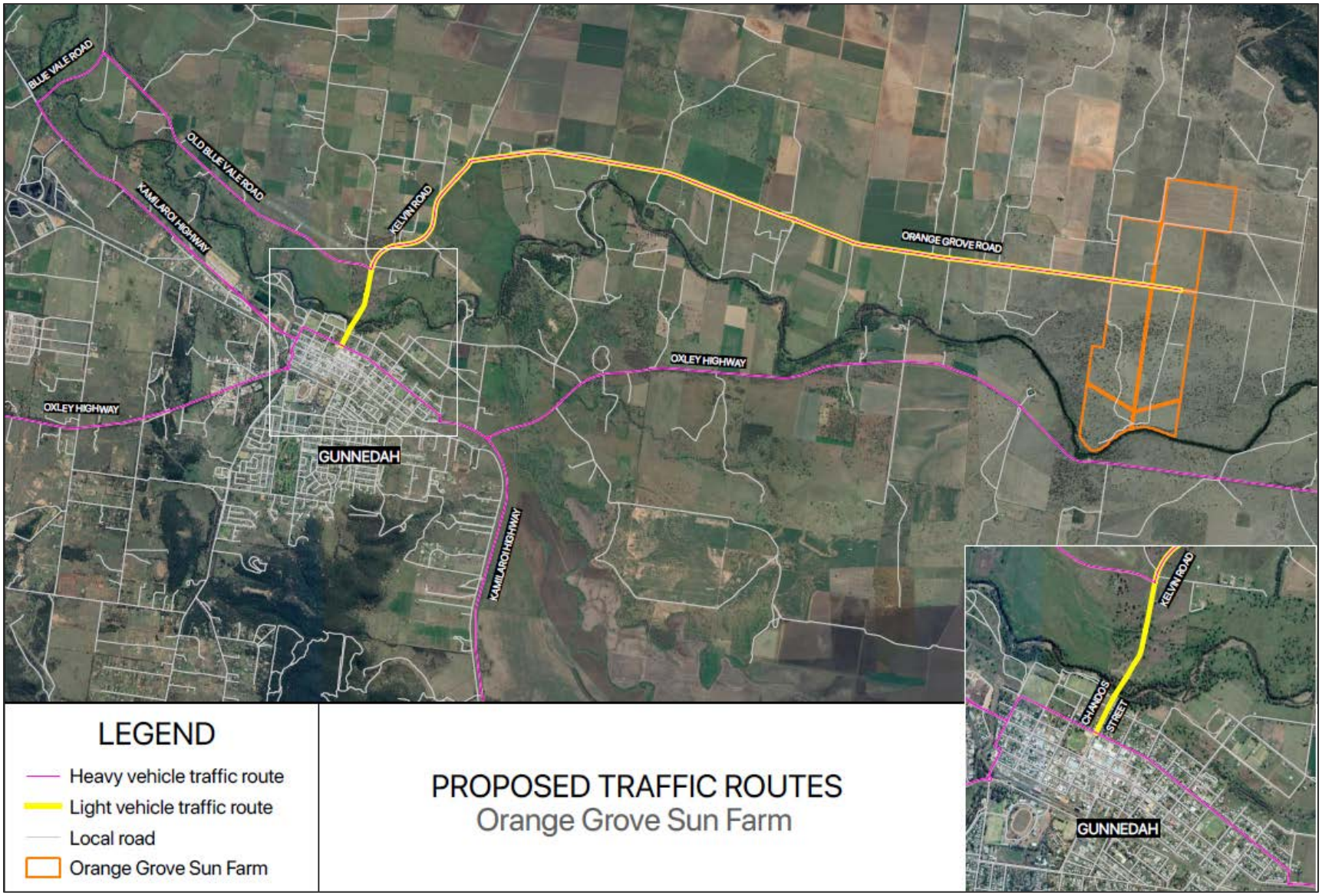

Figure 6 | Over-dimensional and Heavy Vehicle Access Route

6.3 Water and Flooding

Water Demands

The project would require approximately 15 megalitres (ML) of water during construction (mainly for dust suppression) and 3 ML of water annually during operation (mainly for cleaning panels).

Water demand would be met by a combination of sources, including water tankers, an existing on-site bore with a 10 ML entitlement and from an established water trading market in the area. The Applicant has confirmed that sufficient water allocations have been secured for the project.

Flooding

The project site is within the Namoi River floodplain and is mapped as a 'flood storage and secondary flood discharge area' under the *Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain* (DPI Water 2016). The Namoi River abuts the southern boundary of the project site, however the development footprint is located approximately 1.5 km north-east of the Namoi River at its closest point (see **Figure 2**).

The development footprint slopes gently from north-east to south-west, with its lowest elevation being 272.5 m Australian Height Datum (AHD). The modelled flood level for the development footprint using the highest historical flood event is 272.3 m AHD, which is below the lowest point of the development footprint. As such, the project should not be affected by the large design flood level.

A first order stream is located in the north-east of project site. A flood study identified that this stream would likely be a breakout channel for the Namoi River in the event of flooding. The development footprint was amended to exclude all project infrastructure, including perimeter fencing, from the first order stream area which removes potential impacts to this watercourse and ensures its existing function as a breakout channel continues.

As such, DoI L&W, Council and the Department consider that the project would not result in any significant impacts on adjacent properties and high value infrastructure in the event of a flood. Notwithstanding, the Department has recommended conditions requiring the Applicant to implement appropriate flood management practices to ensure the development is consistent with the *Draft Floodplain Management Plan for the Upper Namoi Floodplain 2016*.

Any potential erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques.

Recommended Conditions

To ensure that impacts on water resources are minimised, the Department has recommended conditions requiring the Applicant to:

- ensure that the project is constructed and maintained to minimise the impacts on localised flooding and groundwater at the site;
- minimise any soil erosion associated with the construction, upgrading or decommissioning of the project in accordance with OEH's *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) manual;
- ensure that it has sufficient water for all stages of the development;
- comply with Section 120 of the *Protection of the Environment Operations Act* (1997), which prohibits water pollution;
- ensure all works (including watercourse crossings) are undertaken in accordance with the Guidelines for Controlled Activities on Waterfront Land (2018), and Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (2004); and

- prepare a flood response plan detailing procedures and options for safe access to and from the site in the event of flooding as part of the TMP.

Subject to the recommended conditions, the Department, DoI L&W and Council consider that the project would not result in significant impacts in the event of flooding.

6.4 Biodiversity

Twelve submissions raised concerns regarding potential biodiversity impacts, including impacts on koala habitat and wider impacts on flora and fauna.

The site comprises agricultural land that has been heavily modified, but includes 202 ha of native vegetation.

The project has been designed to avoid the clearance of moderate to good quality native vegetation (0.58 ha of PCT 438).

However, the project would disturb:

- 145.8 ha of the total 186.6 ha of Poplar Box - Yellow Box - Western Grey Box grassy woodland (PCT 101) (low condition) on the site; and
- 0.001 ha of the total 14.87 ha of Rough-Barked Apple - Red Gum - Yellow Box woodland (PCT 281, an EEC listed under the BC Act) (low condition) on the site.

The vegetation to be cleared is of low quality and the vegetation integrity score of both vegetation zones was identified to be below 15. OEH has confirmed that no offsets are required.

One koala feed tree species as defined in Schedule 1 of *State Environmental Planning Policy No 44 – Koala Habitat Protection* (SEPP No 44) was identified within the project site. However, OEH has confirmed that the site is not classified as prime koala habitat.

The Department and OEH consider that the project is unlikely to result in any significant impacts on the biodiversity values of the locality.

6.5 Other Issues

The Department's consideration of other issues is summarised in **Table 4**.

Table 4 | Other Issues

Issue	Findings	Recommended Condition
Heritage	• No items of historic heritage significance have been identified on or in close proximity to the development footprint. • Two potential Aboriginal scarred trees are located within the project site and the project was designed to avoid impacts on these two trees. • Two isolated stone artefacts of low significance are located within the project site and would be impacted by the development but do not require mitigation. • OEH and the Department consider that the project is unlikely to result in a significant impact on the heritage values of the locality.	• Avoid any direct or indirect impacts on the potentially scarred trees.

Issue	Findings	Recommended Condition
Hazards	• The project would comply with the National Health and Medical Research Council standards for electric and magnetic fields. • The site is not on land mapped as bushfire prone. • Following a request by the RFS, the Applicant has committed to managing the entire site as an Asset Protection Zone and preparing a bushfire management plan to manage fire risk. • The Department considers that the bushfire risks can be suitably controlled through the implementation of standard fire management procedures.	• Ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bush Fire Protection 2006*. • Prepare a Fire Management and Emergency Response Plan in consultation with RFS and Fire & Rescue NSW.
Workforce Accommodation	• Up to 100 workers would be required during the construction period. • Gunnedah Solar Farm would require up to 150 workers during construction. As such, if both projects were constructed concurrently, up to 250 workers would be required. • The workforce for both projects is expected to come from the local and wider region including the surrounding local government areas. • The Applicant undertook an assessment of accommodation availability in Gunnedah, as well as Tamworth and Narrabri, which are both located within 100 km of the site. • The assessment indicated there is likely to be sufficient accommodation available to house workers during the construction period, even if both projects are constructed at the same time. Council has advised it has no concerns about this matter.	• No specific conditions required.
Project Benefits	• Concerns were raised in submissions that the project would have negligible benefits to the local community, including a lack of local employment opportunities. • The Applicant has advised that the project would utilise accommodation within the Gunnedah Shire LGA, source workers from the local and wider region (including 40% of the workforce residing in Gunnedah Shire LGA) and generate local expenditure. • The project would generate both direct and indirect benefits to the local community, including: - generating up to 100 jobs during 9 months of construction; - expenditure on accommodation and businesses in the local economy by workers, who would reside in Gunnedah Shire LGA, or the adjoining Tamworth or Narrabri Shire LGAs; - the procurement of goods and services by the Applicant and any associated contractors.	• No specific conditions required.

Issue	Findings	Recommended Condition
Subdivision	• The Applicant proposes to subdivide Lot 2 DP 945590 on which Transgrid's substation is located. • The proposed subdivision would result in a lot size of approximately 1 ha which would be prohibited under a strict reading of the Gunnedah LEP as it would not meet the minimum lot size for RU1 land (200 ha). • Notwithstanding, under Section 4.38(3) of the EP&A Act, development consent for the project as a whole can be granted despite the subdivision component of the application being prohibited by the LEP. • The Department is satisfied that the subdivision should be approved as: – it would not result in the addition of any dwelling entitlements on the subdivided lots; – it is consistent with the key objectives of the RU1 zone as it would encourage diversity and primary industry enterprises and minimise conflict between land uses. • Further, Council has not objected to the proposed subdivision.	• Subdivide the proposed lot providing information is provided in accordance with requirements of Section 157 of the *Environmental Planning and Assessment Regulation 2000*.

7. Evaluation

The Department has assessed the development application, EIS, submissions, Response to Submissions and additional information provided by the Applicant and relevant government agencies. The Department has also considered the objectives and relevant considerations under Section 4.15 of the EP&A Act.

The Department considers the site to be appropriate for a solar farm as it has good solar resources and there is available capacity on the existing electricity network.

The project has been designed to largely avoid key constraints, including native vegetation. The project also includes vegetation screening along its western boundary to reduce potential visual impacts. Any residual impacts would be minor and can be managed through the recommended conditions of consent.

The project would not result in any significant reduction in the overall agricultural productivity of the region. Additionally, the site could be easily returned to agricultural uses after the project is decommissioned and the inherent agricultural capability of the land would not be affected.

To address the residual impacts of the project, the Department has recommended a range of detailed conditions, developed in conjunction with agencies and the Council, to ensure these impacts are effectively minimised. The Applicant has reviewed the conditions and does not object to them.

Importantly, the project would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources. It would generate up to approximately 243,000 megawatt hours (MWh) of clean electricity annually, which is enough to power up to 41,000 homes and save up to 233,000 tonnes of greenhouse gas emissions per year. It is therefore consistent with the goals of the Commonwealth's *Renewable Energy Target* and NSW's *Climate Change Policy Framework*.

The Department is satisfied that the project achieves a reasonable balance between maximising the efficiency of the solar resource development and minimising the potential impacts on surrounding land users and the environment. The project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community through job creation and capital investment.

On balance, the Department considers that the project is in the public interest and is approvable, subject to the recommended conditions of consent (see **Appendix H**).

This assessment report is hereby presented to the Independent Planning Commission for determination.

12/4/19

Nicole Brewer
A/Director
Resource and Energy Assessments

12/4/19

David Kitto
Executive Director
Resource Assessments and Business Systems

Appendices

Appendix A – List of Documents

Orange Grove Sun Farm Environmental Impact Statement, EMM, May 2018.

Letter requesting Response to Submissions, Department of Planning and Environment, June 2018.

Letter advising the Department on intention to amend the development application accompanied by an amended development layout plan, September 2018.

Response to Submissions Report and associated attachments, Overland Sun Farming, November 2018.

Additional Information:

- Email from Overland about revised impacts on PCT 281, dated 11 December 2018;
- Email from Overland about revised impacts on Aboriginal object OG_ISF1, dated 24 January 2019;
- Email from Overland about Orange Grove Road, dated 1 February 2019; and
- Subdivision Plan provided on 21 March 2019.

Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain, NSW Government 2016.

New England North West Regional Plan 2036, NSW Government 2017.

About my region – New England and North West New South Wales, Australian Bureau of Agricultural and Resource Economics and Sciences.

Appendix B – Environmental Impact Statement

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/9986

Appendix C – Additional Information

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/9986

Appendix D – Statutory Considerations

In line with the requirements of Section 4.15 of the EP&A Act, the Department's assessment of the project has given detailed consideration to a number of statutory requirements. These include:

- the objects found in Section 1.3 of the EP&A Act; and
- the matters listed under Section 4.15(1) of the EP&A Act, including applicable environmental planning instruments and regulations.

The Department has considered all of these matters in its assessment of the project and has provided a summary of this assessment below.

Aspect	Summary
Objects of the EP&A Act	The objects of most relevance to the Minister's decision on whether or not to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act. The Department is satisfied that the project encourages the proper development of natural resources (Object 1.3(a)) and the promotion of orderly and economic use of land (Object 5(c)), particularly as the project is: • a permissible land use on the subject land; • located in a logical location for efficient solar energy development; • able to be managed such that the impacts of the project could be adequately mitigated; • consistent with the goals of the Renewable Energy Action Plan, and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. The Department has considered the encouragement of ESD (Object 1.3(b)) in its assessment of the project. This assessment integrates all significant socio-economic and environmental considerations and seeks to avoid any potential serious or irreversible environmental damage, based on an assessment of risk-weighted consequences. The Applicant has also considered the project against the principles of ESD. Following its consideration, the Department considers that the project can be carried out in a manner that is consistent with the principles of ESD. Consideration of environmental protection (Object 1.3(e)) is provided in **section 6.4** of this report. Following its consideration, the Department considers that the project is able to be undertaken in a manner that would improve or at least maintain the biodiversity values of the locality over the medium to long term, and would not significantly impact threatened species and ecological communities of the locality. Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in **section 6.5** of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality.
State Significant Development	Under Section 4.36 of the EP&A Act the project is considered a State Significant Development. Under Section 4.5 (a) of the EP&A Act and clause 8A of the SRD SEPP the Independent Planning Commission is the consent authority for the development as there were more than 25 public submissions by way of objection.
Environmental Planning Instruments	The *Gunnedah Local Environment Plan (LEP) 2012* applies and is discussed in **sections 4.2** and **6.1** of this report. The project is permissible under the Infrastructure SEPP.

Aspect	Summary
	Gunnedah Shire Council is listed under *SEPP No. 44 – Koala Habitat Protection*. The assessment provided in **section 6.4** found that there is no core koala habitat identified on the site, and the Department is satisfied that there would be no impacts on koala habitat. The Department has considered the provisions of *SEPP No. 55 – Remediation of Land*. A preliminary assessment of the land found no contaminated land within the project site, and the Department is satisfied the site is suitable for the development.

Appendix E – Submissions

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/9986

Appendix F – Consideration of Community Views

The Department exhibited the Environmental Impact Statement for the project from 6 June 2018 until 5 July 2018 (29 days) and received 77 submissions from the community, including one from special interest group and 76 from members of the general public. Of the 77 submissions received from the general public and special interest groups, 66 objected to the project, 10 supported the project and one provided comments.

The key issues raised by the community (including in submissions) and considered in the Department's Assessment Report include the use of prime agricultural land, potential flooding impacts, and the potential impacts on amenity (visual and traffic) and consultation. Other issues are addressed in detail in the Department's Assessment Report.

Issue	Consideration
Flooding • Potential impact to neighbouring landholders located downstream. • Accuracy of the flood impact assessment.	*Assessment* • The project site is located in the Upper Namoi Valley Floodplain. The area is mapped as 'flood storage and secondary flood discharge area' under the *Draft FMP for the Upper Namoi Valley Floodplain 2016*. • The development footprint is approximately 1.5 km north-east of the Namoi River at its closest point. • The highest historic flood event level is below the lowest point of the development footprint. As such, the project shouldn't be affected by the large design flood level. • The Applicant amended the development footprint to remove all infrastructure, including perimeter fencing, from the first order areas which is likely to be a breakout channel for the Namoi River in the event of flooding. • Subject to the recommended conditions, both the Department and DoI – L&W consider the project would not result in significant impacts in the event of a flood. *Conditions* • Prepare and implement a flood response plan as part of the Traffic Management Plan. • Ensure the solar panels and ancillary infrastructure (including security fencing) are designed, constructed and maintained to reduce impacts on localised flooding and groundwater at the site.
Potential impacts on agricultural land and activities • Perceived incompatibility of the project with the surrounding area. • Potential impacts on neighbouring agricultural operations (particularly receivers R1 and R2).	*Assessment* • The project site is located within land zoned RU1 – Prime Production under the Gunnedah LEP. • The RU1 zone includes various land uses that are both permitted with and without consent. As a solar farm is a permitted land use with consent under a strict reading of the LEP zoning table. • Further, the project is permissible under the Infrastructure SEPP, and is consistent with the objectives of the *Gunnedah Community Strategic Plan 2013 – 2023* and *New England North West Regional Plan 2036*. • The project would occupy a 248 ha portion of the 817 ha site and the landowners may continue agricultural practices on surrounding land. • The Department considers that the loss of 550 ha of agricultural land, including 248 ha for Orange Grove Solar Farm and 304 ha for approved Gunnedah Solar Farm, represents a very small fraction (~0.007%) of the agricultural output of the region and would result in a negligible reduction in its overall productivity. • The Department does not consider that the project would significantly impact the agricultural operations of neighbouring landholders given the relatively low impacts associated with the solar farm project site. • The inherent capability of the land would not be affected by the project. • Further, the land would be returned to agricultural use following decommissioning. *Conditions* • Reinstate the agricultural capability of the land following decommissioning of the project. • Restore the ground cover of the site following construction or upgrading, maintain the ground cover with appropriate perennial species and manage weeds within the ground cover.

Issue	Consideration
	• Ensure the solar panels and ancillary infrastructure (including security fencing) are designed, constructed and maintained to reduce impacts on localised flooding and groundwater at the site. • Minimise dust generated by the development and include dust management measures along the unsealed section of Orange Grove Road in the Traffic Management Plan. • Ensure that noise associated with the construction, operation, upgrading and decommissioning of the projects complies with the relevant noise criteria.
Consultation • Concerns about insufficient community consultation with the local community.	*Assessment* • The Department publicly exhibited the EIS from 6 June 2018 until 5 July 2018, and advertised the exhibition in the *Namoi Valley Independent* and *Narrabri North West Courier,* as well as notified the adjoining landowners of the exhibition. • The Department visited three properties adjoining the project site (residences R1, R2 and R8) and met with the landowners to get an appreciation of the potential impacts associated with the proposed development and to further understand the concerns of individual landowners. • The Department also visited the Namoi Pistol Club shooting range areas. *Conditions* • No specific conditions.

Visual Impacts
• Visual impacts of project on surrounding residents.
	Assessment
	• Portions of the project would be visible to surrounding residences, particularly residences R1 and R2 located approximately 200 m west and 1.3 km north-east respectively of the development footprint.
	• The Applicant has designed the development footprint to be set back from the site boundaries in order to mitigate the impacts of the project on the surrounding residences.
	• The Department considers that subject to the implementation of visual impact mitigation measures, including vegetation screening, there would be no significant visual impacts on the surrounding residences.
	Conditions
	• Establish and maintain a mature vegetation buffer along portion of the western boundary. This buffer must:
	  • be established prior to commencing operations;
	  • consist of species that facilitate the best possible outcome in terms of screening the view of the solar panels and ancillary infrastructure on site from residence R1;
	  • be effective at screening views within 3 years of commencing construction; and
	  • be properly maintained with appropriate weed management.

Traffic during construction • Increased traffic volumes on local roads during the construction period.	*Assessment* • There would be minimal traffic to and from the project site during the operation of the development. Consequently, the only material traffic impacts would occur during construction, decommissioning and major upgrades. • If constructed concurrently with the recently approved Gunnedah Solar Farm, the cumulative worst-case traffic volumes for the two projects would peak at 106 heavy vehicle movements and 135 light vehicle movements per day during construction. • The Department considers that even if both projects were to be constructed concurrently, the traffic impacts would be largely short-term, relatively minor and can be managed in accordance with Government policy. *Conditions* • Undertake the relevant road upgrades prior to commencing construction. • Share the cost of the relevant road upgrades with the applicant of the Gunnedah Solar Farm, if both projects proceed. • Ensure the number and length of heavy vehicles does not exceed those predicted in the EIS. • Prepare and implement a Traffic Management Plan in consultation with RMS and Council.

Appendix G – Response to Submissions

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/9986

Appendix H – Recommended Conditions of Consent

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/9986