

EPURON

Scoping Report

NEVERTIRE SOLAR FARM



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ACRONYMS AND ABBREVIATIONS

ABS	Australian Bureau of Statistics
AHIMS	Aboriginal heritage information management system
CEMP	Construction environmental management plan
Cwth	Commonwealth
DP&E	Department of Planning and Environment
EEC	Endangered ecological community – as defined under relevant law applying to the proposal
EIS	Environmental Impact Statement
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Cwth)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
GWh	Gigawatt hours
ha	hectares
Heritage Act	<i>Heritage Act 1977</i> (NSW)
ISEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i> (NSW)
km	kilometres
LEP	Local Environment Plan
LGA	Local Government Area
m	Metres
MNES	Matters of National environmental significance under the EPBC Act (c.f.)
ME	Mega watts
NPW Act	<i>National Parks And Wildlife Act 1974</i> (NSW)
NSW	New South Wales
NV Act	<i>Native Vegetation Act 2003</i> (NSW)
OEH	(NSW) Office of Environment and Heritage, formerly Department of Environment, Climate Change and Water
PAC	Planning Assessment Commission
RET	Renewable Energy Target
RMS	Roads and Maritime Services
SEARs	Secretary’s Environmental Assessment Requirements
SEPP	State Environmental Planning Policy (NSW)
TSC Act	<i>Threatened Species Conservation Act 1995</i> (NSW)

1 INTRODUCTION

Epuron Island GP Management Pty Ltd proposes to develop a large scale solar farm at Nevertire, NSW. The proposed solar farm would have a capacity up to 120MW and would supply electricity to the national electricity grid.

1.1 PURPOSE OF THIS DOCUMENT

This Scoping Report provides a description of the proposal including the site and its surroundings, the statutory framework for approval and identification of key potential environmental issues that may be associated with the solar farm proposal. The report has been prepared to support a request to the Department of Planning and Environment (DP&E) for the Secretary's Environmental Assessment Requirements (SEARs) which would guide the preparation of an Environmental Impact Statement (EIS) for the proposal under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.2 THE PROPOSAL

1.2.1 Site location

The Nevertire Solar Farm proposed site is located approximately 1km west of the Nevertire Village and 90km west of Dubbo, within the Warren Shire Council Local Government Area (LGA). The site would be accessed directly off the Mitchell Highway, on the southern site boundary. The proposed solar farm would connect to an existing substation within Nevertire, approximately 1.5km east of the site (Figure 1-1).

1.2.2 Site description

The Nevertire Solar Farm proposal site is identified as Lot 26 DP 755292. The site is approximately 275ha, the majority of which has been cleared of native vegetation and is cultivated. The site is currently sown with wheat. There are patches of remnant native vegetation however, along the western boundary, along the centre of the northern boundary and in the north-east corner of the site.

One waterway, Boggy Cowal, is located along the western boundary. One farm dam is located within the site. There is an existing perimeter access track.

Access to the Nevertire Solar Farm proposal site would off the Mitchell Highway (State Highway), immediately south of the site.

Three existing electricity easements are located onsite.

The proposal requires an additional transmission line (currently three options are being considered, including underground and overhead sections) to connect to the existing substation within Nevertire, approximately 1.5km east of the site. The Lots and DPs relating to the 3 options include:

- Lot 37/ DP 755292
- Lot 38/ DP 755292
- Lot 100/ DP 1179330
- Lot 7305/ DP 1157748
- Lot 165/ DP 704130
- Lot 7001/ DP 96306

- Lot 7002/ DP 1025140
- Lot 7003/ DP 1025140
- Lot 1/ DP 824112

These sites are located on the northern edge of Nevertire residential area and include disturbed road reserves, existing transmission easements, cultivated land and remnant native vegetation.

Site photographs are provided in Appendix A.

1.2.3 Site locality

The locality (defined as 5km from the proposal site) includes the village of Nevertire and agricultural farmland and industry.

Nevertire, 1km east of the proposal site, is a small village, 26.2km south-west of Warren, on the junction of the Mitchell Highway and Oxley Highway. Services in the village include a café, a pub that provides accommodation and meals, a mechanic's workshop and rural supplies store. Nevertire is a service centre to surrounding properties and a stopover point on the Mitchell and Oxley Highways for regional motorists. The village also includes a GrainCorp station, a Rural Fire Service station and a Country Women's Association Hall. The Nevertire public School closed in 2002 due to the number of student enrolments. Today, the village features a recreational community park as well as a sports oval and tennis courts.

Infrastructure includes a sewage treatment plant, substation and a railway. Smaller allotments surrounding the village indicate further urban development is anticipated although several vacant blocks remain on Naroomine and Gunningbar Streets; the two main residential streets. About half of the residential streets are sealed. The population of Nevertire in 2011 (ABS) was approximately 225 people; this is approximately 7.75% of the population of the Warren LGA.

Approximately 48 residences are located in close proximity (within 1km) of the proposal site and proposed transmission line options. None are project-involved. All but four occur within the residential centre of Nevertire. The remainder occur on larger land holdings either:

- Immediately north of the northern transmission line options
- Immediately north-west of the array site, screened behind vegetation
- Immediately south of the array site, unscreened

Boggy Cowal, located along the western boundary of the Nevertire Solar Farm proposal site, is a tributary of the Macquarie River. It is not an incised creek but rather a shallow swampy area that extends onto the south-west corner of the site. The creek flows south east entering the Macquarie River over 68km from the proposal site. Two other waterways are located within 10km of the proposal site, Beleringar Creek to the north and Trowan Cowal to the south.

1.2.4 Proposal description

The Nevertire Solar Farm proposal would comprise of the installation of a solar plant with a capacity up to 120MW that would supply electricity to the national electricity grid. Epuron Island GP Management Pty Ltd proposes to develop around 200ha of the 275ha proposal site, retaining existing viable native vegetation remnants that occur on the array site. An indicative development area is illustrated in Figure 1-1. A more precise development area would be informed by detailed site investigations assessment, planning and design stage.

The proposal would include the following elements:

- Flat plate PV modules in a fixed or tracking arrangement.
- A site office and maintenance building.
- An access track off the Mitchell Highway.
- Internal inverter stations to allow conversion of DC module output to AC electricity
- Underground electrical conduits and cabling to connect the arrays on the array site
- Internal access tracks to allow for site maintenance.
- Perimeter security fencing.
- Onsite substation
- Grid connection to the existing substation approximately 1.5km east of the site via an overhead line, overhead colocation line or underground line (32kv).
- Native vegetation screening, where required to break up views of infrastructure.

The proposed development may be undertaken in stages. In total, the construction phase of the proposal is expected to take 18 months. The Nevertire Solar Farm is expected to operate for around 30 years. The solar farm would be decommissioned at the end of its operational life, removing all above ground infrastructure and returning the site to its existing land capability.

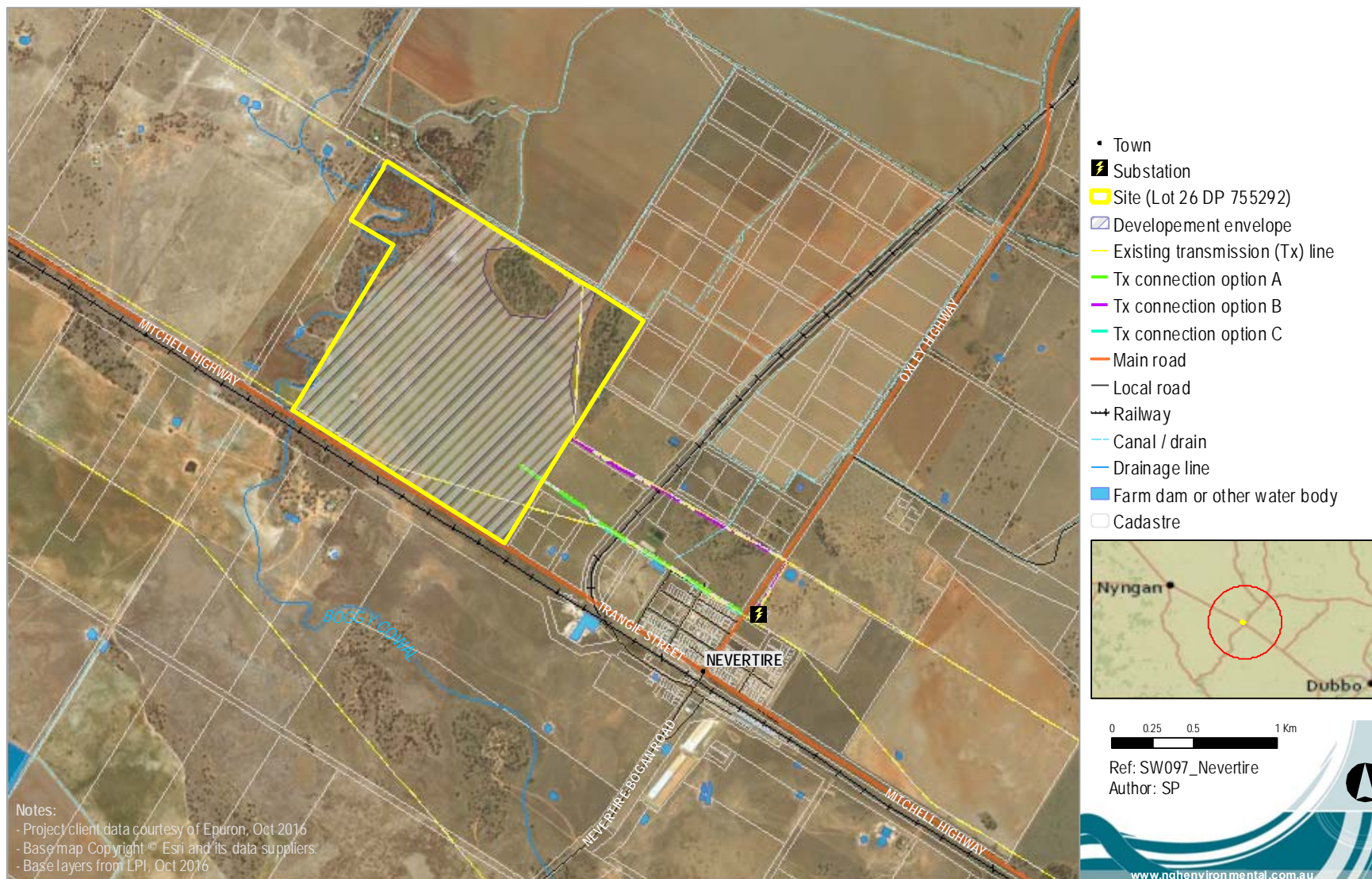


Figure 1-1 Proposal site.

2 PROPOSAL NEED AND ALTERNATIVES

2.1 PROPOSAL NEED

The Kyoto Protocol is an international agreement created under the United Nations Framework Convention on Climate Change in Kyoto, Japan in 1997. The Australian Prime Minister signed Australia's instrument of ratification of the Kyoto Protocol in 2007, thereby committing Australia to reduce its collective greenhouse gas emissions.

The development of renewable energy projects is considered to be one of the most effective ways to achieve this commitment. This led to Australia implementing the Renewable Energy Target (RET) Scheme in 2009. The current target for large-scale generation is of 33,000 GWh in 2020. This would double the amount of large-scale renewable energy being delivered by the scheme compared to current levels.

The Nevertire Solar Farm proposal would provide the following benefits, specific to Australia's commitments:

- Reduction in greenhouse gas emissions required to meet our energy demands
- Assisting the transition towards cleaner electricity generation
- Direct contribution to help in meeting the RET.

Additionally, the proposal would allow for the:

- Provision of embedded electricity generation, to supply into the Australian grid closer to the main consumption centres.
- Provision of social and economic benefits, through the provision of direct and indirect employment opportunities during construction and operation of the project.

2.2 ALTERNATIVES CONSIDERED

During the site selection process for the proposed solar farm, a number of alternative locations were considered. Minimising environmental and social impacts and maximising efficiency were major considerations in the evaluation of alternatives.

The site considered in this Scoping Report was identified as the preferred location, based on the:

- Availability of an abundant solar resource.
- Proximity to an existing electricity substation with good connection capacity.
- Availability of suitable land.
- Suitability of the land in terms of factors that affect solar yield and construction costs (northerly aspect, low relief topography, proximity to existing substation).
- Suitability of the land in terms of environmental factors that constrain development (minimal native vegetation removal required, previously disturbed site, no previously identified heritage or other social values).

Epuron Island GP Management Pty Ltd would finalise the infrastructure layout for the solar proposal once environmental constraints have been fully investigated through the EIS process. The proposal design is flexible so that there are a number of alternative arrangements. The final layout would aim to balance solar yield and construction costs factors with the maximum feasible avoidance of environmental constraints. The EIS would include details on the evolution of the final layout, with regard to these factors.

3 CONSULTATION

The current landowner of the proposal site strongly supports the project. Additionally, Epuron Island GP Management Pty Ltd and NGH Environmental has had discussions with the following local stakeholders:

- Warren Shire Council
- Adjacent land owners to the north and south of the array site
- Nevertire local businesses

A Community Consultation Plan has been prepared to provide a framework to engage with the community and stakeholders about the proposal and ensure opportunities to provide input into the assessment and development process are understood. Stakeholders were identified as those potentially being impacted by the solar farm proposal or having an interest in the project itself. The Community Consultation Plan has set out consultation requirements with interested parties including representative bodies (e.g. Warren Shire Council, Chamber of Commerce, community groups and neighbours to the site). As the Community Consultation Plan is implemented in the coming weeks and months, the following activities will be undertaken:

- Provision of a newsletter informing the Nevertire community of the proposal (mailed to residents within the Nevertire postcode the week of 31st October 2016).
- A newspaper advertisement appeared in the Dubbo Daily Liberal on 28th October 2016 specific to Aboriginal representatives, who may wish to be involved in the heritage assessment process.
- Establishment of a register to record contact with stakeholders including potentially affected landholders.
- Face to face meetings with stakeholders and concerned landholders as required.
- An 'open day' to provide detailed information about the proposal to the general public (scheduled for late November or early December 2016).
- Establishment of a project website, phone number and email address.
- Preparation and dissemination of a feedback form to better understand the community's feelings toward solar development and the development of the Nevertire solar proposal specifically.

The Community Consultation Plan would aim to ensure that there is effective, ongoing liaison with the community. Measures to reduce adverse impacts and promote positive impacts would be identified in the EIS and appropriate management plans developed for the project. Agency consultation would also be undertaken in accordance with any requirements of the SEARs.

4 PLANNING CONSIDERATION

4.1 NSW LEGISLATION

4.1.1 *Environmental Planning and Assessment Act 1979*

Development in NSW is subject to the requirements of the EP&A Act and its associated regulations. Environmental planning instruments prepared pursuant to the Act set the framework for approvals under the Act. The Nevertire Solar Farm proposal would be assessed under Part 4 of the EP&A Act.

4.1.2 *State Environmental Planning Policy (State and Regional Development) 2011*

Clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* states that the following is considered a state significant development:

Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:

(a) has a capital investment value of more than \$30 million, or

(b) has a capital investment value of more than \$10 million and is located in an environmentally sensitive area of State significance.'

The Nevertire Solar Farm proposal would have a capital investment cost estimated of more than \$30 million. Therefore, the proposal is classified as "State Significant Development" under Part 4 of the EP&A Act.

State Significant Developments are major projects which require approval from the Minister for Planning and Environment. While the Minister for Planning and Environment is the consent authority for State Significant Development, the Minister may delegate the consent authority function to the Planning Assessment Commission (PAC), the Secretary or to any other public authority.

An Environment Impact Statement (EIS) is prepared in accordance with the requirements of the SEARs of DP&E. In determining the SEARs, the Secretary must consult with relevant public authorities and would have regard to the need to assess key issues raised by those public authorities.

4.1.3 *State Environmental Planning Policy (Infrastructure) 2007*

Clause 34(7) of *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) provides that development for the purpose of a solar energy system may be carried out by any person with consent on any land (except land in a prescribed residential zone). A solar energy system includes a PV electricity generating system. The proposal is therefore permissible with consent.

4.1.4 *Warren Local Environmental Plan 2012*

The site is located within the Warren LGA and is therefore subject to the provisions of the *Warren Local Environmental Plan 2012* (Warren LEP). The Warren LEP aims:

(a) to realise the economic potential of rural land in Warren by following the principles of sustainable natural resource management,

- (b) *to encourage the proper management, development and conservation of natural and man-made resources in Warren by protecting, enhancing and conserving:*
- (i) *agricultural land, and*
 - (ii) *timber, minerals, soil, water and other natural resources, and*
 - (iii) *the Macquarie Marshes Nature Reserve, and*
 - (iv) *areas of significance for nature conservation, and*
 - (v) *areas of high scenic or recreational value, and*
 - (vi) *places and buildings of archaeological or heritage significance, including relics and Aboriginal places of heritage significance,*
- (c) *to ensure that development is permitted on land with due regard to environmental constraints, accessibility and existing land use patterns,*
- (d) *to allow for the equitable provision of social services and facilities for the community,*
- (e) *to minimise land use conflicts and adverse environmental impacts,*
- (f) *to promote ecologically sustainable development.*

The solar farm site and transmission line route are located on land zoned RU1 - Primary Production.

RU1 Primary Production

The LEP states that the consent authority must have regard to the objectives for development in a zone when determining a development application. The objectives of this zone are:

- *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 protect, enhance and conserve agricultural land in a manner that ensures that the primary role of land is for efficient and effective agricultural pursuits, managed in accordance with sustainable natural resource management principles.*
- *To protect water resources in the public interest.*
- *To protect areas of local, state, national and international significance for nature conservation, including areas with rare plants, wetlands and significant habitat.*
- *To permit rural industries that do not have a significant adverse impact on existing or potential agricultural production on adjoining land.*
- *To conserve and protect the Macquarie Marshes by encouraging and managing appropriate land uses and agricultural activities.*

Electrical generation is prohibited in the RU1 Zone. However, the ISEPP allows the development for the purpose of a solar energy system on any land with consent (refer to Section 4.1.3).

For the life of the project, the proposal would harness a natural resource (solar energy). While the activity would impact on land available for primary production, the land would allow for diversity in land use and being fully reversible and involving limited ground disturbance, it would not remove the potential to use the land for primary production (or some alternative land use) at the end of the solar farm's life (expected to be 30 years). The solar farm would be decommissioned at the end of its operational life, removing all above ground infrastructure and returning the site to its existing land capability.

4.1.5 Roads Act 1993

The *Roads Act 1993* (Roads Act) provides for the classification of roads and for the declaration of the Roads and Maritime Services (RMS) and other public authorities as roads authorities for both classified and unclassified roads. It also regulates the carrying out of various activities in, on and over public roads.

Approval from the roads authority (RMS and/or Warren Shire Council) would be required under section 138 of the Roads Act to erect a structure or carry out a work in, on or over a public road. Warren Shire Council and RMS would both be consulted during the design and preparation of the EIS.

4.1.6 Native Vegetation Act 2003

The *Native Vegetation Act 2003* regulates the clearing of native vegetation. Clearing is defined as cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation including native grasses and herbage.

It should be noted that under Section 89J of the EP&A Act, an authorisation referred to in section 12 of the *Native Vegetation Act 2003* to clear native vegetation would not be required for a State Significant Development.

The potential to impact native vegetation is discussed in Section 5.2 of this report.

4.1.7 Threatened Species Conservation Act 1996

The *Threatened Species Conservation Act 1996* (TSC Act) provides for the conservation of threatened species, populations and ecological communities of animals and plants. The TSC Act sets out a number of specific objects relating to the conservation of biological diversity and the promotion of ecologically sustainable development.

It should be noted that under Section 79B(2A) of the EP&A Act, concurrence under Section 79B including concurrence under the TSC Act would not be required for a State Significant Development.

The potential to impact threatened species, populations and ecological communities listed under this Act is discussed in Section 5.2 of this report.

4.1.8 National Parks and Wildlife Act 1974

Under the *National Parks and Wildlife Act 1974*, the Director-General of the National Parks and Wildlife Service is responsible for the care, control and management of all national parks, historic sites, nature reserves, reserves, Aboriginal areas and state game reserves. The Director-General is also responsible under this legislation for the protection and care of native fauna and flora, and Aboriginal places and objects throughout NSW.

It should be noted that under Section 89J of the EP&A Act, an Aboriginal Heritage Impact Permit under Section 90 of the *National Parks and Wildlife Act 1974* would not be required for a State Significant Development.

The potential impact to Aboriginal heritage and native fauna and flora are discussed in Section 5.2 of this report.

4.1.9 Heritage Act 1977

This Act aims to conserve heritage values. The Act defines 'environmental heritage' as those places, buildings, works, relics, moveable objects and precincts listed in the Local or State Heritage Significance. A property is a heritage item if it is listed in the heritage schedule of the local Council's Local Environmental Plan or listed on the State Heritage Register, a register of places and items of particular importance to the people of NSW.

It should be noted that under Section 89J of the EP&A Act, an approval under Part 4 or a permit under Section 139 of the *Heritage Act 1977* would not be required for a State Significant Development.

The proposal would not impact directly or indirectly on any items of heritage significance (refer to Section 5.3).

4.1.10 Crown Lands Act 1989

The objects of this Act are to ensure that Crown land is managed for the benefit of the people of New South Wales and in particular to provide for:

- (a) a proper assessment of Crown land,
- (b) the management of Crown land having regard to the principles of Crown land management contained in this Act,
- (c) the proper development and conservation of Crown land having regard to those principles,
- (d) the regulation of the conditions under which Crown land is permitted to be occupied, used, sold, leased, licensed or otherwise dealt with,
- (e) the reservation or dedication of Crown land for public purposes and the management and use of the reserved or dedicated land, and
- (f) the collection, recording and dissemination of information in relation to Crown land.

For the purposes of this Act, the principles of Crown land management are:

- (a) that environmental protection principles be observed in relation to the management and administration of Crown land,
- (b) that the natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible,
- (c) that public use and enjoyment of appropriate Crown land be encouraged,
- (d) that, where appropriate, multiple use of Crown land be encouraged,
- (e) that, where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity, and
- (f) that Crown land be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State consistent with the above principles.

Under Part 3 of the Act, the Minister for Lands must be satisfied that the land has been assessed prior to any allocation action, i.e. reservation, dedication, sale, lease, licence or permit. The purpose of a land assessment is to ensure decisions made in relation to Crown land are in accordance with the principles of Crown land management by (amongst other matters) including an assessment of the capabilities of Crown land and the identification of suitable land uses.

Connection of the solar farm to the substation may require a transmission line to be established through Crown Land. This would require consent from the Department of Primary Industries (Lands). This would be considered in the EIS and the Department of Primary Industries (Lands) would be consulted during the assessment and development process.

4.2 COMMONWEALTH LEGISLATION

4.2.1 *Environmental Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is administered by the Commonwealth Department of the Environment (DoE). Under the EPBC Act, if the Minister determines that an action is a 'controlled action' which would have or is likely to have a significant impact on a Matter of National Environmental Significance (MNES) or Commonwealth land, then the action may not be undertaken without prior approval of the Minister.

The EPBC Act identifies the following nine MNES:

- World Heritage properties.
- National heritage places.
- Ramsar wetlands of international significance.
- Threatened species and ecological communities.
- Migratory species.
- Commonwealth marine areas.
- The Great Barrier Reef Marine Park.
- Nuclear actions (including uranium mining).
- Water resources (in relation to coal seam gas development and large coal mining development)

When a person proposes to take an action which may be a 'controlled action' under the EPBC Act, they must refer the proposal to the DoE for a decision about whether the proposed action is a 'controlled action'.

A search of the Commonwealth Protected Matters Search Tool indicates that there are no World Heritage or National Heritage areas or items within the proposal site. Search results listed four Wetlands of International Importance that are either known to occur or have potential to occur within 10km, however these are not relevant to the site or proposal. The proposed development is not likely to impact Commonwealth land. Section 5.2 discusses the results of searches in relation to threatened species, ecological communities and migratory species. Further flora and fauna studies would confirm whether impacts to the remnant vegetation would occur as a result of the proposed development, during the preparation of the EIS.

4.2.2 *Native title Act 1993*

The *Native Title Act 1993* provides a legislative framework for the recognition and protection of common law native title rights. Native title is the recognition by Australian law that Indigenous people had a system of law and ownership of their lands before European settlement. Where that traditional connection to land and waters has been maintained and where government acts have not removed it, the law recognises this as native title.

People who hold native title have a right to consult or continue to practise their law and customs over traditional lands and waters while respecting other Australian laws. This could include visiting to protect important places, making decisions about the future use of the land or waters, hunting, gathering and collecting bush medicines. Further, when a native title claimant application is registered by the National Native Title Tribunal, the people seeking native title recognition gain a right to consult or negotiate with anyone who wants to undertake a project on the area claimed.

Where native title does exist in relation to the proposal site, Epuron Island GP Management Pty Ltd would comply with the provisions of the *Native Title Act 1993*.

5 PRELIMINARY ENVIRONMENTAL ASSESSMENT

5.1 METHODOLOGY

A preliminary environmental risk analysis has been conducted to assist in the identification of key environmental matters that would require detailed assessment within the EIS. Risks were identified for both the construction and operation phase of the proposal and analysed in relation to their possible consequence and likelihood of occurrence. From this analysis, some environmental matters were deemed to be key issues on the basis that they had the potential, without appropriate mitigation measures, to have a significant impact on the environment. A preliminary constraints map is provided in Appendix B. This will be used to guide further detailed investigations and ultimately the site infrastructure layout.

A summary of the key environmental issues is provided in Section 5.2. The intent of the discussion is to demonstrate an understanding of the issues that require further environmental assessment and likely mitigation measures for these key issues. The potential impacts and management of other (less significant) issues are discussed in Section 5.3.

5.2 ASSESSMENT OF KEY ISSUES

5.2.1 Biodiversity

The potential ecological constraints within the study area have been identified based on the following information sources:

- Existing threatened species listings under the TSC Act and EPBC Act.
- Existing records of threatened species sightings in the study area, as recorded in the Bionet Database (OEH).
- Department of Environment Protected Matters Search Tool (nationally threatened species listed on the EPBC Act).
- Site survey by a qualified botanist and ecologist.

Threatened species and ecological communities

A search of the EPBC Act Protected Matters Search Tool was conducted on the 12 October 2016, using a 10 km x 10km grid over the proposal site. This search identified ten threatened species, five endangered ecological communities (EECs) and four listed migratory species (some of which are included within the threatened bird species) that are either known to occur or have potential to occur in this area.

A search of the NSW Bionet Atlas of NSW Wildlife was conducted on the same date, using CMA subregion, of which the proposal site is located within, Central West CMA Subregion Bogan-Macquarie. This search identifies species listed under the TSC Act. The search identified 55 threatened fauna species (one amphibian, 42 birds, 11 mammals, one reptile) and eight threatened flora species within the CMA subregion. None of these threatened species have been recorded within the proposal site.

Biodiversity constraints

Field surveys were undertaken in October 2016 by a zoologist and senior botanist over two days and nights.

The majority of the array site is cleared land which has been previously cultivated. Remnant native vegetation occurs in three locations and would be largely retained with no impacts from the development.

These areas provide connectivity of habitat, habitat features such as hollows and provide habitat to at least two threatened species, Grey Crowned Babbler and Spotted Harrier.

These remnants continue east and depending on the transmission line option adopted and whether co-location, underground or additional overhead lines are installed, a small area of clearing may be required. Most of the understorey in this area is exotic dominated, and considered a low constraint. Refer to preliminary constraints map, Appendix B.

Conclusions and need for further assessment

As part of the EIS, the detailed ecological surveys and further investigation and assessment will be undertaken in the format of a Framework for Biodiversity Assessment – Biodiversity Assessment Report, specific to major projects.

5.2.2 Aboriginal heritage

A search of the Aboriginal Heritage Information Management System (AHIMS) identified nine Aboriginal sites and no Aboriginal places within 20km of the proposal site. An extensive search of the AHIMS identified the closest recorded item to the site is approximately 845 metres west of the proposal site.

Within the cropped areas and existing transmission line easements, the current landforms and vegetation imply a high level of disturbance, such as ploughing and excavation of canals. This is likely to reduce the potential for Aboriginal heritage sites of significance. Areas of native remanent vegetation are less likely to have a history of soil disturbance. Additionally, the western end of site is adjacent to a waterway; a landscape feature that may contain higher potential for Aboriginal artefacts. The recorded item closest to the site is adjacent to this waterway.

Conclusions and need for further assessment

An Aboriginal heritage assessment of the development footprint and stakeholder consultation process would be completed as part of the EIS. The significance of any Aboriginal heritage sites that may be potentially affected by the proposal would be determined in accordance with the Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW 2010).

5.2.3 Visual amenity

The village of Nevertire is approximately 1km west of the proposal site and therefore the proposal, while having low visibility from most residences, may attract interest and visually 'define' the village. A recreational area between Nevertire and the array site and one residential receiver to the south would have expansive views of the site. Specific onsite vegetation screening to break up views of the site, informed by a visual assessment, will form part of the proposal.

Due to low lying solar array infrastructure and existing vegetation onsite and within road and rail corridors, views of the site would be limited at greater distances (2km plus) from the array site. However, visual impacts are subjective for receivers and consultation will be required to fully understand and mitigate visual impacts.

It is noted that solar panels are designed to absorb as much sunlight as possible. They therefore reflect a very low percentage of the light they receive and are not considered likely to result in glare or reflections that would affect traffic or nearby receivers.

Conclusions and need for further assessment

A visual impact assessment, including view shed analysis and community consultation input would be prepared as part of the EIS to investigate visual impacts and mitigation options.

5.2.4 Noise

The nearest sensitive receiver (residential) to the site is located 342m south of the proposal site. The village of Nevertire is approximately 1km west of the proposal site, resulting in approximately 48 receivers within 1km of the proposal site and proposed transmission line options.

Noise impacts would, for the most part, only occur during construction (generated by construction related vehicles and machinery), with minimal noise likely to be generated during operation. Epuron Island GP Management Pty Ltd would adopt mitigation measures during construction, such as standard working hours and regular vehicle and machinery maintenance to reduce the risk of adverse noise impacts.

During the operation of the solar farm, potential noise impacts are associated with the solar tracking system (an optional feature which would operate for around half an hour per day), transformer station and switchgear and any maintenance works undertaken on site. Noise impacts during the operation of the solar farm are expected to be negligible.

Conclusions and need for further assessment

A construction noise assessment will be undertaken as part of the EIA to assess potential noise impacts. The assessment will be undertaken in accordance with the Interim Construction Noise Guideline (Department of Environment Climate Change and Water, 2009).

5.2.5 Hydrology and groundwater

The array site and transmission line options are flat and low lying. Boggy Cowal is present along the western array site boundary. The site also includes shallow wetlands and a constructed farm dam. Water persists onsite after rainfall. The transmission line easement is also traversed by informal canals and wetlands. Waterlogging may present construction and operational access challenges but, considering the mounting frames that would hold the arrays, are not anticipated to impact on site hydrology or present a flood hazard.

There is potential that groundwater would be encountered during excavations and earthwork requirements for the proposal and pole placements for the transmission lines. Contamination of groundwater would be unlikely given that chemicals and fuels would be appropriately stored, and spills procedures would be implemented.

Conclusions and need for further assessment

The EIS would provide thorough consideration of soil and water impacts and proposed mitigation measures during construction and operation. Appropriate chemical and fuel handling as part of the CEMP would mitigate any potential contamination of groundwater.

5.3 OTHER ENVIRONMENTAL ISSUES

There are a range of potential environmental issues associated with the Nevertire Solar Farm which are not considered to be key issues. These issues are considered secondary issues for investigation, given the characteristics of the proposal and the availability of appropriate safeguards for mitigation. These issues are outlined in Table 5-1.

These issues would be addressed in sufficient detail to assess the level of their impacts (if any). It is anticipated that any impacts identified would be able to be managed through appropriate mitigation measures and management plans.

Table 5-1 Other environmental issues

Issue	Existing environment	Potential impacts	Management and mitigation measures
Non-Aboriginal heritage	<p>A search of listed items (under the NSW <i>Heritage Act 1977</i>, the Australian Heritage Database and those listed by Warren Council and State Government agencies) was completed for the Warren LGA. Ten listed items are within the Warren LGA. None of the items listed are located within 10km of the proposal site.</p> <p>The proposal site includes no dwellings or any other items that may have some heritage significance.</p>	<p>Due to the open and disturbed nature of the site, it is considered unlikely that heritage artefacts remain unidentified in the proposal area.</p>	<p>The potential to impact non-Aboriginal heritage would be considered in the EIS. Appropriate management measures implemented if required.</p>
Soils	<p>The soils are heavy and subject to inundation. Soils compaction and wind and water erosion are soil risks for excavation, access and vegetation removal. Salt scalds were also evident in several areas.</p>	<p>Construction activities would include minor excavations and vegetation removal which have the potential to cause soil erosion and sedimentation and dust issues.</p>	<p>The design would ensure adequate all weather access to the site during construction and operation is provided to avoid erosion/sedimentation impacts and tracking of soil, in particular after rain events.</p> <p>The EIS would provide thorough consideration of soil impacts and proposed mitigation measures during construction and operation.</p>
Contamination	<p>Contamination associated with agricultural activities (e.g., pesticides) may still be present on the site.</p>	<p>A search of EPA contaminated sites records for the Warren LGA found one site located within Warren. The record is over 17km from the proposal site. It is unlikely that significant contamination exists on the proposal site and construction activities would not pose a significant contamination risk at the site.</p>	<p>It is considered unlikely that contamination is present at the site and therefore no detailed investigation is likely to be required within the EIS.</p> <p>If contamination is identified during site construction, it would be managed in accordance with a Construction Environmental Management Plan (CEMP) and relevant EPA guidelines.</p>

Issue	Existing environment	Potential impacts	Management and mitigation measures
<p>Access and traffic</p>	<p>Mitchell Highway is a State Road for which RMS is the roads authority. The road is expected to carry medium volumes of traffic. It has a high percentage of larger vehicles including road trains. The speed limit is 110km/hr.</p> <p>Access to the proposal site off the Mitchell Highway, located in the south east corner of the proposal site. The access track is existing.</p> <p>The transmission line would transverse the Oxley Highway to meet the substation in the east. Oxley Highways is also a state road for which RMS is the roads authority. One of the transmission line options would also be in the road reserve of Belerenga Street, which is a council road.</p>	<p>Construction traffic may impact traffic along the Mitchell Highway and Oxley Highway. Access to the proposal may also require the upgrade of the intersection with Mitchell Highway during construction and/or operation. Furthermore, the construction access would be near the southern receiver; potentially resulting in dust, vibration, noise and safety impacts.</p> <p>Maintenance access tracks during operation would also be required across the proposal site and along the easement of the proposed transmission line.</p>	<p>Construction traffic impacts would be considered in the EIS and take into consideration existing traffic volumes and any requirements from RMS. Consultation would be undertaken before construction with RMS, the local council and local farmers regarding the works that may affect roads or traffic.</p> <p>The design would also consider any requirements from RMS and other relevant stakeholders on access arrangements to the proposal site, including transmissions line, in particular if any modifications to the current access to the site is required.</p> <p>A Traffic Management Plan would be developed as part of the CEMP.</p>
<p>Land use and resources</p>	<p>The rural land in the study area is used primarily for agriculture, particularly crop farming.</p>	<p>Although the proposal has the potential to impact on agricultural use of the site during construction and operation, the relatively small loss of productive land at a regional scale is not considered likely to have a significant impact on the overall agricultural productivity of the region.</p>	<p>The solar farm would be decommissioned at the end of its operational life, removing all above ground infrastructure and returning the site to its existing land capability.</p> <p>Overall, the adverse impacts related to alienation of resources are expected to be minimal, and as such, are not considered to be a key environmental issue. This would be discussed in the EIS.</p>

Issue	Existing environment	Potential impacts	Management and mitigation measures
Air Quality	The air quality in Nevertire is generally expected to be good and typical of that found in a rural setting in NSW due to low population numbers. Existing sources of air pollution in such a location is expected to comprise vehicle emissions and dust from agricultural practices. During colder months, there may be a minimal increase in air contaminants due to smoke emissions from the operation of solid fuel heating.	<p>The construction of the proposal is not anticipated to have a significant impact on air quality, and would mostly be related to dust during dry periods and vegetation removal. Impacts to air quality during operation is likely to be negligible.</p> <p>There is an opportunity to improve air quality in operation by maintaining ground cover beneath the panels. This would be less impact than current cropping operations.</p>	A CEMP would be prepared to manage air quality impacts during the construction of the project.
Hazard and Risk - EMF	A 32kv transmission line to connect the site to the substation is proposed.	Considering that no dwellings or other facilities are intended to be built and occupied within the proposed transmission line easement, the electromagnetic field (EMF) that would be generated by the proposed transmission line is expected to be below the guideline for public exposure and would not be expected to have an adverse impact on human health.	The EMF levels of the proposed transmission line would be calculated as part of the EIS.
Hazard and Risk - Bushfire	The proposal site has been predominantly cleared for agricultural purposes.	The proposal is unlikely to be affected by bushfire, or pose a significant bushfire risk.	The proposed development is unlikely to result in an increased risk of bushfire for the site. This would be assessed in the EIS.

Issue	Existing environment	Potential impacts	Management and mitigation measures
Aviation	Red Hill Airport is located approximately 13km north of the site. Another airfield is located approximately 4km north of the site.	Concerns have been raised in the media regarding the potential risk posed to pilots from solar farms; specifically glare related risks. The PV modules that would be installed at Nevertire would not result in a glare issue.	The EIS would provide information about glare impacts related to aviation.
Social and economic impacts	The proposal site is located within the Warren LGA. Warren LGA had a population of 2,901 in 2015. The proposal site is adjacent to the village of Nevertire, which had a population of 255 people in 2011. The main industries of employment is agriculture.	The construction of the proposal would generate jobs for the duration of the construction period (approximately 18 months). It is possible that construction workers would relocate their families to Warren LGA during the construction period, and this may place pressures on services such as accommodation, schools and health services.	The EIS would assess potential social and economic impacts of the proposal.
Waste Management	The proposal would generate a number of waste streams and utilise a variety of materials during the construction phase.	During construction, excavated material and green waste would be generated as waste. Limited operational waste would be associated with this proposal.	A Waste Management Plan (WMP) would be developed and incorporated into the CEMP. This would incorporate the principles to avoid, re-use and recycle to minimise wastes.

6 CONCLUSION

This report has outlined the proposed Nevertire Solar Farm and established the planning context of the project. The proposal would be assessed under Part 4 of the EP&A Act and classed as State Significant Development under *State Environmental Planning Policy (State and Regional Development) 2011*.

Potential environmental impacts associated with the project have been categorised as key issues or other issues. Based on this scoping study, an indicative scope for the EIS has been developed, focusing on the key issues:

- Biodiversity
- Aboriginal heritage
- Visual amenity
- Noise
- Hydrology and groundwater

The other issues can be readily addressed through desktop investigation to inform appropriate mitigation and management measures.

The EIS would be prepared in accordance with the SEARs. Mitigation measures will be developed for inclusion in the EIS and will address the management of key issues and other issues identified in the assessment process.

APPENDIX A SITE PHOTOGRAPHS

Onsite features



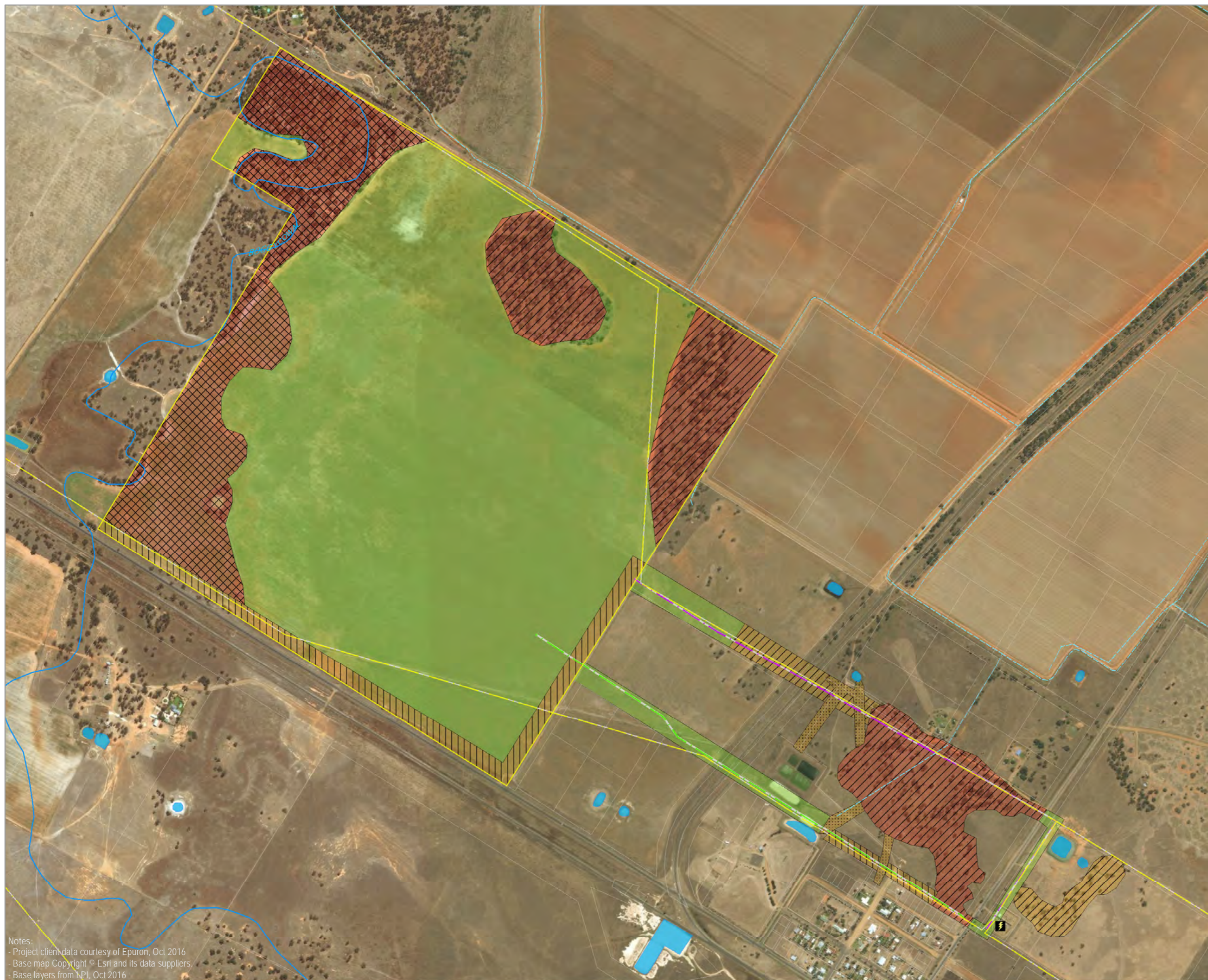
Nearby residential areas and agricultural areas



APPENDIX B PRELIMINARY CONSTRAINTS MAPPING

NEVERTIRE SOLAR FARM

Constraints



- Town
- Site (Lot 26 DP 755292)
- Existing transmission (Tx) line
- Tx connection option A & C
- Tx connection option B
- ⚡ Substation
- Canal / drain
- Drainage line
- Farm dam or other water body
- Cadastre
- Constraint type
- ▨ Canal
- ▨ Archaeology and Biodiversity
- ▨ Biodiversity
- ▨ Visual
- None
- Constraint level
- High
- Moderate
- Low



0 50 100 200 Metres

Ref: SW097_Nevertire_A3
Author: SP



Notes:
Project client data courtesy of Epuron, Oct 2016
Base map Copyright © Esri and its data suppliers
Base layers from LPL, Oct 2016