



# SCOPING REPORT

## FINLEY SOUTH SOLAR FARM



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NGH Environmental Pty Ltd (ACN: 124 444 622. ABN: 31 124 444 622)

[www.nghenvironmental.com.au](http://www.nghenvironmental.com.au) e [ngh@nghenvironmental.com.au](mailto:ngh@nghenvironmental.com.au)

suite 1, 39 fitzmaurice st (po box 5464)  
wagga wagga nsw 2650  
t 02 6971 9696

2/54 hudson st  
hamilton nsw 2303  
t (02) 4929 2301

unit 18, level 3, 21 mary st  
surry hills nsw 2010 australia  
t (02) 8202 8333

unit 8, 27 yallourn st (po box 62)  
fyshwick act 2609  
t (02) 6280 5053

suite 4, level 5, 87 wickham terrace  
spring hill qld 4000  
t 07 3129 7633

89-91 auckland st (po box 470)  
bega nsw 2550  
(02) 6492 8333

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## ABBREVIATIONS AND ACRONYMS

|              |                                                                                   |
|--------------|-----------------------------------------------------------------------------------|
| ABS          | Australian Bureau of Statistics                                                   |
| AHIMS        | Aboriginal Heritage Information Management System                                 |
| BAM          | NSW Biodiversity Assessment Methodology                                           |
| BC Act       | <i>Biodiversity Conservation Act (NSW)</i>                                        |
| BDAR         | Biodiversity Development Assessment Report                                        |
| CCP          | Community Consultation Plan                                                       |
| CEMP         | Construction Environmental Management Plan                                        |
| Cwth         | Commonwealth                                                                      |
| DPE          | Department of Planning and Environment (NSW)                                      |
| EEC          | Endangered Ecological Community (listed under NSW BC Act)                         |
| EIS          | Environmental Impact Statement                                                    |
| EPBC Act     | <i>Environmental Protection and Biodiversity Conservation Act 1999 (Cwth)</i>     |
| EP&A Act     | <i>Environmental Planning and Assessment Act 1979 (NSW)</i>                       |
| FSSF         | Finley South Solar Farm (the proposal)                                            |
| ha           | hectares                                                                          |
| Heritage Act | <i>Heritage Act 1977 (NSW)</i>                                                    |
| ISEPP        | <i>State Environmental Planning Policy (Infrastructure) 2007 (NSW)</i>            |
| km           | kilometres                                                                        |
| kV           | kilovolt                                                                          |
| LEP          | Local Environment Plan                                                            |
| LGA          | Local Government Area                                                             |
| m            | metres                                                                            |
| MNES         | Matters of National Environmental Significance under the EPBC Act ( <i>c.f.</i> ) |
| MW           | megawatts                                                                         |
| Bison Energy | The proponent                                                                     |
| NPW Act      | <i>National Parks and Wildlife Act 1974 (NSW)</i>                                 |
| NSW          | New South Wales                                                                   |
| NV Act       | <i>Native Vegetation Act 2003 (NSW)</i>                                           |
| OEH          | Office of Environment and Heritage (NSW)                                          |
| RET          | Renewable Energy Target                                                           |
| RMS          | Roads and Maritime Services                                                       |
| SEARs        | Secretary's Environmental Assessment Requirements (issued by DPE)                 |
| SEPP         | State Environmental Planning Policy (NSW)                                         |
| SSD          | State Significant Development                                                     |
| TEC          | Threatened Ecological Community (listed under Commonwealth EPBC Act)              |

# 1 INTRODUCTION

## 1.1 PROPOSAL OVERVIEW

Bison Energy proposes to develop a solar farm at Finley, New South Wales (the proposal). The 140 Megawatt (MW) alternating current (AC) solar farm would occupy approximately 250 ha of rural land currently used for agriculture. The proposal infrastructure includes solar panels, inverters, transformers, underground cabling, site office and maintenance building, access tracks, road and electrical easement crossings, perimeter security fencing, and a substation to connect the solar farm to Essential Energy's existing transmission line.

Draft site constraints relating to biodiversity, landowners, existing infrastructure and hydrology are shown in Figure 1-1.

## 1.2 THIS REPORT

Scoping is a key stage in the Environmental Impact Assessment process. It identifies the main issues and information requirements for the assessment, considering the values of the site, the nature and extent of potential impacts, planning and regulatory requirements and the results of early consultations. This allows the assessment to efficiently focus on the most important issues.

This Scoping Report:

- Describes the proposal and the site.
- Identifies statutory approval requirements.
- Identifies key potential environmental issues associated with the proposal.

The Assessment has been prepared to support a request to the Department of Planning and Environment (DPE) for the Secretary's Environmental Assessment Requirements (SEARs). The SEARs 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).

### 1.2.1 Terms used in this document

**Development footprint** - The area of land that would be directly impacted by the proposal, including solar array design, perimeter fence, access roads, transmission line footprint and stockpile areas.

**Development site** – The area of land that is subject to the proposed development. The development site is the area surveyed for this assessment.

**Subject land** – Any and all lots to be directly impacted, in whole or part, by the proposed development.

**Buffer area** – All land within 1500 m of the outside edge of the boundary of the development footprint.

**The proposal** – The entire solar farm proposal, including auxiliary construction infrastructure, access, etc.

**The proponent** – Bison Energy.

## 1.3 BISON ENERGY

Bison Energy (the proponent) is an international leading company specialising in renewable energy. The company has many years of experience in developing, building and operating solar power projects in different countries, such as Germany, Italy, Spain, UK, and Japan, and has been operating in Australia since 2017. Bison Energy currently has 600 MW, consisting of four solar farms in development.

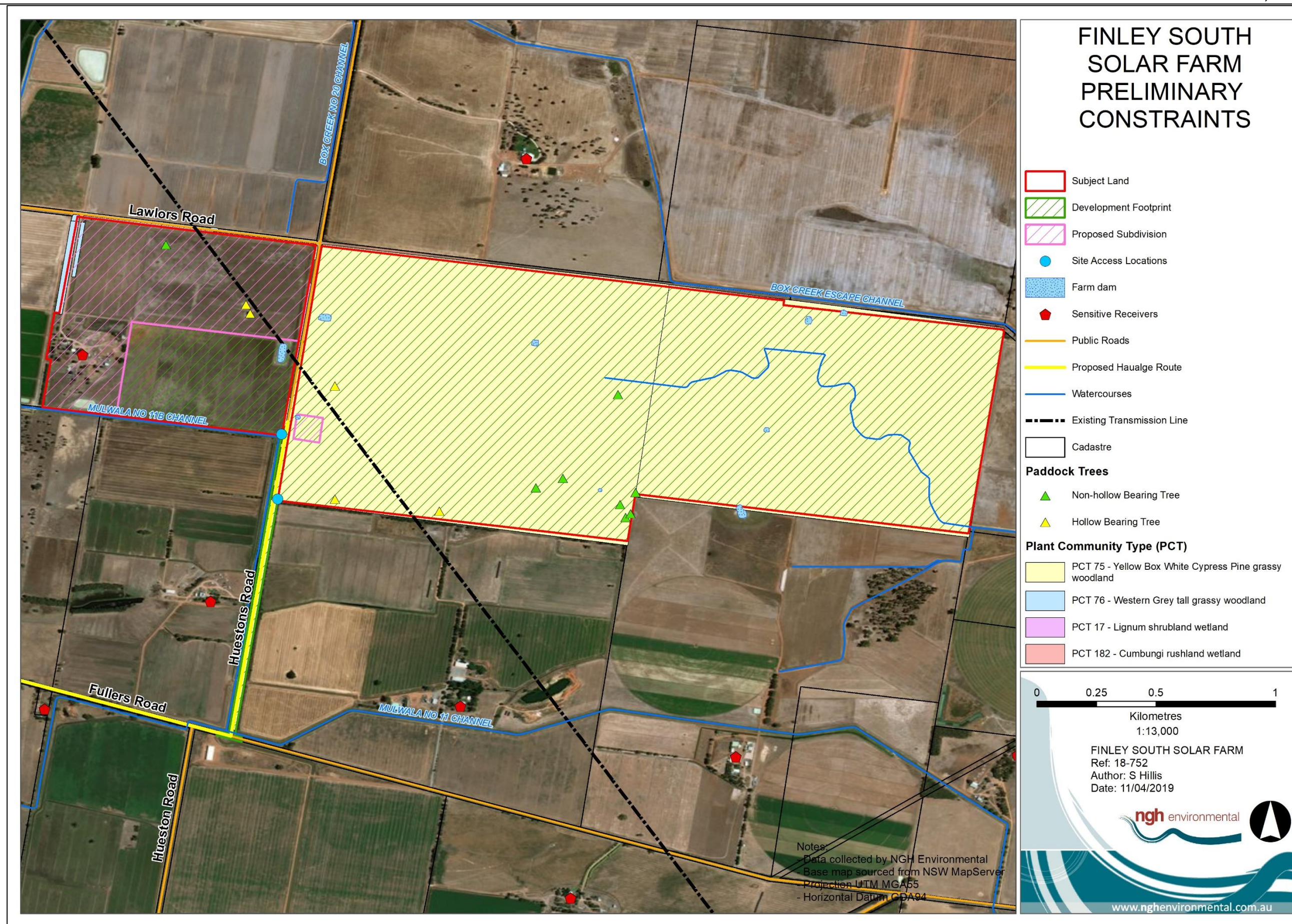


Figure 1-1 Preliminary constraints

## 2 DEVELOPMENT SITE DESCRIPTION

### 2.1 LOCATION

The proposal is located in the Riverina region in the Berrigan Shire Local Government Area (LGA), around 60 km east of Deniliquin (Figure 2-1). The development site is bound by Lawlors Road (north), Woolshed Road (east), Huestons Road (west), and Fullers Road (south), and intersected by an unnamed lane crossing the site in the south-east corner. Proposed transmission lines would connect to an existing Essential Energy's 132 kV line crossing the west of the site. The proposal is located within the Murray River Catchment, with local land use primarily being agricultural (cropping and grazing).

### 2.2 THE DEVELOPMENT SITE

The subject land (296 hectares) and development footprint (250 ha – 290 ha for solar infrastructure and 10 ha for potential road upgrades to Huestons Road) comprises the following lots (Figure 2-2 and Figure 2-3):

- Lots 3 and 7 DP 4958
- Lot 1 DP 856004

The development site is agricultural land comprising several large paddocks that are generally flat (laser levelled) and largely cleared and cultivated for grazing and cropping (Figures 2-4 and Figures 2-5). Native vegetation remains in the form of scattered paddock trees, low condition derived grassland and roadside vegetation. The eastern proportion of the development site contains a network of poorly formed irrigation channels which have been previously laser levelled. A Murray Irrigation channel occurs north of the site. The paddocks to the east are bound by active irrigation channels supporting crops including Sorghum. There are 5 farm dams in the development site.

The development site is zoned RU1 - Primary Production under the Berrigan Local Environmental Plan (LEP), with a minimum lot size of 120 ha.

The majority of the development footprint is identified as Class 3 **High Capability Land** under the Land and Soil Capability Assessment Scheme (OEH 2012) (Figure 2-6), which is defined as:

- Class 3: has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitation is required for cropping and intensive grazing to avoid land and environmental degradation. Included are sloping lands (3 – 10%) with slopes longer than 500 m that will require earthworks to control runoff and erosion if used for regular cultivation. Also included are lands that can be subject to wind erosion when cultivated and left bare. It is important to minimise soil distribution, maintain stubble cover and maintain good organic matter level. This class includes other soils with acidification and soil structure limitations that are sufficient to require the application of specific management practices.

Consultation with the landowner has revealed that increasingly unpredictable rainfall and prohibitive input costs (including irrigation) have resulted in overestimation of the land's productivity, when relying solely on regional Land and Soil Capability Assessment Scheme mapping. Diversifying agribusiness incomes including by leasing parcels of land for renewable energy developments may offset input cost and improve productivity of the landowner's farm where food remains the dominant land use.

There is also an area in the south of the development site which is identified as Class 6 **Low Capability Land**, which is defined as:

- Class 6: has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation. Includes steeply sloping lands (20 – 33% slope) that can erode severely even without cultivation, or land that will be subject to severe wind erosion when cultivated and left exposed. Other limitations can include shallow soils (less than 50 cm deep), stoniness, rock outcrop (50 – 70% coverage), salt outbreaks, naturally acid soils of low fertility, major flow lines with high flows and flooding, areas that are poorly drained and wet for long periods, areas that are severely eroded, including scalds, and strong climatic limitations.

The NSW Government introduced a range of measures designed to deliver greater protection to agricultural land from the impacts of developments. These measures included the safeguarding of 2.8 million ha of **Biophysical Strategic Agricultural Land** (BSAL) across the state, and **Critical Industry Clusters** (CIC). BSAL is land identified with high quality soil and water resources capable of sustaining high levels of productivity, which is critical to sustaining the state's agricultural industry, while CIC are concentrations of highly productive industries within a region that are related to each other, contribute to the identity of that region, and provide significant employment opportunities. The development site is not mapped as being BSAL or CIC, therefore the proposal would not impact on land critical for agriculture (DPE 2017).

The land is owned and managed by two associated landholders. 24 non-associated landowners are located within 3 km of the development site (Figure 2-7 and Table 2-1).

Table 2-1 Location of sensitive receivers

| Receiver | Distance from subject land (km) | Receiver | Distance from subject land (km) |
|----------|---------------------------------|----------|---------------------------------|
| R1       | 0.27                            | R14      | 2.24                            |
| R2       | 0.89                            | R15      | 1.51                            |
| R3       | 0.45                            | R16      | 2.90                            |
| R4       | 0.95                            | R17      | 1.20                            |
| R5       | 0.97                            | R18      | 1.45                            |
| R6       | 0.76                            | R19      | 1.24                            |
| R7       | 0.48                            | R20      | 2.08                            |
| R8       | 2.45                            | R21      | 2.93                            |
| R9       | 2.97                            | R22      | 2.99                            |
| R10      | 1.96                            | R23      | 2.37                            |
| R11      | 2.74                            | R24      | 2.44                            |
| R12      | 1.82                            | R25      | 2.85                            |
| R13      | 1.91                            | R26      | 2.01                            |

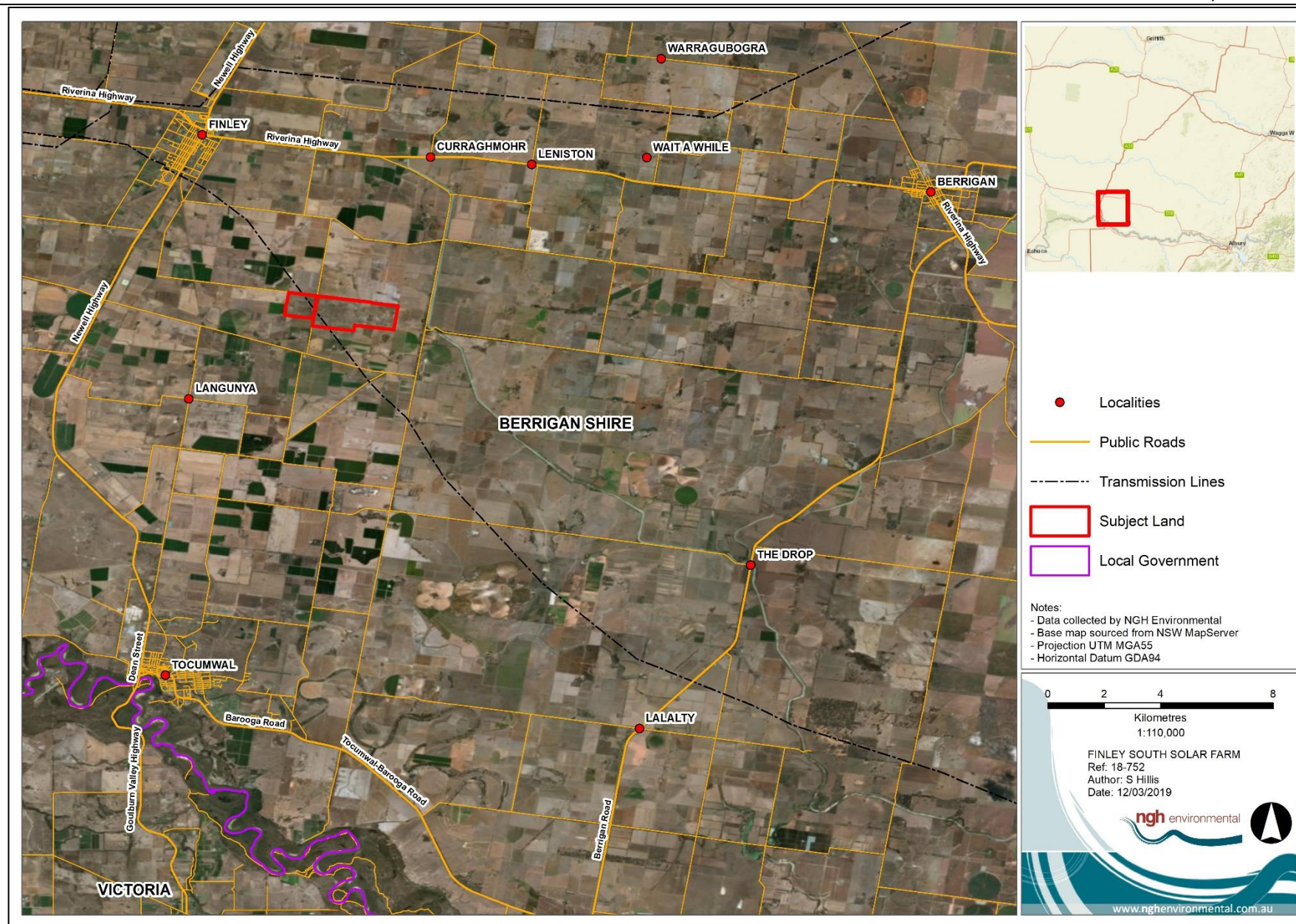


Figure 2-1 Location of the proposal site.

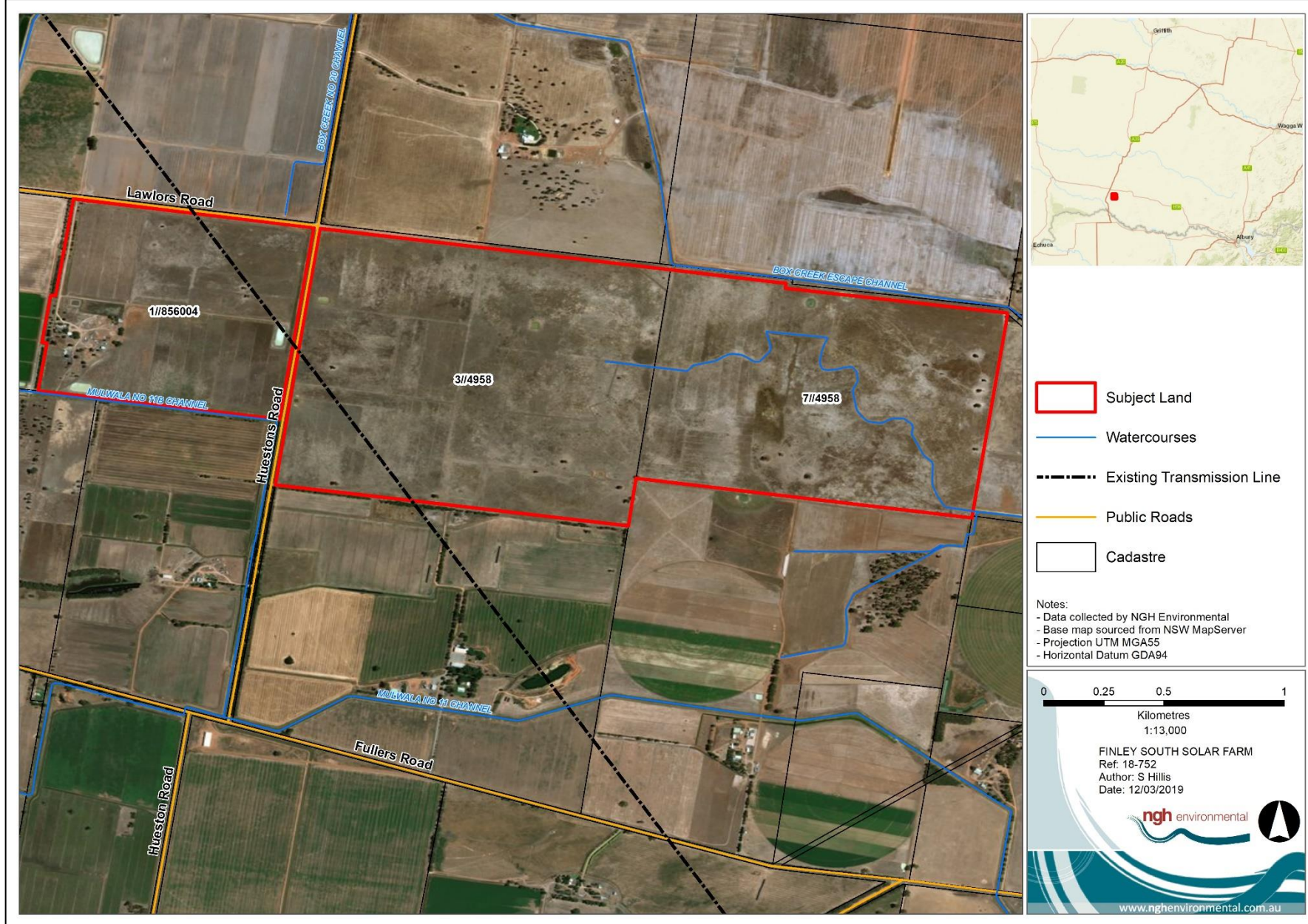


Figure 2-2 Proposed lots for development and layout.

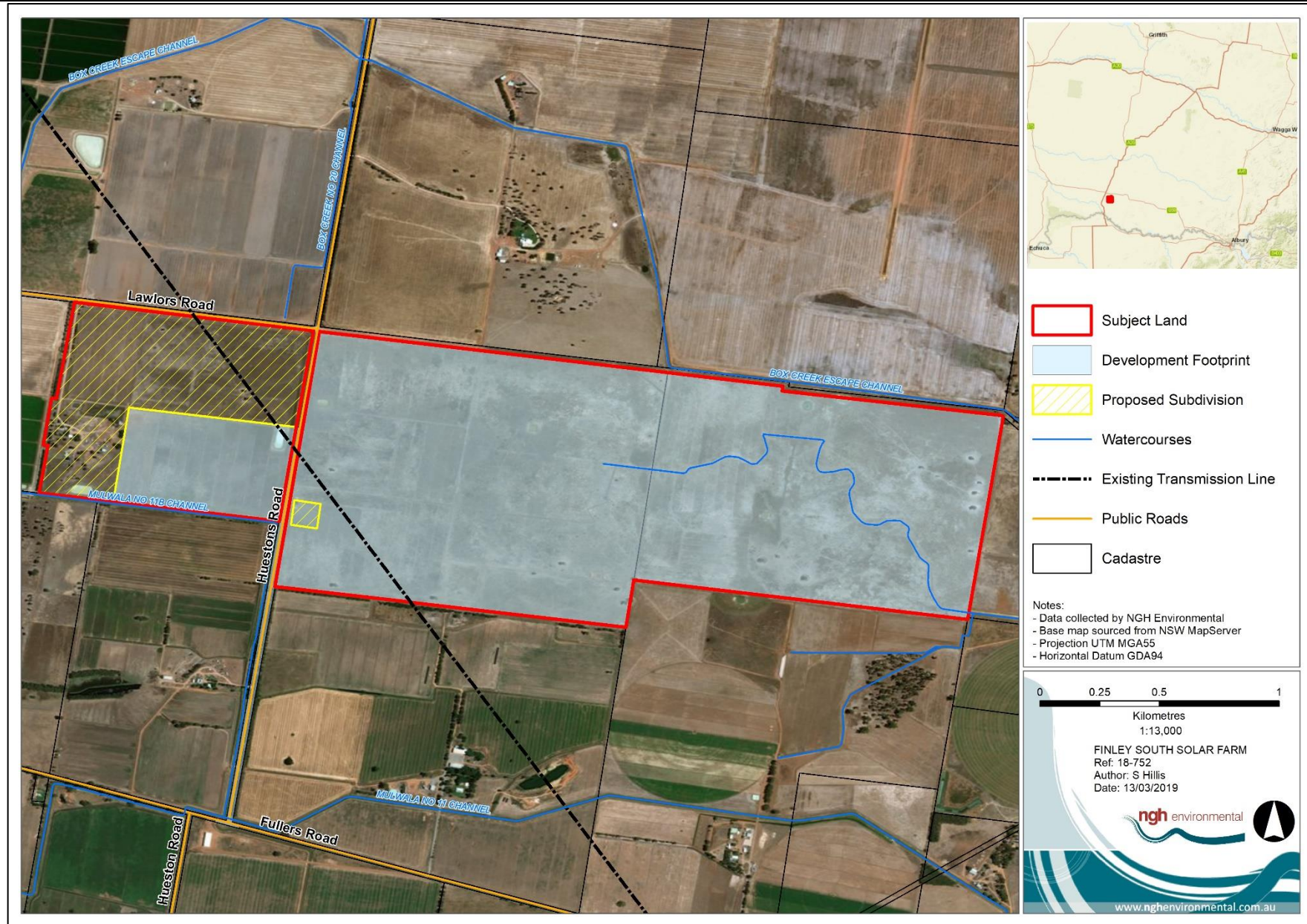


Figure 2-3 Proposed development footprint.



Figures 2-4 Typical landscape in the subject land.



Figures 2-5 Example of dam in the subject land.

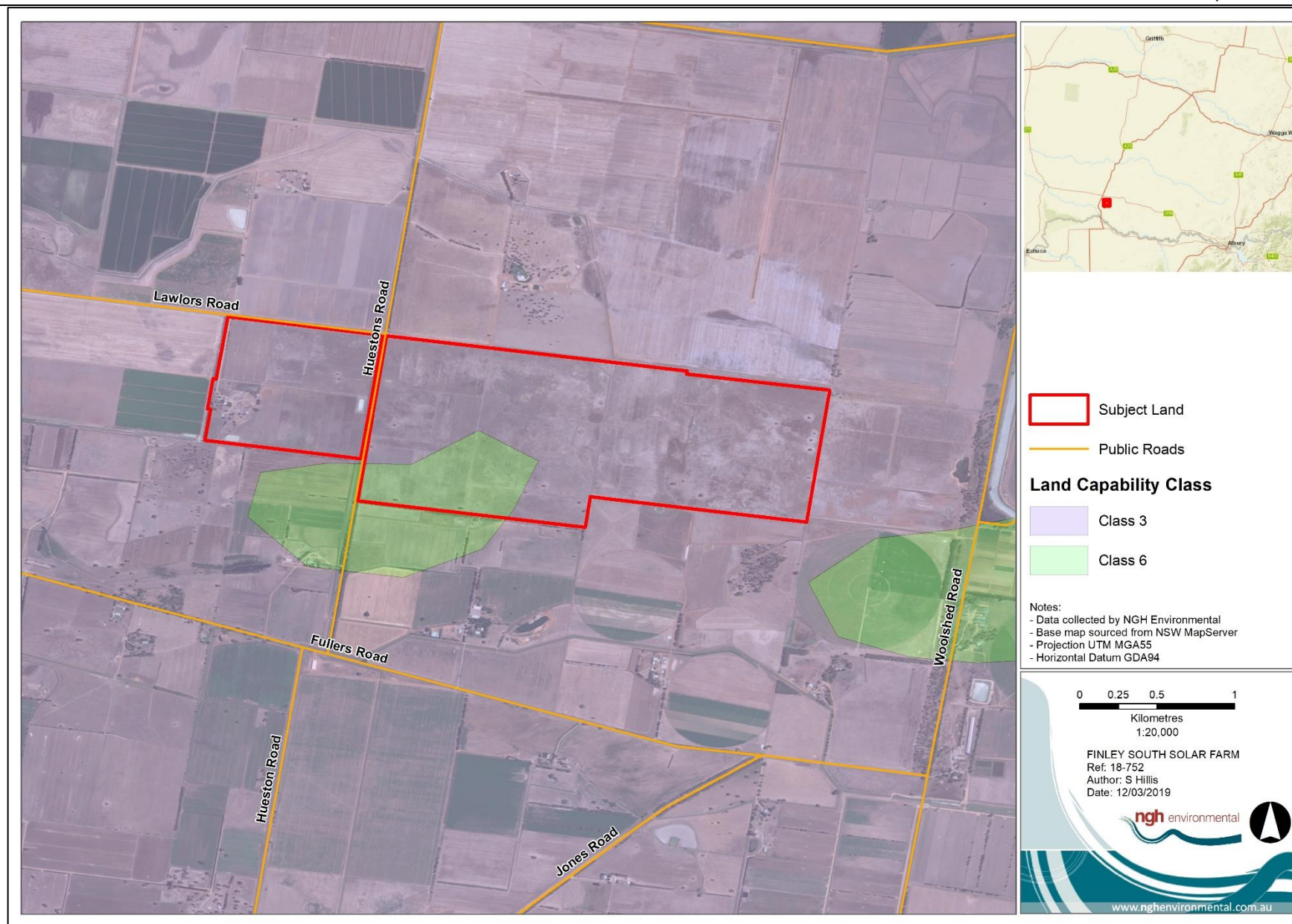


Figure 2-6 Land Soil Capability map.

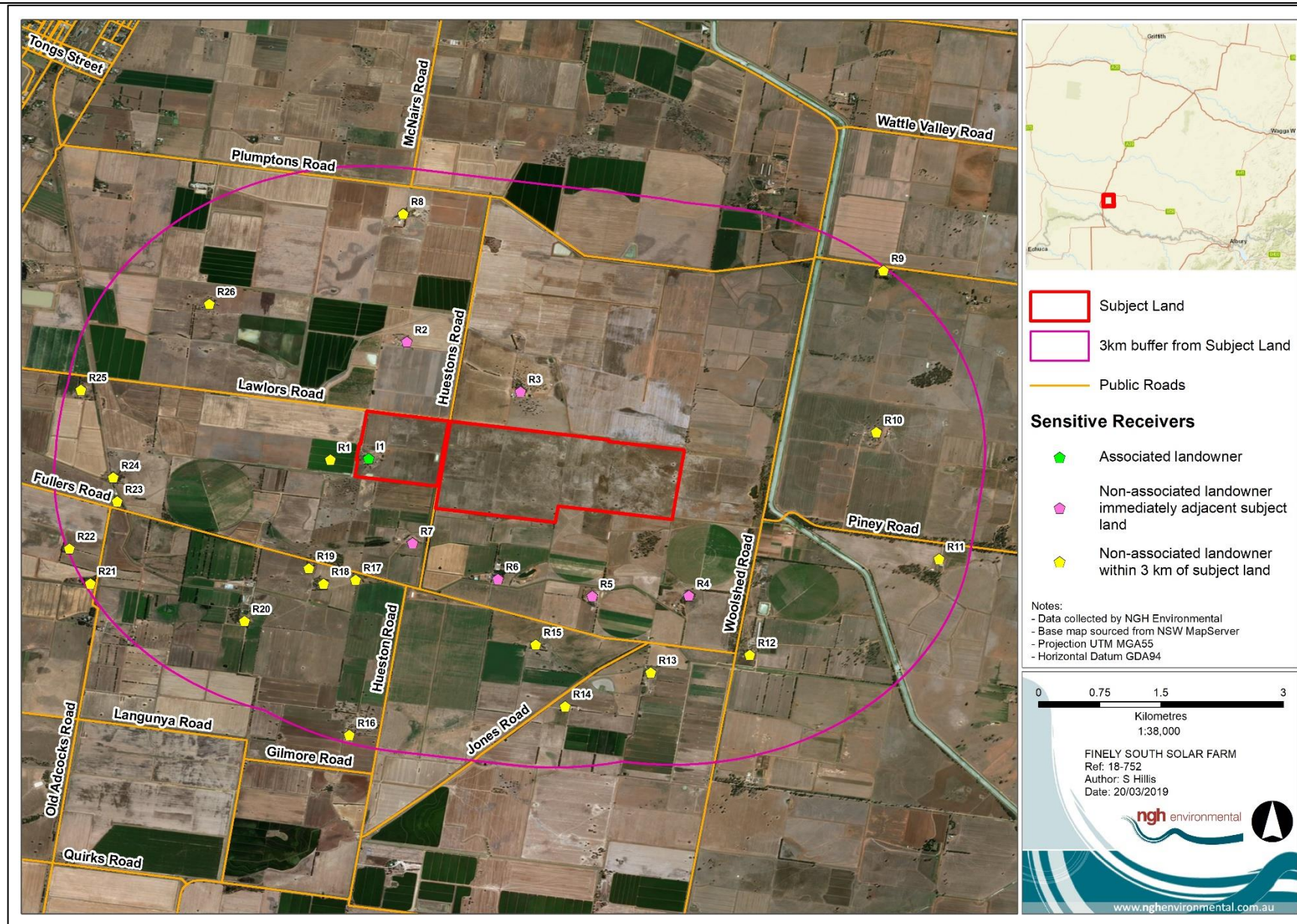


Figure 2-7 Sensitive receivers within 3 km of the development site.

## **2.3 THE LOCALITY**

The proposal is located in the Berrigan Shire LGA, located in southern New South Wales between the regional centres of Deniliquin and Jerilderie. The shire has several small towns including Barooga, Berrigan, Finley and Tocumwal. The LGA is 2,066 km<sup>2</sup> with a population of 8,664 as at the 2017 Census (ABS 2019a).

The Finley region also forms part of the Murray Irrigation Area, in the Berrigan Irrigation District.

### **2.3.1 Finley**

The town of Finley is located around 60 km east of the major town of Deniliquin, with a population of 2519 as at the 2016 Census (ABS 2019b). Finley has a number of attractions including the Log Cabin Museum, Finley Railway Museum, Finley Lake, Country Club Hotel, Albion Hotel, and Tuppal Hotel.

### **2.3.2 Murray Irrigation Area**

The Murray Irrigation Area covers an area of 724,000 ha, providing irrigation to over 2,200 farms and landholdings via 3,000 km of gravity fed earthen channels. Water is released from the Hume Dam, which travels to the diversion point from the Murray River at Lake Mulwala. (Murray Irrigation 2019).

### **2.3.3 Population**

The median age of persons in Greater Hume LGA is 47; this is higher than the Australian average of 38 (ABS 2018). The 2016 census records state that 3.4% of the population are Aboriginal and Torres Strait Islander people (ABS 2018). A large portion, 81.2% of the community were born in Australia; 1.7% in England, 1.3% in New Zealand, 0.7% in the Philippines, 0.5% in the Netherlands, and 0.5% in Sri Lanka (ABS 2018).

### **2.3.4 Climate**

Berrigan LGA is part of the Riverina Bioregion, Murray Fans subregion. This bioregion is dominated by a persistently dry semi-arid climate, and characterised by hot summers and cool winters (OEH 2016). The BOM (2018) climate records available from the nearest climate station at Tocumwal Airport (station no. 074106, 20 km south of the proposal) indicate a mean summer maximum of 31.9°C (January) and a mean winter minimum of 3.4°C (July) (Figure 2-8). Rainfall records from the same station show a mean annual rainfall of 448.6 mm, and that rainfall is generally greatest over winter and spring, with the average monthly maximum occurring in June (44.0 mm).

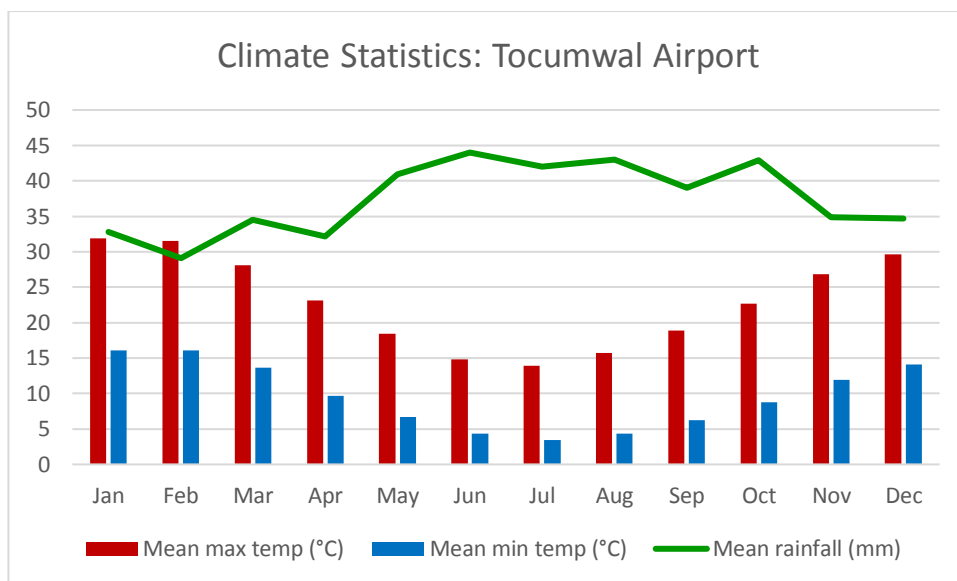


Figure 2-8 Climate Statistics for Tocumwal Airport, nearest station to Finley (BOM 2019)

### 2.3.5 Geology and Vegetation

The geology and vegetation characteristics for the Riverina – Murray Fans subregion are as follows (OEH 2016):

Table 2-2 Inland Slopes Subregion geology and vegetation.

| Geology                                                                                     | Characteristic Landforms                                                                                                                                                                                                         | Typical Soils                                | Vegetation                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quaternary alluvial sediments. Clay and sand with source-bordering dunes, lakes and swamps. | Relatively confined alluvial fan constrained by sediments from northern Victorian rivers, the Murrumbidgee fan and the Cadell fault.<br><br>Meandering channels, floodplains, source-bordering dunes, overflow lakes and swamps. | Red-brown earths, grey clays and deep sands. | Extensive River Red Gum forests with River Cooba on channels and low floodplains.<br><br>Yellow Box and Black Box with saltbush on high floodplains and terraces.<br><br>White Cypress Pines on dunes, sandy levees and lunettes.<br><br>Common Reed, Cumbungi and grasses in swamps. |

## 3 THE PROPOSAL

### 3.1 SITE SELECTION

The proposal site has been selected for the following reasons:

- Excellent solar exposure.
- Excellent access to local and major roads.
- Excellent access to the grid transmission network.
- Likely low level of environmental impact – the site has been largely cleared and heavily disturbed by cultivation and cropping.
- Suitable topography, land size and land zoning.

The use of the site would be based on an existing lease agreement between the proponent and the landowners for the life of the project.

### 3.2 PROPOSED WORKS

#### 3.2.1 Proposed infrastructure

The proposal involves the construction of a ground-mounted photovoltaic solar array which would have capacity to generate up to 140 MW (AC) of renewable energy. The solar farm would connect into an existing 132 kV Essential Energy transmission line that traverses the proposal.

The proposal would consist of the following components:

- Single axis E-W tracker photovoltaic solar panels mounted on steel frames over most of the site (up to 450 000 units).
- Underground electrical conduits and cabling to connect the arrays and to the inverters and transformers.
- A system of inverter units and voltage step-up throughout the arrays.
- On site substation, connecting to existing 132 kV Essential Energy transmission line.
- Site office and maintenance building, vehicle parking areas, internal access tracks and perimeter security fencing.
- Site access track off Huestons Road.
- Upgrades of Huestons Road and Fullers Road from the Newell Highway.
- Road crossing and easement electrical crossing through underground and/or overhead lines.

The solar farm arrangement is flexible and adaptable and would be designed to avoid impacts where feasible and minimise and mitigate environmental impacts if avoidance is not possible. The design would consider the results of the Scoping Report, consultation with relevant stakeholders and the EIS to be prepared. The EIS would detail how these studies have been used to produce the final proposal design.

The proposed infrastructure footprint is shown in Figure 2-2 and Figure 2-3. This includes all land likely to be directly impacted by the construction, operation and decommissioning of the proposal, including auxiliary construction facilities (site compound, laydown, stockpiling etc.) and all considered options. It is important to note that the proposed footprint is indicative only and will be refined as part of the EIS process (considering environmental constraints and engineering studies), with project infrastructure layout to be detailed in the EIS.

### 3.2.2 Construction, operation and decommissioning

The construction phase of the proposal is expected commence mid-2020 and would take 12 to 18 months. After the initial operating period, the solar farm would either be decommissioned, removing all above-ground infrastructure and returning the site to its existing land capability, or upgraded with new PV equipment. The proposal is expected to operate for around 30 years.

### 3.2.3 Capital investment

The proposal would have an estimated capital investment of \$156 million. As this value is over \$30 million, the proposal would be a State Significant Development under Part 4 of the EP&A Act. A quantity surveyor's report would be prepared during the EIS process as part of the proposal which would confirm the capital investment cost.

### 3.2.4 Subdivision

Around 11.68 ha of Lot 1 DP 856004 around an existing residence would be subdivided from the development site, and the remaining 55.10 ha leased by the proponent (Figure 2-3). A one to five ha subdivision for the proposed substation would also be required (Figure 2-3). When land is leased from a landowner and the lease affects part of a lot or lots in a current plan, a subdivision under *s.7A Conveyancing Act 1919* (formerly *s.327AA Local Government Act 1919* now repealed) is required when the total of the original term of the lease, together with any option for renewal, is more than five years. When the lease affects the whole lot in a current plan, the body of the lease identifies the area by lot and DP number with a subdivision not required.

As part of lots will be leased, subdivision for the purpose of the internal substation and solar infrastructure will be required. Berrigan Shire Council have indicated their willingness to consider the subdivisions resulting in lots below minimum lot size as detailed in Section 6.3.

## 4 JUSTIFICATION AND ALTERNATIVES

### 4.1 STRATEGIC JUSTIFICATION

#### 4.1.1 Technical feasibility

The proposal would employ proven and mature solar technology. The solar site is highly suited to efficient, high output generation.

The site is flat and predominantly clear, making it an ideal location for a utility scale solar project.

Connection would be achieved by joining the 132 kV Essential Energy-owned line crossing the site. A substation would be constructed in the development site.

It is noteworthy that the electricity grid in New South Wales can present challenges in terms of having the capacity to connect utility scale renewable energy projects. The proposal benefits from having good connection options adjacent to the site with sufficient capacity in the transmission network to allow power generated at the Finley site to be exported to wider NSW.

#### 4.1.2 Climate change

Electricity generation is the largest individual contributor of greenhouse gas emissions in Australia (Department of Environment 2016).

The proposal would contribute to the New South Wales Renewable Energy Action Plan (NSW Government 2013), which supports the national target of 20% renewable energy by 2020. The proposal would also further the three goals of the Action Plan:

1. Attract renewable energy investment and projects;
2. Build community support for renewable energy; and
3. Attract and grow expertise in renewable energy.

The *NSW 2021: A Plan to Make NSW Number One* (NSW Government 2011) has the following goal:

- *Contribute to the national renewable energy target ... by promoting energy security through a more diverse energy mix, reducing coal dependence, increasing energy efficiency and moving to lower emission energy sources.*

The proposal would also contribute to the Commonwealth Government's objective to achieve an additional 33GW from renewable sources by 2020 under the Renewable Energy Target (RET).

The COP21, also known as the 2015 Paris Climate Conference, achieved a legally binding and universal agreement on climate, with the aim of keeping global warming below 2°C, chiefly by reducing greenhouse gas emissions. The proposal would form part of the Australian effort to help meet this target.

#### 4.1.3 Electricity supply

The Australian Energy Market Operator (AEMO 2016) forecasts that grid-supplied electricity consumption will remain flat for the next 20 years, despite projected 30% growth in population. Although not required to meet projected electricity demand, the proposal would benefit the network by shifting electricity production closer to local consumption and regulating inputs to the grid using an Energy Storage Facility.

The electricity network was designed to deal with a small number of very large power generating stations. The localisation of power generation helps the grid to cope with the supply from diversified renewable energy projects.

#### **4.1.4 Socio-economic benefits**

##### **Employment**

The proposal would generate up to 200 full time equivalent jobs during construction plus indirect supply chain jobs. In addition, it would employ up to 3 full time equivalent staff during the operation and maintenance phase (expected to be around 30 years).

The employment benefits for construction extend through the local supply chains to fuel supply, vehicle servicing, uniform suppliers, hotels/motels, B&B's, cafés, pubs, catering and cleaning companies, tradespersons, tool and equipment suppliers and many other businesses.

Further extension of employment benefit extends through the operation of the proposal, such as panel cleaning and maintenance, electrical maintenance, fence supplies and maintenance, road grading, adjustment and grazing of sheep.

In 2015/16, 11 150 Australians were directly employed in the renewable energy sector with an additional 3725 jobs expected to be created in the 2017/18 financial year (CEC 2016).

##### **Electricity prices**

According to Deloitte, Australian households will pay \$510 million more for power in 2020 without renewable growth through the RET, and up to \$1.4 billion more per year beyond 2020. Renewables increase competition in the wholesale energy market – and, as in any market, more competition means lower prices.

##### **Economic diversification**

The proposal would diversify the use of land in the area. The predominant land use in the area is agriculture. The proposal would add to that and provide both local land holders and businesses in the broader area with an additional source of income and economic activity. The income created in the locality from the proposal would be consistent and stable. This income will be of greater security being removed from the normal cycle and risks of agricultural activity (like flood and drought).

#### **4.1.5 Land Use**

Many growers within the Murray Irrigation Area are struggling financially linked to high running costs including the price of irrigation water and unpredictable rainfall. Complementing agricultural activities with leasing a portion of land for renewable energy production may increase the resilience of agribusinesses by diversifying a farmer's income. It is important to note that solar farms do not preclude the use of land for agriculture. Some agricultural activity is still possible whilst a solar farm is operating (e.g. grazing). Additionally, the degree of permanent land disturbance in the construction and operation of solar farms is small, and it is likely that agricultural activities that were occurring before the solar farm was constructed would be able to be continued once the solar farm is decommissioned and removed.

#### 4.1.6 Site suitability

Key considerations for site selection are detailed within the *NSW Large-scale Solar Energy Guideline for State Significant Development* (DPE 2018). The key site constraints with justification as to why the site is suitable is detailed in Table 4-1 below:

Table 4-1 Site conditions and constraints

| Areas of constraint                                                                                                                                                                                                                                                                                                                                                 | Site justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Visibility and topography</b> - Sites with high visibility, such as those on prominent or high ground positions, or sites which are located in a valley with residences with elevated views looking towards the site. This is particularly important in the context of significant scenic, historic or cultural landscapes.                                      | The site does not have high visibility, is not on a prominent location or on high ground, or within a valley with residences with an elevated view.<br>The area is generally flat, with little to no variation in height.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Biodiversity</b> - Areas of native vegetation or habitat of threatened species or ecological communities within and adjacent to the site, including native forests, rainforests, woodlands, wetlands, heathlands, shrublands, grasslands and geological features.                                                                                                | Areas of high biodiversity value, such as riparian vegetation, swamps and native grasslands have been excluded from the development footprint. No native forests, rainforests, woodlands, wetlands, heathlands, shrublands or significant grasslands are located adjacent to the site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Residences</b> - Residential zones or urbanised areas.                                                                                                                                                                                                                                                                                                           | The proposal is not likely to generate land use conflicts with surrounding land uses and is compatible with land use zoning. The proposed development site is within land zoned RU1 Primary Production under the Berrigan Local Environmental Plan 2013 (LEP).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Agriculture</b> - Important agricultural lands, including Biophysical Strategic Agricultural Land (BSAL), irrigated cropping land, and land and soil capability classes 1, 2 and 3. Consideration should also be given to any significant fragmentation or displacement of existing agricultural industries and any cumulative impacts of multiple developments. | The proposal is not located on Strategic Agricultural Land, including industry clusters and biophysical strategic agricultural land. The proposal is however located on land classed as Soil Capability Class 3 and Class 6 land. The proposal: <ul style="list-style-type: none"> <li>• Is not expected to adversely affect the biophysical nature of the land.</li> <li>• Would positively affect soils by providing many of the benefits of long-term fallow, including increasing soil moisture, building soil carbon levels, allowing structural recovery and improving soil biota.</li> <li>• Would not result in the permanent removal of agricultural land.</li> <li>• The productivity of the land has been overestimated due to low rainfall and prohibitive irrigation costs.</li> <li>• Would not result in rural fragmentation given it will not alter the existing or surrounding environment.</li> <li>• Adjacent farming operations are compatible.</li> <li>• Strategic sheep grazing may be used within the development site. Grazing would be used to reduce vegetation biomass and put grazing pressure on weeds adjacent to the solar panels.</li> </ul> |
| <b>Natural Hazards</b> – Areas subject to natural hazards, such as flooding and land instability.                                                                                                                                                                                                                                                                   | The site has not been identified as flood prone in the Berrigan Shire LEP. The site has not been identified as bushfire prone on RFS mapping.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Resources</b> - Prospective resources developments, including areas covered by exploration licences and mining and petroleum production leases, Solar development applicants should seek advice from the Department of Planning, Division of Resources and                                                                                                       | The area is not covered by any exploration or mining leases. Advice has been sought from GSNSW about the coverage of resource related licences, with no known conflicts known (Appendix B).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Areas of constraint                                                                                                                                                                                               | Site justification                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Geoscience (GSNSW) about the coverage of resources-related licences.                                                                                                                                              |                                                      |
| <b>Crown Lands</b> – If any part of the project or associated transmission or distribution infrastructure will cross Crown Lands, it may be subject to legislative requirements that restrict access to the land. | The proposal does not interfere with any Crown Land. |

## 4.2 ALTERNATIVES TO THE PROPOSAL

### 4.2.1 Alternative sites

The proponent has reviewed the solar generation potential of many areas in NSW using a combination of computer modelling and analysis, on the ground surveying and observation, and experience of the proponent. The site was selected because it provides the optimal combination of:

- Low environmental constraints (predominantly cleared cropping land).
- Level terrain for cost-effective construction.
- High quality solar resource.
- Low density population and limited neighbouring properties.
- Suitable planning context.
- Acceptable flood risk.
- Road access.
- Access to the distribution network.
- High levels of available capacity on the grid distribution system.

The site is of a scale that allows for flexibility in design, allowing the proponent to avoid ecological and other constraints that may be identified during the EIS process. The factors that determine the final design area would be detailed in the EIS.

### 4.2.2 Alternative technologies

Photovoltaic solar technology was chosen because it is cost effective, low profile, durable and flexible regarding layout and siting. It is a proven and mature technology that is readily available for broad scale deployment at the site.

### 4.2.3 The 'Do Nothing' Option

Not proceeding with the proposal would forgo the benefits of the proposal, resulting in:

- The loss of a source of renewable energy that would assist the Australian and NSW Governments to reach their targets;
- The loss of cleaner energy and reduced greenhouse gas emission;
- The loss of additional electricity generation and supply into the grid; and
- Loss of social and economic benefit through the provision of direct and indirect employment.

The 'do nothing' option may avoid any potential impact. However, the likelihood of significant negative impacts is low. It is considered the benefit of the proposed solar farm outweighs any potential impact whilst contributing to ecologically sustainable development. Planning context

## 5 PLANNING CONTEXT

### 5.1 NSW LEGISLATION

#### 5.1.1 *Environmental Planning and Assessment Act 1979*

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and its associated regulations and instruments set the framework for development assessment in NSW. The proposed Finley South Solar Farm would be assessed under Part 4 of the EP&A Act.

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

Clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* defines 'State Significant Development' as including:

'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 has a:

- (a) capital investment value of more than \$30 million.
- (b) capital investment value of more than \$10 million and is located in an environmentally sensitive area of State significance.'

The proposal would have an estimated capital investment cost greater than \$30 million. The proposal is therefore classified as 'State Significant Development' under Part 4 of the EP&A Act.

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

An Environment Impact Statement (EIS) is prepared in accordance with environmental assessment requirements issued by the Secretary of the Department of Planning and Environment (SEARs). 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. A scoping study is required to be submitted with the request for the SEARs.

#### 5.1.2 *State Environmental Planning Policy (Infrastructure) 2007*

Part 3 Division 4 of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) provides that development for the purpose of 'electricity generating works', solar in particular, may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone. The proposed Finley South Solar Farm is located in a rural zone and is permissible with consent under the ISEPP.

#### 5.1.3 *State Environmental Planning Policy (Rural Lands) 2008*

The aims of the *State Environmental Planning Policy (Rural Lands) 2008* (Rural Lands SEPP) are:

- (a) *to facilitate the orderly and economic use and development of rural lands for rural and related purposes.*

- (b) *to identify the Rural Planning Principles and the Rural Subdivision Principles to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State.*
- (c) *to implement measures designed to reduce land use conflicts.*
- (d) *to identify State significant agricultural land for ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations.*
- (e) *to amend provisions of other environmental planning instruments relating to concessional lots in rural subdivisions.*

The Rural Lands SEPP rural planning principles, listed under clause 7, are:

- (a) *the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas.*
- (b) *recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State.*
- (c) *recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development.*
- (d) *in planning for rural lands, to balance the social, economic and environmental interests of the community.*
- (e) *the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land.*
- (f) *the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities.*
- (g) *the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing.*
- (h) *ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.*

It is considered that the proposal is consistent with the aims and planning principles of the Rural Lands SEPP. Part 4 of the Rural Lands SEPP relates to state significant agricultural land. Given the development site is not identified in Schedule 2, it is not identified as state significant agricultural land and Part 4 does not apply.

#### **5.1.4 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development**

This SEPP defines and regulates the assessment and approval of potentially hazardous or offensive development. The SEPP defines ‘potentially hazardous industry’ as:

*“development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:*

*(a) to human health, life or property.*

*(b) to the biophysical environment.*

*and includes a hazardous industry and a hazardous storage establishment.”*

‘Potentially offensive industry’ defined as:

*“a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on*

*other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.”*

SEPP 33 provides for systematic assessment of potentially hazardous and offensive development for the purpose of industry or storage. For development proposals classified as ‘potentially hazardous industry’ the policy requires a preliminary hazard analysis (PHA) to determine risks to people, property and the environment.

A checklist and a risk screening procedure developed by DPE is used to help determine whether a development is considered potentially hazardous industry (DOP, 2011). Appendix 3 of the *Applying SEPP 33* guidelines lists industries that may fall within SEPP 33; the lists do not include solar farms and energy storage facilities.

### **5.1.5 State Environmental Planning Policy No 55 – Remediation of Land**

The State Environmental Planning Policy No 55 – Remediation of Land provides a framework for the consideration of land contamination and remediation as part of any planning purpose.

Under clause 7 of the SEPP, the consent authority must not consent to a development unless it has considered whether the land is contaminated, whether land would be suitable where it is contaminated, whether land can be made suitable by remediation, and that remediation would take place prior to the proposed use.

The land is not on the register of Contaminated Sites notified to the NSW EPA. Historical aerial imagery indicates that the land has been utilised for agricultural activities (specifically cereal cropping and livestock grazing, which is a potentially contaminating land use according to the ‘Managing Land Contamination Planning Guidelines’ (Environment Protection Authority, 1998)).

Consideration of potential contamination risks to satisfy the requirements of clause 7 of the SEPP, would be provided in the EIS.

### **5.1.6 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. The need for upgrade works on local roads would be considered as part of the traffic assessment conducted for the proposal. If required, approval from the road authority (RMS and/or Council) would be sought under Section 138 of the Roads Act. Berrigan Shire Council, and RMS if required, would be consulted during the design and preparation of the EIS.

### **5.1.7 Water Management Act**

The *Water Management Act 2000* provides for the sustainable and integrated management of the State’s water resources. The proposal would require water during both construction and operation. Quantities and sources of water required would be identified during the EIS stage.

### **5.1.8 Biodiversity Conservation Act 2016**

The NSW Government introduced new biodiversity legislation for the consideration and assessment of biodiversity impacts. The *Biodiversity Conservation Act 2016* (BC Act) and *Local Land Services Act 2013* (LLS Act) commenced on 25 August 2017 and have replaced the *Threatened Species Conservation Act 1995*.

The proposal would require assessment under Section 7.9 of the BC Act. A preliminary assessment of potential impacts has been conducted in Section 7 of this report.

#### 5.1.9 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, 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. 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 impacts to Aboriginal heritage are discussed in Section 7 of this report.

#### 5.1.10 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 Register. Heritage items are listed in the environmental 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. 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 is unlikely to directly or indirectly affect any items of heritage significance (refer to Section 7).

#### 5.1.11 Crown Lands Management Act 2016

The main aims of the *Crown Lands Management Act 2016* is to provide for the ownership and management of Crown land in NSW, and provide clarity concerning the law applicable to Crown land. Works within a Crown reserve require environmental, social, cultural heritage and economic considerations to be considered, and must facilitate the use of land by the NSW Aboriginal people.

#### 5.1.12 Conveyancing Act 1919

The purpose of the *Conveyancing Act* is to amend and consolidate the law of property and to simplify and improve the practice of conveyancing, and for such purposes to amend certain Acts relating thereto.

Subdivision may be required for the purpose of the substation infrastructure and an existing residence.

## 5.2 LOCAL GOVERNMENT

### 5.2.1 Berrigan Local Environmental Plan 2013

The proposal is in the Berrigan LGA and is subject to the *Berrigan Local Environmental Plan 2013* (LEP).

The aims of the LEP are:

- a) To encourage development that complements and enhances the unique character and scenic values of Berrigan, offering a diverse economy, significant natural resources and an attractive rural lifestyle.

- b) To provide for a range of development opportunities that contribute to the social, economic and environmental resources of Berrigan in a way that allows the needs of present and future generations to be met by implementing the principles of ecologically sustainable development.
- c) To recognise and manage valued environmental and cultural heritage, landscape and scenic features of Berrigan.
- d) To promote the efficient and equitable provision of public services, infrastructure and amenities.

The development site is zoned RU1 - Primary Production under the Berrigan LEP (Figure 5-1). Electrical generation is not listed among developments that are permitted within the zone. However, the ISEPP takes precedence over an LEP and permits solar energy systems with consent in the RU1 zone.

### Land Use Zone Objectives

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 the RU1 zone are to:

- a) Encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- b) Encourage diversity in primary industry enterprises and systems appropriate for the area.
- c) Minimise the fragmentation and alienation of resource lands.
- d) Minimise conflict between land uses within this zone and land uses within adjoining zones.
- e) Permit development that enhances the agricultural and horticultural production potential of land in the locality.
- f) Permit low-key tourist and visitor accommodation that is compatible with the scenic amenity, and promotes the character, of the area.
- g) Enable function centres to be developed in conjunction with agricultural uses.

The proposal would have negligible impact on primary industry production in Berrigan LGA. The degree of permanent land disturbance as a result of construction and operation of the solar farms is small and would not result in fragmentation and alienation of resource lands. Some agricultural activity is still possible whilst the solar farm is operating (e.g. grazing), and it is likely that agricultural activities which were occurring before the solar farm was constructed would be able to be continued once the solar farm is decommissioned and removed.

### Minimum subdivision lot size

Clause 4.1(3) of the LEP states that 'the size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land'.

With respect to the subject land, which is zoned RU1 Primary Production, the minimum lot size shown on the Lot Size Map is 120 ha. An allotment of approximately 44 ha retained for the landowner and an allotment of 1 to 5 ha for the subdivision is proposed (Figure 2-3). Therefore, the subdivision of land would result in the creation allotments comprising an area of land that does not meet the minimum lot size and therefore is not permitted under the provisions of the Berrigan LEP 2013.

However, given the development proposal is a State Significant Development (SSD), DPE is able to approve the subdivision of land as part of the overall development for the solar farm under the provisions of the *Environmental Planning and Assessment Act 1979* and the *State Environmental Planning Policy (State and Regional Development) 2011*.

Clause 8(2) of the SEPP State & Regional Development 2011 states that if a single development application comprises development that is only partly SSD, the remainder of the development is also declared to be State Significant Development. Former consultation with the DPE confirmed that the intent of this clause means if the

subdivision is included in the development application with the solar farm, the subdivision is also declared to be state significant.

Clause 4.38(3) of the EP&A Act states that development consent for SSD may be granted despite the development being prohibited by an environmental planning instrument. Therefore, if the subdivision is not permitted by the LEP due to the minimum lot size restrictions, consent may still be granted as the project is SSD.

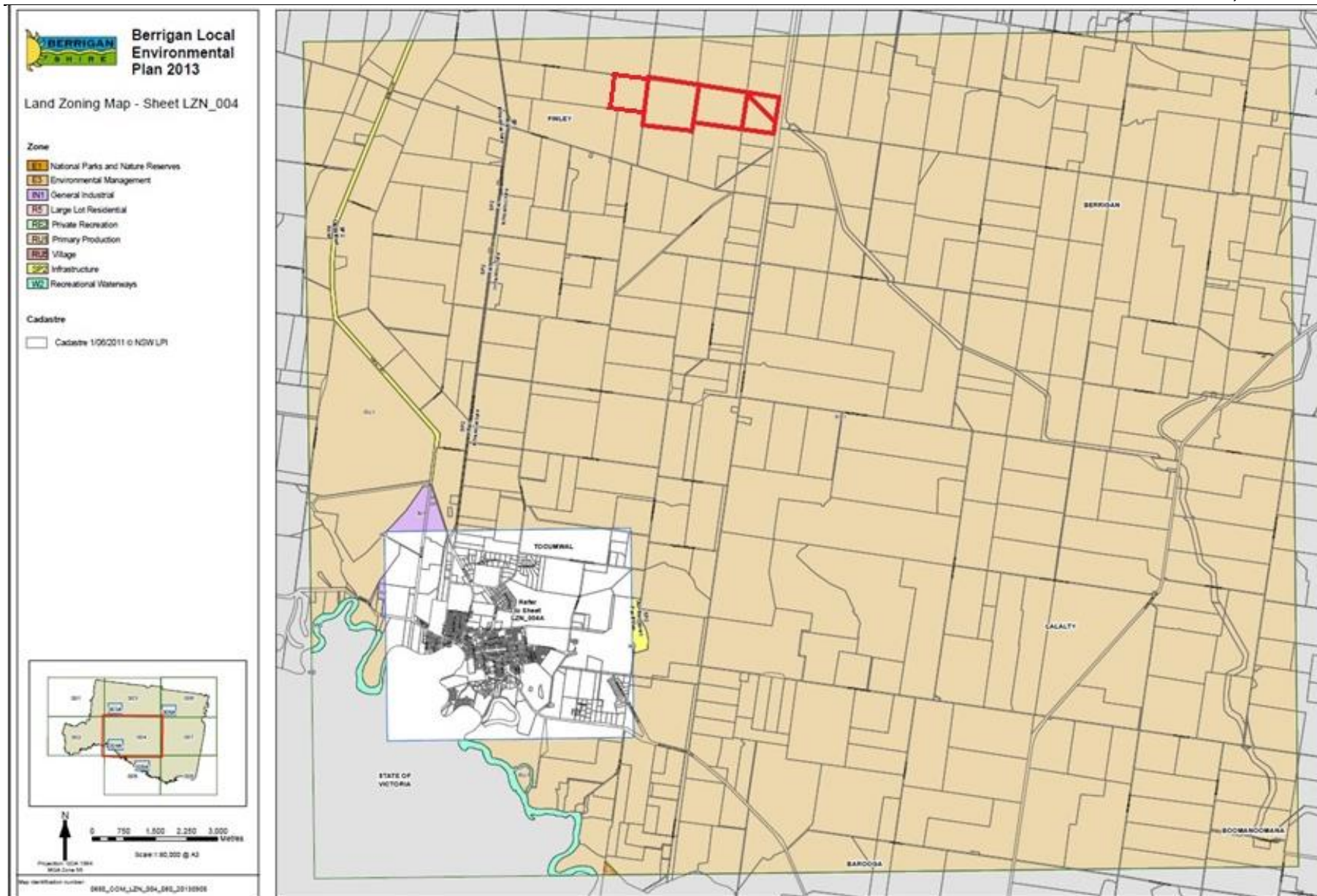


Figure 5-1 Berrigan LEP zoning, location of proposal shown in red.



Figure 5-2 Berrigan LEP minimum lot size, location of proposal shown in red.

## 5.3 COMMONWEALTH LEGISLATION

### 5.3.1 Environmental Protection and Biodiversity Conservation Act 1999

The EPBC Act provides an assessment and approval process for actions likely to cause a significant impact on Matters of National Environmental Significance (MNES). These include:

- World Heritage properties.
- National Heritage places.
- Wetlands of international importance (listed under the Ramsar Convention).
- Listed threatened species and ecological communities.
- Migratory species protected under international agreements.
- Nuclear actions (including uranium mines).
- Commonwealth marine areas.
- Great Barrier Reef Marine Park.
- A water resource, in relation to coal seam gas development and large coal mining development.

Approval by the Commonwealth Environment Minister is required if an action is likely to have a significant impact on a MNES. Assessments of significance based on criteria listed in *Significant Impact Guidelines 1.1* issued by the Commonwealth (Commonwealth of Australia 2013) are used to determine whether the proposed action is likely to have a significant impact (i.e. is likely to be considered a 'controlled action').

A search of the Commonwealth Protected Matters Search Tool (10 km buffer, undertaken on 9 January 2019) indicated three threatened ecological communities, 24 threatened species and 11 migratory species in the search area. Surveys to determine the presence and likelihood of impact to these entities would be undertaken during the preparation of the EIS. Four important wetlands are indicated in the search as their tributaries are location within 10 km of the proposal, but the wetlands themselves are more than 400 km upstream of the proposal.

A summary of the EPBC Act search report is provided in Table 5-1.

Table 5-1 Summary of EPBC Act Protected Matters Report search results.

| Protected Matter                                | Entities within the search area |
|-------------------------------------------------|---------------------------------|
| World Heritage Properties                       | 0                               |
| National Heritage Places                        | 0                               |
| Wetlands of International Significance (Ramsar) | 7                               |
| Threatened Ecological Communities               | 5                               |
| Threatened Species                              | 23                              |
| Migratory Species                               | 11                              |
| Listed Marine Species                           | 18                              |
| Commonwealth land                               | 2                               |
| Commonwealth Heritage places                    | 0                               |
| Critical habitats                               | 0                               |
| Commonwealth reserves (terrestrial)             | 0                               |
| State and Territory reserves                    | 0                               |
| Regional Forest Agreements                      | 0                               |
| Invasive species                                | 31                              |

| Protected Matter              | Entities within the search area |
|-------------------------------|---------------------------------|
| Nationally Important Wetlands | 0                               |

### 5.3.2 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, the proponent would comply with the provisions of the *Native Title Act 1993*.

A search of the National Native Title Tribunal website (NNTT 2018) indicates no native title claims, land use agreements, applications or determinations within the development site.

## 6 COMMUNITY & STAKEHOLDER ENGAGEMENT

### 6.1 ENGAGEMENT APPROACH

Community and stakeholder consultation with the affected community and stakeholders (interested and affected parties (I&APs)) is integral to development of the proposal. Aligned to the requirements of the DP&E *Draft Environmental Impact Assessment Guidelines Series – Community and Stakeholder Engagement* (June 2017), for the purpose of this project, the following groups are identified as I&APs:

- The project proponent - Bison Energy.
- The community – neighbours within a 3 km radius around the subject land.
- Other stakeholders – Special interest groups, broader community, etc.
- Government departments and consent authorities – NSW DP&E and the local Council.

Although there are numerous benefits to good community consultation for such a project, the following are considered as being key benefits for valuable engagement:

- An ongoing opportunity for I&APs to gain an understanding of the proposal, from the early scoping phase through to the impact assessment. This creates greater project awareness and encourages proponent transparency of the proposal throughout the process.
- An opportunity for I&APs to provide input to possible mitigation measures for identified specific-, local- or regional project impacts. This not only empowers I&APs to help develop mitigations for impacts that could directly affect them, but also assists the proponent to develop flexible, tailored solutions as part of the project's overall planning.

A preliminary Community & Stakeholder Engagement Plan (CSEP) has been prepared to provide a framework to engage with the I&APs about the proposal, and to ensure opportunities for providing input into the assessment and development process are understood. This includes:

- Upfront discussions with the DP&E and the local Council to introduce them to the proposal, as well as determine project-specific considerations that need to be accounted for.
- Face-to-face meetings with key community neighbours within the 3km subject land radius. This includes distribution of information flyers about the proposed project as well as an outline of the community and stakeholder engagement process. (Where neighbours were not at home or available for face-to-face meetings, flyers were left at their properties).
- Opportunities for broader community information sharing at two planned community engagement sessions, during the assessment process. These will take place in the local Council areas.
- Establishment of a website for the proposal ([www.finleysouthsolarfarm.com.au](http://www.finleysouthsolarfarm.com.au)), on which key project information can be found.
- Ongoing consultation opportunities in the form of phone calls, feedback forms, e-mails, a post-assessment newsletter, etc.

The CSEP aims 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 proposal.

Agency consultation would also be undertaken in accordance with any requirements of the SEARs.

## 6.2 IDENTIFIED I&APS

I&APs were identified as those community members and stakeholder potentially being impacted by the solar farm proposal, or having an interest in the proposal (Figure 2-7):

Table 6-1 Impacted or interested stakeholder groups identified as part of the project scoping engagement

| I&AP group |                                                      | Defining characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Community  | Adjacent neighbours                                  | <p>Neighbours with properties directly adjacent to the proposed subject land. These neighbours are deemed to possibly be directly affected by the proposal by, for example, view of infrastructure, or noise or vibration from haulage routes or construction activities. These neighbours may be either land owners or lessees.</p> <p>There are seven landowners/lessees that have been identified on land directly adjacent to the subject land. Table 6-2 provides the ownership details of these properties (owner or lessee), as well as the type of dwelling (house, shed, etc.).</p> <p>further illustrates their geographic location, with the pink dots demarcating these adjacent neighbours (label IDs 1 – 7).</p> |
|            | Neighbours within a 3km radius from the subject land | <p>Considered a major development within a small town, direct impacts may be of interest to local residents and businesses (cropping farmlands). Based on upfront discussions with the DP&amp;E, a 3km radius from the proposed subject land has been used to capture the values and potential impacts to this group of I&amp;APs. It will further assist the assessment process and development of appropriate mitigation strategies from a local landowner/lessee perspective.</p> <p>There are 19 local land owners / lessees within this 3km radius. Table 6-2 provide the details of these local neighbours, with their geographic locations illustrated as yellow dots on Figure 2-7 (label IDs 8 – 26).</p>             |
|            | Residences on the proposed haulage route.            | <p>Berrigan Shire Council and RMS have provided principle consent and support of the use of Fullers Road and Huestons Road for the haulage route to the site.</p> <p>Based on upfront discussions with the DP&amp;E, it is agreed that all residences along the proposed haulage route will be consulted about the proposal.</p> <p>The majority of landowners on Fullers Road and Huestons Road has been captured in the 3km radius from the proposal. In addition to the 19 landowners within a 3km radius of the proposal, two additional residences are located on the Fullers Road route near the Newell Highway.</p>                                                                                                     |

| I&AP group                                   |                                           | Defining characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stakeholders                                 | Special interest groups                   | <p>The following relevant special interest groups were identified for this proposal:</p> <ul style="list-style-type: none"> <li>• Murray Irrigation Limited.</li> <li>• Boomanoomana Landcare Committee.</li> <li>• Native Dog Landcare Group.</li> </ul> <p>Depending on the community engagement feedback, consultation with these groups may take place during the assessment process.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                              | Media                                     | <p>Various media outlets will be used to distribute information about the project.</p> <p>A project-specific website (<a href="http://www.finleysouthsolarfarm.com.au">www.finleysouthsolarfarm.com.au</a>) has been developed for the proposal. It is the main information portal for I&amp;APs to gain an understanding of the proposal, as well as learn more about the impacts and mitigations around solar farms.</p> <p>Advertisements for planned community gatherings relevant to the proposal will be posted in the local Berrigan newspaper.</p>                                                                                                                                                                                                                                                                                                                                             |
|                                              | Broader community & representative bodies | <p>The project is likely to be of interest to the broader local and regional community.</p> <p>The community consultation planning will include two community engagement sessions within the Berrigan Council area during the assessment process. This will allow for queries to be raised with the developer and project team about the project by the broader community and representative bodies.</p> <p>Currently, the following representative groups have been identified as possibly showing an interest in the project:</p> <ul style="list-style-type: none"> <li>• Finley Chamber of Commerce, Industry and Agriculture.</li> <li>• Berrigan and District Development Association.</li> <li>• Local, State and National members of Parliament.</li> <li>• Cummeragunja Local Aboriginal Land Council.</li> <li>• Barooga Visitor Information Centre.</li> <li>• Essential Energy.</li> </ul> |
| Government departments & consent authorities | Department of Planning & Environment      | Key regulatory decision-maker for this proposal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                              | Berrigan Shire Council                    | As the subject land is located in the Berrigan Shire LGA, upfront engagement with the Shire Council has already taken place. This engagement is important to understand local planning needs, as well as to identify any specific local council concerns that need to be included in the assessment process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

Table 6-2 List of interested & affected parties (within 3km of the subject land) identified as part of the community & stakeholder engagement planning

| Location                                | Label ID | Type  | Ownership details |                                                     |
|-----------------------------------------|----------|-------|-------------------|-----------------------------------------------------|
| Neighbours adjacent to the subject land | 1        | Land  | Owner             | Adjacent neighbour (no dwelling; only land)         |
|                                         | 2        | House | Owner             | Adjacent neighbour (does not stay on this property) |
|                                         |          |       | Lessee            | Adjacent neighbour                                  |
|                                         | 3        | House | Owner             | Adjacent neighbour (main residence)                 |
|                                         | 4        | House | Owner             | Adjacent neighbour (main residence)                 |
|                                         | 5        | House | Owner             | Adjacent neighbour (main residence)                 |
|                                         | 6        | House | Owner             | Adjacent neighbour (main residence)                 |
| Within 3km radius from subject land     | 7        | House | Owner             | Adjacent neighbour (main residence)                 |
|                                         | 8        | House | Owner             | Local landowner (main residence)                    |
|                                         | 9        | House | Owner             | Local landowner (main residence)                    |
|                                         | 10       | House | Owner             | Local landowner (does not stay on this property)    |
|                                         |          |       | Lessee            | Local tenant                                        |
|                                         | 11       | House | Owner             | Local landowner (does not stay on this property)    |
|                                         |          |       | Lessee            | Local tenant                                        |
|                                         | 12       | House | Owner             | Local landowner (main residence)                    |
|                                         | 13       | House | Owner             | Local landowner (main residence)                    |
|                                         | 14       | House | Owner             | Local landowner (main residence)                    |
|                                         | 15       | House | Owner             | Local landowner (main residence)                    |
|                                         | 16       | House | Owner             | Local landowner (main residence)                    |
|                                         | 17       | House | Owner             | Local landowner (main residence)                    |
|                                         | 18       | House | Owner             | Local landowner (main residence)                    |
|                                         | 19       | House | Owner             | Local landowner (main residence)                    |
|                                         | 20       | House | Owner             | Local landowner (main residence)                    |
|                                         | 21       | House | Owner             | Local landowner (main residence)                    |
|                                         | 22       | House | Owner             | Local landowner (main residence)                    |
|                                         | 23       | House | Owner             | Local landowner (main residence)                    |
|                                         | 24       | House | Owner             | Local landowner (does not stay on this property)    |
|                                         |          |       | Lessee            | Local tenant                                        |
|                                         | 25       | House | Owner             | Local landowner (main residence)                    |
|                                         | 26       | House | Owner             | Local landowner (does not stay on this property)    |

## 6.3 ENGAGEMENT TO DATE

To date, the engagement activities, consistent with the preliminary CSEP, that have been undertaken are provided in Table 6-3. This table also highlights key discussion points raised during the engagement, that will need to be considered as part of the EIA process.

Table 6-3 Community and stakeholder engagement to date (as part of the proposal scoping)

| I&AP group                        | Engagement activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Date               | Aspects to be considered during the EIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Community and other stakeholders  | <ul style="list-style-type: none"> <li>The neighbours identified in the 3km subject land radius area were visited on 14 March 2019 to discuss the proposal. Where neighbours weren't home the proponent left a flyer with website and contact information (Appendix C).</li> <li>Neighbours directly adjacent to the subject land raised most of the concerns about the proposal. Most other landowners/lessees within the 3km subject land radius were either supportive of the project or did not raise significant objections (other than those already raised by adjacent landowners/lessees).</li> </ul> | 14 March 2019      | <ul style="list-style-type: none"> <li>Visual impact of the solar panels (reflectivity &amp; glare).</li> <li>Noise during the construction period.</li> <li>Site access and safety – for children and animals.</li> <li>Need for dedicated land management during construction and operations, that includes landform shaping, stormwater management, pest control, fire control, etc.</li> <li>Truck movement around routes that have school bus pick-up and drop-off points. Included daily movement of animals between paddocks that are across identified truck routes.</li> <li>Loss of 'sense of place' from an agricultural perspective.</li> <li>Loss of the ability to expand personal farming areas due to the use of the subject area for a land use different to agricultural activities.</li> <li>Value of the solar farm in comparison with the economic value of an agricultural land use.</li> <li>Resultant impact on adjacent agricultural land value due to presence of the solar farm.</li> <li>Regional and local water needs (and ongoing management), especially as the proposal is located in the Murray Irrigation area.</li> <li>Potential work opportunities for some of the lessees.</li> </ul> |
|                                   | <ul style="list-style-type: none"> <li>The proponent has maintained ongoing consultation with Essential Energy since conception of the proposal.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | June 2018, ongoing | <ul style="list-style-type: none"> <li>Supportive of project.</li> <li>Confirmed transmission line and network capacity for the proposal.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Departments & consent authorities | <ul style="list-style-type: none"> <li>The proponent met with the NSW DP&amp;E in Sydney (Scoping Meeting), to:               <ul style="list-style-type: none"> <li>Introduce the proposed project to the Department;</li> <li>Discuss the assessment pathway.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                        | 7 March 2019       | <ul style="list-style-type: none"> <li>Need for consultation with Council to verify if they are supportive of such projects, as well as if they had any objections to sub-divisions of land, where required (i.e. minimum lot sizes).</li> <li>Consultation with community and other stakeholders, including those along key infrastructure routes.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| <i>I&amp;AP group</i> | <i>Engagement activities</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <i>Date</i>   | <i>Aspects to be considered during the EIA</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | <ul style="list-style-type: none"> <li>○ Discuss relevant matters to be considered in the EIA.</li> <li>○ Discuss the proposed approach to I&amp;AP engagement.</li> <li>○ Discuss how the Scoping Report should be presented.</li> </ul>                                                                                                                                                                                                                                                                                                  |               | <ul style="list-style-type: none"> <li>• Consultation with the identified energy provider to ensure capacity to utilise proposed solar energy generation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                       | <ul style="list-style-type: none"> <li>• The proponent met with the Berrigan Shire Council to introduce them to the proposed project.</li> <li>• An information flyer was also left with the Council. (An electronic copy as well as the project website details was e-mailed to representatives after the meetings).</li> <li>• Berrigan Shire Council expressed appreciation at the upfront engagement. They also indicated general support for the proposal and are prepared to consider subdivision under minimum lot size.</li> </ul> | 14 March 2019 | <ul style="list-style-type: none"> <li>• Council believes that local skills are available in the area - should the project be approved, proponent should ensure that the primary contractor is bound to hiring first from the local skills-force.</li> <li>• Also, intense construction work schedules are often not conducive to local working conditions or a rural community's needs (e.g. on:off working days - this needs to be considered as part of the work plan scheduling).</li> <li>• Need to engage with Murray Irrigation Limited (MIL) on considerations for the site's stormwater management plan - which could be different during the construction and operational stages. This should include landform design that will optimise or support surface irrigation on surrounding land.</li> <li>• Other plans that need to be considered as part of the EIS are biodiversity management (will there be a need for a vegetation buffer around the site, and has this been included in the development footprint?), dust mitigation (prevailing SW wind direction), traffic management plan (DP&amp;E may have a limit on the number of heavy vehicles permitted / day; school bus routes that need to be considered); accommodation strategy (ensuring local council areas benefit).</li> <li>• Logistics around planned future community engagement sessions – most appropriate locations, dates, times.</li> </ul> |

(It is noted that the advertising and registration for the Aboriginal Cultural Heritage Assessment process will occur concurrently with the submission period for this Scoping Report).

The comments identified will all be taken forward as part of the assessment process.

Once the proposal SEARs has been obtained and the assessment phase of the project is initiated, the further community and stakeholder engagement highlighted in Section 6.1 will be initiated.

## 7 PRELIMINARY ENVIRONMENTAL ASSESSMENT

### 7.1 METHODOLOGY

A preliminary environmental risk assessment 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 suitable mitigation, to have a significant impact on the environment.

The assessment is based on a desktop review and preliminary site inspection (involving flora and fauna surveys) to identify potential high-level constraints and major risks to the proposal. A preliminary constraints map is provided in Figure 1-1. This will be used to guide further detailed investigations and ultimately the site infrastructure layout. Constraints mapping will also be refined based on these investigations prior to submission of the EIS.

A summary of the key environmental issues is provided in Section 7.2. 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 7.3.

The following environmental risks are considered to be key aspects:

- Biodiversity.
- Aboriginal Heritage.
- Visual amenity.
- Noise.
- Land use and resources.
- Watercourses and hydrology.

## 7.2 ASSESSMENT OF KEY ENVIRONMENTAL ISSUES

### 7.2.1 Biodiversity

#### Methodology

NGH Environmental has undertaken a preliminary constraints assessment of the proposal to identify potential high-level constraints and major risks to the proposal.

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

- Threatened species and community listings under the BC Act and EPBC Act;
- Commonwealth EPBC Act Protected Matters Search Tool, using a 10 km search radius;
- Areas of outstanding biodiversity values declared under the BC Act;
- Threatened species and communities' records in the BioNet Database (OEH), using a 10 km search radius;
- Threatened species and communities' records in the IBRA Region Riverina and Murray Fans Subregion.
- Office of Environment and Heritage (OEH) Vegetation Information System (VIS) Mapping;
- NSW Government's SEED (Sharing and Enabling Environmental Data) Mapping; and
- A preliminary site inspection by an ecologist.

#### Overview

The development site has limited biodiversity constraints. The land has been extensively farmed, including cropping and grazing over a long period of time and thus comprises largely exotic vegetation.

Three dams and a limited number of paddock trees would be impacted by the proposal. Further survey of the area is a requirement of the EIS, and a full assessment of the impact to potential habitat in these areas would be conducted.

#### Database searches

The EPBC Act Protected Matters Search undertaken on 9 January 2019 indicated five listed threatened ecological communities which may or are likely to occur in the search area (Appendix A):

- Bulloke Woodlands of the Riverina and Murray-Darling Depression Bioregions
- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
- Natural Grasslands of the Murray Valley Plains
- Weeping Myall Woodlands
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland

The EPBC Act search indicated that there are 5 threatened flora species and 18 threatened fauna species known to occur or with potential to occur in the search area.

The NSW BioNet search indicated 3 threatened flora species and 18 threatened fauna records for the search area. No records of threatened species were recorded within the development site.

A preliminary Biodiversity Assessment Methodology (BAM) Calculator was run in January 2019. Species produced from this search are included below. The threatened species indicated by the searches are shown in Table 7-1.

Table 7-1 Threatened flora and fauna species indicated in the database searches.

| Species                                                            | Indicated in search? |        |
|--------------------------------------------------------------------|----------------------|--------|
|                                                                    | EPBC Act             | BC Act |
| <b>Plants</b>                                                      |                      |        |
| A spear-grass ( <i>Austrostipa metatoris</i> )                     | ✓                    | ✓      |
| A spear-grass ( <i>Austrostipa wakoolica</i> )                     | ✓                    | ✓      |
| Austral Pillwort ( <i>Pilularia novae-hollandiae</i> )             | -                    | ✓      |
| Austral Pipewort ( <i>Eriocaulon australasicum</i> )               | ✓                    | ✓      |
| Black-tailed Godwit ( <i>Limosa limosa</i> )                       | -                    | ✓      |
| Chariot Wheels ( <i>Maireana cheelii</i> )                         | ✓                    | ✓      |
| Claypan Daisy ( <i>Brachyscome muelleroides</i> )                  | ✓                    | ✓      |
| Floating Swamp Wallaby-grass ( <i>Amphibromus fluitans</i> )       | ✓                    | -      |
| Formbe Peppercress ( <i>Lepidium pseudopapillosum</i> )            | ✓                    | ✓      |
| Mueller Daisy ( <i>Brachyscome muelleroides</i> )                  | ✓                    | -      |
| Prasophyllum sp. Moama ( <i>Prasophyllum</i> sp. Moama)            | -                    | ✓      |
| <i>Pterostylis despecans</i>                                       | ✓                    | ✓      |
| Red Darling-pea ( <i>Swainsona plagiotropis</i> )                  | ✓                    | ✓      |
| Round-leafed Wilsonia ( <i>Wilsonia rotundifolia</i> )             | -                    | ✓      |
| Silky Swainson-pea ( <i>Swainsona sericea</i> )                    | -                    | ✓      |
| Slender Darling-pea ( <i>Swainsona murrayana</i> )                 | ✓                    | -      |
| Small Scurf-pea ( <i>Cullen parvum</i> )                           | -                    | ✓      |
| Turnip Copperburr ( <i>Sclerolaena napiformis</i> )                | ✓                    | -      |
| Winged Peppercress ( <i>Lepidium monoplacoides</i> )               | ✓                    | ✓      |
| Yellow Gum ( <i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i> ) | -                    | ✓      |
| <b>Frogs</b>                                                       |                      |        |
| Southern Bell Frog ( <i>Litoria raniformis</i> )                   | ✓                    | -      |
| Sloane's Froglet ( <i>Crinia sloanei</i> )                         | -                    | ✓      |
| <b>Birds (threatened)</b>                                          |                      |        |
| Australasian Bittern ( <i>Botaurus poiciloptilus</i> )             | ✓                    | -      |
| Australian Bustard ( <i>Ardeotis australis</i> )                   |                      |        |
| Australian Painted Snipe ( <i>Rostratula australis</i> )           | ✓                    | -      |
| Black-breasted Buzzard ( <i>Hamirostra melanosternon</i> )         | -                    | ✓      |
| Black-chinned Honeyeater ( <i>Melithreptus gularis gularis</i> )   | -                    | ✓      |

| Species                                                                 | Indicated in search? |        |
|-------------------------------------------------------------------------|----------------------|--------|
|                                                                         | EPBC Act             | BC Act |
| Blue-billed Duck ( <i>Oxyura australis</i> )                            | -                    | ✓      |
| Brolga ( <i>Grus rubicunda</i> )                                        | -                    | ✓      |
| Brown Treecreeper ( <i>Climacteris picumnus victoriae</i> )             | -                    | ✓      |
| Bush Stone-curlew ( <i>Burhinus grallarius</i> )                        | -                    | ✓      |
| Barking Owl ( <i>Ninox connivens</i> )                                  | -                    | ✓      |
| Curlew Sandpiper ( <i>Calidris ferruginea</i> )                         | ✓                    | -      |
| Diamond Firetail ( <i>Stagonopleura guttata</i> )                       | -                    | ✓      |
| Dusky Woodswallow ( <i>Artamus cyanopterus cyanopterus</i> )            | -                    | ✓      |
| Eastern Curlew, Far Eastern Curlew ( <i>Numenius madagascariensis</i> ) | ✓                    | -      |
| Flame Robin ( <i>Petroica phoenicea</i> )                               | -                    | ✓      |
| Freckled Duck ( <i>Stictonetta naevosa</i> )                            | -                    | ✓      |
| Gilbert's Whistler ( <i>Pachycephala inornata</i> )                     | -                    | ✓      |
| Great Knot ( <i>Calidris tenuirostris</i> )                             | ✓                    | ✓      |
| Grey Falcon ( <i>Falco hypoleucos</i> )                                 | -                    | ✓      |
| Grey-crowned Babbler ( <i>Pomatostomus temporalis temporalis</i> )      | -                    | ✓      |
| Glossy Ibis ( <i>Plegadis falcinellus</i> )                             | -                    | ✓      |
| Hooded Robin ( <i>Melanodryas cucullata cucullata</i> )                 | -                    | ✓      |
| Little Lorikeet ( <i>Glossopsitta pusilla</i> )                         | -                    | ✓      |
| Little Eagle ( <i>Hieraaetus morphnoides</i> )                          | -                    | ✓      |
| Magpie Goose ( <i>Anseranas semipalmata</i> )                           | -                    | ✓      |
| Major Mitchell's Cockatoo ( <i>Lophochroa leadbeateri</i> )             | -                    | ✓      |
| Masked Owl ( <i>Tyto novaehollandiae</i> )                              | -                    | ✓      |
| Square-tailed Kite ( <i>Lophoictinia isura</i> )                        | -                    | ✓      |
| Painted Honeyeater ( <i>Grantiella picta</i> )                          | ✓                    | -      |
| Pied Honeyeater ( <i>Certhionyx variegatus</i> )                        | -                    | ✓      |
| Plains-Wanderer ( <i>Pedionomus torquatus</i> )                         | -                    | ✓      |
| Powerful Owl ( <i>Ninox strenua</i> )                                   | -                    | ✓      |
| Purple-crowned Lorikeet ( <i>Glossopsitta porphyrocephala</i> )         | -                    | ✓      |
| Regent Honeyeater ( <i>Botaurus poiciloptilus</i> )                     | ✓                    | -      |
| Regent Parrot ( <i>Polytelis anthopeplus monarchoides</i> )             | ✓                    | ✓      |
| Scarlet Robin ( <i>Petroica boodang</i> )                               | -                    | ✓      |
| Speckled Warbler ( <i>Chthonicola sagittata</i> )                       | -                    | ✓      |
| Spotted Harrier ( <i>Circus assimilis</i> )                             | -                    | ✓      |
| Square-tailed Kite ( <i>Lophoictinia isura</i> )                        | -                    | ✓      |

| Species                                                                                          | Indicated in search? |        |
|--------------------------------------------------------------------------------------------------|----------------------|--------|
|                                                                                                  | EPBC Act             | BC Act |
| Superb Parrot ( <i>Polytelis swainsonii</i> )                                                    | ✓                    | ✓      |
| Swift Parrot ( <i>Lathamus discolor</i> )                                                        | ✓                    | ✓      |
| Turquoise Parrot ( <i>Neophema pulchella</i> )                                                   | -                    | ✓      |
| Varied Sittella ( <i>Daphoenositta chrysoptera</i> )                                             | ✓                    | -      |
| White-bellied Sea-Eagle ( <i>Haliaeetus leucogaster</i> )                                        | -                    | ✓      |
| White-fronted Chat ( <i>Epthianura albifrons</i> )                                               | -                    | ✓      |
| <b>Birds (migratory)</b>                                                                         |                      |        |
| Fork-tailed Swift ( <i>Apus pacificus</i> )                                                      | ✓                    | -      |
| White-throated Needletail ( <i>Hirundapus caudacutus</i> )                                       | ✓                    | -      |
| Yellow Wagtail ( <i>Motacilla flava</i> )                                                        | ✓                    | -      |
| Satin Flycatcher ( <i>Myiagra cyanoleuca</i> )                                                   | ✓                    | -      |
| Common Sandpiper ( <i>Actitis hypoleucos</i> )                                                   | ✓                    | -      |
| Sharp-tailed Sandpiper ( <i>Calidris acuminata</i> )                                             | ✓                    | -      |
| Curlew Sandpiper ( <i>Calidris ferruginea</i> )                                                  | ✓                    | -      |
| Pectoral Sandpiper ( <i>Calidris melanotos</i> )                                                 | ✓                    | -      |
| Latham's Snipe ( <i>Gallinago hardwickii</i> )                                                   | ✓                    | -      |
| Eastern Curlew ( <i>Numenius madagascariensis</i> )                                              | ✓                    | -      |
| Osprey ( <i>Pandion haliaetus</i> )                                                              | ✓                    | -      |
| <b>Mammals</b>                                                                                   |                      |        |
| Brush-tailed Phascogale ( <i>Phascogale tapoatafa</i> )                                          | -                    | ✓      |
| Corben's Long-eared Bat ( <i>Nyctophilus corbeni</i> )                                           | ✓                    | -      |
| Grey-headed Flying-fox ( <i>Pteropus poliocephalus</i> )                                         | ✓                    | -      |
| Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) | ✓                    | ✓      |
| Little Pied Bat ( <i>Chalinolobus picatus</i> )                                                  | -                    | ✓      |
| Southern Myotis ( <i>Myotis macropus</i> )                                                       | -                    | ✓      |
| Spotted-tailed Quoll ( <i>Dasyurus maculatus</i> )                                               | ✓                    | ✓      |
| Squirrel Glider ( <i>Petaurus norfolcensis</i> )                                                 | -                    | ✓      |
| Yellow-bellied Sheathtail-bat ( <i>Saccolaimus flaviventris</i> )                                | -                    | ✓      |
| <b>Fish</b>                                                                                      |                      |        |
| Flathead Galaxias ( <i>Galaxias rostratus</i> )                                                  | ✓                    | -      |
| Murray Hardyhead ( <i>Craterocephalus fluviatilis</i> )                                          | ✓                    | -      |
| Macquarie Perch ( <i>Macquarie Perch</i> )                                                       | ✓                    | -      |
| <b>Reptiles</b>                                                                                  |                      |        |

| Species                                                     | Indicated in search? |        |
|-------------------------------------------------------------|----------------------|--------|
|                                                             | EPBC Act             | BC Act |
| Pink-tailed Legless Lizard ( <i>Aprasia parapulchella</i> ) | ✓                    | -      |
| Striped Legless Lizard ( <i>Delma impar</i> )               | ✓                    | -      |

## Vegetation Mapping

An assessment was undertaken of existing vegetation mapping of the development site. The development site is not listed as an area of outstanding biodiversity value under the *Biodiversity Conservation Act*.

The NSW Government's SEED mapping for the locality shows exotic vegetation predominantly throughout the development site, with patches of:

- PCT 44: Riverine Plain Grasslands, Forb-rich Speargrass – Windmill Grass – White Top grassland of the Riverina Bioregion
- PCT 75: Riverine Sandhill Woodlands, Yellow Box – White Cypress Pine grassy woodland on deep sandy-loam alluvial soils of the eastern Riverina Bioregion and western NSW South Western Slopes Bioregion
- PVT 76: Floodplain Transition Woodlands, Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions
- PCT 165: Derived corkscrew grass grassland/forbland on sandplains and plains in the semi-arid (warm) climate zone
- PCT 80: Floodplain Transition Woodlands, Western Grey Box – White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion

This mapping is based on spatial modelling.

## Site inspection

Field surveys were completed over 16 and 17 January 2019. The results of the field survey are shown in Figures 7-1 to 7-3.

Most of the development site has been largely cleared of native vegetation through past agricultural practices. 13 Paddock trees occur within the development site including a mixture of Yellow Box (*Eucalyptus melliodora*), White Cypress Pine (*Callitris glaucophylla*) and Grey Box (*Eucalyptus microcarpa*). A number of stags also occur within the development site which may provide roosting and nesting habitat for fauna.

The groundcover within the development site is comprised of low condition derived grassland, which has been heavily modified and disturbed through laser levelling and cultivation. During spring the site is likely to be dominated by exotic annual grasses including barley grass (*\*Hordeum leporinum*) and Rye grass (*\*Lolium perenne*) which have regularly been cut for hay.

Areas of linear planted native vegetation occur along the southern boundary in the neighbouring property, along the western internal driveway and along Huestons Road. The planted vegetation is comprised of a mixture of Eucalypt and casurina species.

Native vegetation along Heustons Road is comprised of remnant Yellow Box - White Cypress Pine grassy woodland and derived grassland in varying conditions. Mature native plantings occur to the east of Huestons Road which have colonised the roadside.

There are 7 farm dams within the development site. The majority of these dams are devoid of any vegetation. The eastern proportion of the development site contains a network of poorly formed irrigation channels which have been laser levelled in the past. The paddocks to the east are bound by an active irrigation channel which contains native sedges and rushes (*Typha and Juncus spp.*). This channel provides habitat for aquatic fauna including amphibians and wetland birds.

The remnant vegetation throughout the development including hollow bearing trees, provide potential nesting and roosting habitat for several threatened woodland birds and mammals including the Squirrel Glider (*Petaurus norfolcensis*) and Koala (*Phascolarctos cinereus*). The planted vegetation of neighbouring properties and along Huestons Road provide connectivity through fauna movement corridors. These key habitat features, and areas of remnant vegetation would be further surveyed for fauna species during the preparation of the EIS.

### Plant Community Types and Endangered Ecological Communities

Based on existing vegetation mapping and the initial site inspection, vegetation within the development site was assigned to Plant Community Types (PCTs) in accordance with the Vegetation Information System Classification Database. PCTs were determined based on the presence of diagnostic species identified in the site survey. The results are preliminary in nature and would be refined following detailed vegetation survey of the site, and the undertaking of Floristic Plots in accordance with the Biodiversity Assessment Methodology (OEH, 2017).

PCTs identified within the development site are:

- PCT 75 – Yellow Box White Cypress Pine grassy woodland on deep sandy-loam alluvial soils. *Woodland and Derived grassland*
- PCT 76 – Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions.
- PCT182– Cumbungi rushland wetland of shallow semi-permanent water bodies and inland watercourses
- PCT 17– Lignum shrubland wetland of the semi-arid (warm) plains (mainly Riverina Bioregion and Murray Darling Depression Bioregion)

PCT 76 forms part of Threatened Ecological Community - *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Penneplain, Nandewar and Brigalow Belt South Bioregions*. This community is listed as Endangered under the BC Act.

PCT 75 forms part of the Threatened Ecological Community - *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. This community is listed as Endangered under the BC Act.

Further assessment is required to determine whether the vegetation communities form part of the critically endangered community *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* and *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia* under the EPBC Act.

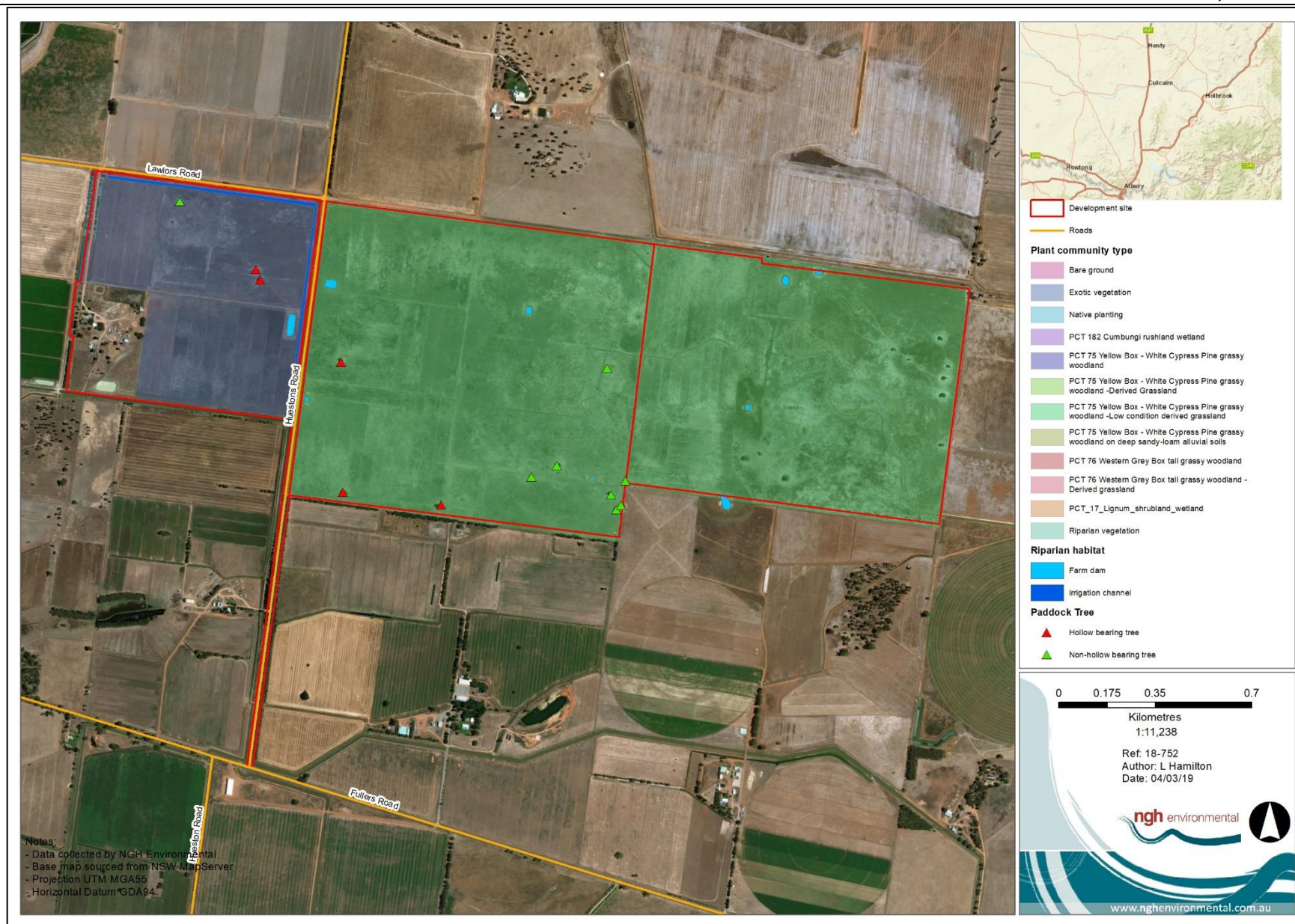


Figure 7-1 Finley South Solar Farm preliminary biodiversity survey results – overview.

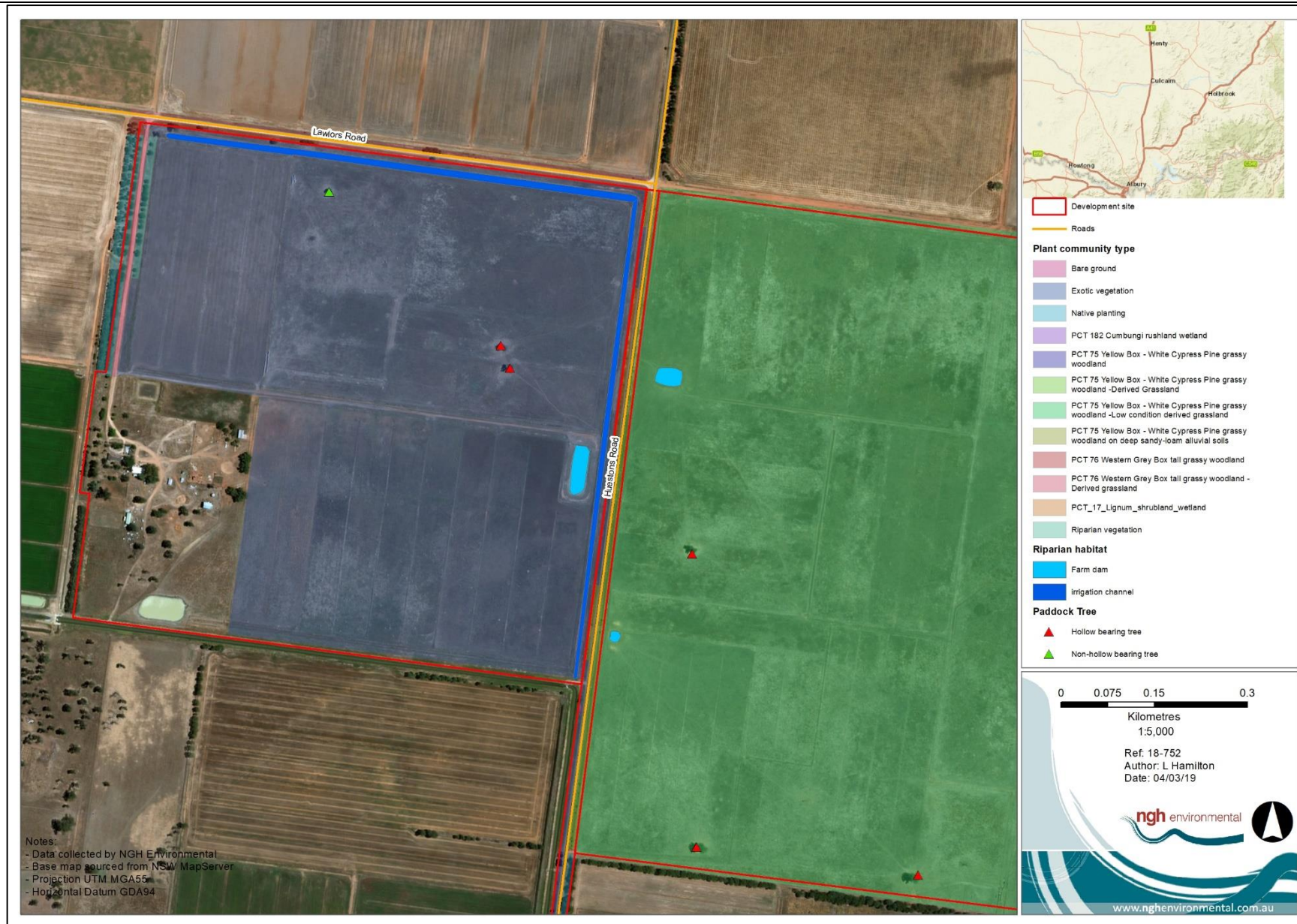


Figure 7-2 Finley South Solar Farm preliminary biodiversity survey results



Figure 7-3 Finley South Solar Farm preliminary biodiversity survey results – western section.

## Threatened Species

The proposal would be assessed through the Biodiversity Assessment Methodology (OEH 2017). Once full floristic plots have been undertaken in areas of native vegetation to be impacted, the Biodiversity Assessment Methodology Calculator would determine credit species requiring further consideration. A draft BAM Calculator was run for the results of the initial biodiversity survey results. The results are preliminary and would be refined following detailed vegetation survey of the site, and the undertaking of Floristic Plots in accordance with the Biodiversity Assessment Methodology (OEH, 2017). The results of the BAM calculations are listed in Table 7-2 Preliminary BAM calculations and are used to provide preliminary advice on species that may require further assessment during the preparation of the EIS. A habitat table for the preliminary BAM indicated species is included in Appendix A.

Table 7-2 Preliminary BAM calculations.

| Common Name               | Scientific Name                      | Survey Period        |
|---------------------------|--------------------------------------|----------------------|
| <b>Fauna</b>              |                                      |                      |
| Australian Bustard        | <i>Ardeotis australis</i>            | All year             |
| Brush-tailed Phascogale   | <i>Phascogale tapoatafa</i>          | All year             |
| Koala                     | <i>Phascolarctos cinereus</i>        | All year             |
| Major Mitchell's Cockatoo | <i>Lophochroa leadbeateri</i>        | September – December |
| Regent Honeyeater         | <i>Anthochaera phrygia</i>           | September – December |
| Sloane's Froglet          | <i>Crinia sloanei</i>                | July – August        |
| Squirrel Glider           | <i>Petaurus norfolcensis</i>         | All year             |
| Superb Parrot             | <i>Polytelis swainsonii</i>          | September – November |
| Swift Parrot              | <i>Lathamus discolor</i>             | May – August         |
| White-bellied Sea-Eagle   | <i>Haliaeetus morphnoides</i>        | July – December      |
| <b>Flora</b>              |                                      |                      |
| A Spear-grass             | <i>Austrostipa wakoolica</i>         | September – December |
| Chariot Wheels            | <i>Maireana cheelii</i>              | September – February |
| Claypan Daisy             | <i>Brachyscome muelleroides</i>      | September – November |
| Red Darling-pea           | <i>Swainsona plagiotropis</i>        | August – September   |
| Silky Swainson-pea        | <i>Swainsona sericea</i>             | September – February |
| Slender Darling-pea       | <i>Swainsona murrayana</i>           | September – February |
| Small Scurf-pea           | <i>Cullen parvum</i>                 | December – February  |
| -                         | <i>Prasophyllum</i> sp. <i>Moama</i> | September            |

| Common Name              | Scientific Name               | Survey Period       |
|--------------------------|-------------------------------|---------------------|
| -                        | <i>Pterostylis despectans</i> | October – December  |
| <b>Turnip Copperburr</b> | <i>Sclerolaena napiformis</i> | November – February |

## Potential Impacts

The following impacts upon biodiversity have been considered as having potential to occur during the construction and operation of the proposal:

- Clearing, removal and disturbance of vegetation, in particular paddock trees;
- Clearing of limited habitat (including disturbance of foraging habitat, sheltering and breeding habitat);
- Loss of connectivity and nesting sites;
- Introduction and spread of invasive species and weeds;
- Increased risk of competition with regenerating native plants;
- Disturbance or displacement of fauna;
- Microclimate impacts due to shading, water availability, temperature etc.; and
- Movement barrier and collision hazard by perimeter fencing.

## Further assessment

A full floristic plot survey is required to determine the floristic composition, condition and EEC status of native vegetation at the proposal site. Fauna survey and habitat assessment is also required to determine the potential for the presence of threatened fauna species and habitat features such as tree hollows. These surveys and assessments would be undertaken as part of the EIS, under the BAM. This would include the calculation of any biodiversity offset required for the project.

### 7.2.2 Aboriginal heritage

A search of the Aboriginal Heritage Information Management System (AHIMS) on 11 February 2019 identified 30 Aboriginal sites and no Aboriginal places within 20 km of the proposal site (Appendix A), with none recorded on-site. The closest are three scarred trees located between 3.1 and 3.6 km to the south of the development site, and one scarred tree 5 km to the south west.

Landforms, vegetation and soils over much of the proposal site have been heavily disturbed by paddock levelling, cultivation, track formation and clearing for agriculture. The potential for Aboriginal heritage sites of significance to occur within or in close proximity to the subject land is considered low. Conversely, unmodified areas with remnant woodlands exist within the site and are likely to have a higher potential for significance. It is noted that field assessment is required to confirm this and that any Aboriginal heritage sites/items/etc. identified would be a moderate to high constraint, requiring impact mitigation.

## Aboriginal consultation

Consultation with Aboriginal stakeholders would be undertaken in accordance with clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents provided by OEH.

A brief summary of the consultation process includes:

1. Registration and initial consultation and registration of Aboriginal community members.
2. Review of survey methodology by Registered Aboriginal Parties (RAPs).

3. Completion of field work and reporting.
4. Review of report by RAPs.
5. Report finalisation.

### **Potential impacts**

The following impacts upon Aboriginal heritage have been considered as having potential to occur during the construction of the proposal:

- Uncovering an unexpected or unidentified Aboriginal heritage item.

### **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 (OEH 2011).

#### **7.2.3 Visual amenity and landscape character**

The proposal has potential to result in visual impacts to neighbouring houses and road users adjacent to the site. The site is located within a rural area with large lot agricultural production and sparsely distributed residences usually located some distance from main roads. There are approximately 24 potentially sensitive receivers within 3 km of the subject land (see Figure 2-7). The flat terrain and intermittent tree cover limits long range views in the locality.

An assessment of the level of visual disturbance would be undertaken as part of the EIS. The EIS would also consider the potential for the solar farm to affect local landscape character. Additional consultation with specific affected residences would be undertaken to identify the nature and significance of impacts and the need for mitigation measures. The level terrain improves the potential effectiveness of vegetation plantings as screening around the site.

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 and are not considered likely to result in glare or reflections that would affect traffic or nearby receivers.

### **Further assessment**

A visual impact assessment including photo montages and community consultation would be prepared as part of the EIS to investigate visual impacts and mitigation options.

#### **7.2.4 Noise**

There are approximately 26 potentially sensitive receivers within 3 km of the development site (Figure 2-7). Noise impacts, for the most part, only occur during construction (generated by construction vehicles and machinery), with minimal noise likely to be generated during operation. The proponent would adopt best practice mitigation measures during construction, such as standard work hours and regular vehicle and machinery maintenance to reduce the risk of adverse noise impacts.

During the operation of the solar farm, low level noise would be potentially produced by the solar tracking system, the substation and switchgear and any maintenance works undertaken at the site. Noise impacts during operation of the solar farm are expected to be very low.

## **Further assessment**

A construction and operational noise assessment would be undertaken as part of the EIS to assess potential noise impacts. The assessment would be undertaken in accordance with the Interim Construction Noise Guideline (DECC 2009) and NSW Noise Policy for Industry (NSW EPA 2017).

### **7.2.5 Land use and resources**

The rural land within the region is used primarily for agriculture including cropping and grazing. The development area comprises several large paddocks which have been deep ripped, laser levelled and largely cleared for pastures and grazing. Land and agricultural activities like those of the development site are widespread in the region. There is no evidence of horticulture or other intense farming activities within the development site.

The Mining, Petroleum, Production and Extractive Industries State Environmental Planning Policy 2007 (the Mining SEPP) does not extend to the proposal. The land is not assessed as BSAL or CIC in the Mining SEPP Strategic Agricultural Land Map. BSAL has been described as land with high quality soil and water resources capable of sustaining high levels of productivity, while CIC are concentrations of highly productive industries within a region that are related to each other, contribute to the identity of that region, and provide significant employment opportunities.

The land is classified as Class 3 and Class 6 under the Land and Soil Capability Assessment Scheme (OEH 2012), which are high capability land with moderate limitations for high impact land uses, and low capability land with very high limitations for high impact land uses respectively. The land is used for a range of crops and pastures.

There are no mineral titles and no mineral applications relevant to the development site indicated in the Minview database (DPE 2017). This was confirmed by a letter from the NSW Division of Resources and Geoscience, stating there are no current mineral, coal or petroleum titles over the site or adjacent lands (Appendix A0).

For the construction period, there would be a complete reduction in agricultural activities within the development footprint. During the operational phase, not all agricultural activities would be precluded, and it is highly likely that limited production such as occasional grazing could continue. As such, it can be expected that the nature of the agricultural activities would change from cropping and grazing to predominately grazing within the development site. This would be further explored in the EIS.

The solar farm would be decommissioned at the end of its operational life, removing all above and below-ground infrastructure. It is expected that the land would be returned to its prior production uses, as solar farms typically do not have significant permanent impacts to soil and landform.

Overall, the adverse impacts related to alienation of resources are expected to be low and restricted only to the period of operation.

## **Further assessment**

The impact on agricultural production in the locality and region would be assessed in detail in the EIS.

### **7.2.6 Watercourses and Hydrology**

The proposal is located approximately 13.5 km north of the Murray River. There is one watercourse that runs through the development site, Mulwala No. 12 Channel, and two that border the development site, the minor Box Creek Escape Channel to the north and the major Mulwala Canal to the east. These channels are artificially constructed and have minimal aquatic habitat. There are 7 farm dams within the development site.

None of the 7 farm dams across the proposal site are large and contain only poor quality aquatic habitat. Some or all of these dams are proposed to be removed, which would result in the loss of some aquatic habitat.

Water demand for the proposal would be relatively small, as construction of the solar farm is not water intensive. Stock will potentially be watered from retained dams and/or artificial water sources.

Low potential for terrestrial Groundwater Dependant Ecosystems (GDE) is shown in small areas north and east of the subject land (Figure 7-4). No areas of aquatic or subterranean GDEs are mapped in the proposal area. As such, there is a low potential for groundwater to be encountered during excavations and earthwork for the construction. This is likely to be highly localised and no inception of groundwater is considered.

The development site is not identified as flood prone land under the Berrigan Shire LEP.

### **Potential Impacts**

Impacts upon watercourses and hydrology that are considered as having the potential to occur during the construction of the proposal include:

- Removal of suitable aquatic habitat by filling in dams for threatened species.
- Accidental release of hydrocarbons by inappropriate storage, use and disposal of chemicals.
- Domestic waste, effluent and putrescibles causing contamination.
- Erosion of soil and sedimentation through stormwater runoff.
- Dewatering sediment laden water from excavations.

### **Further assessment**

The EIS would assess the impacts to waterways during construction and operation and include appropriate mitigation measures as required.

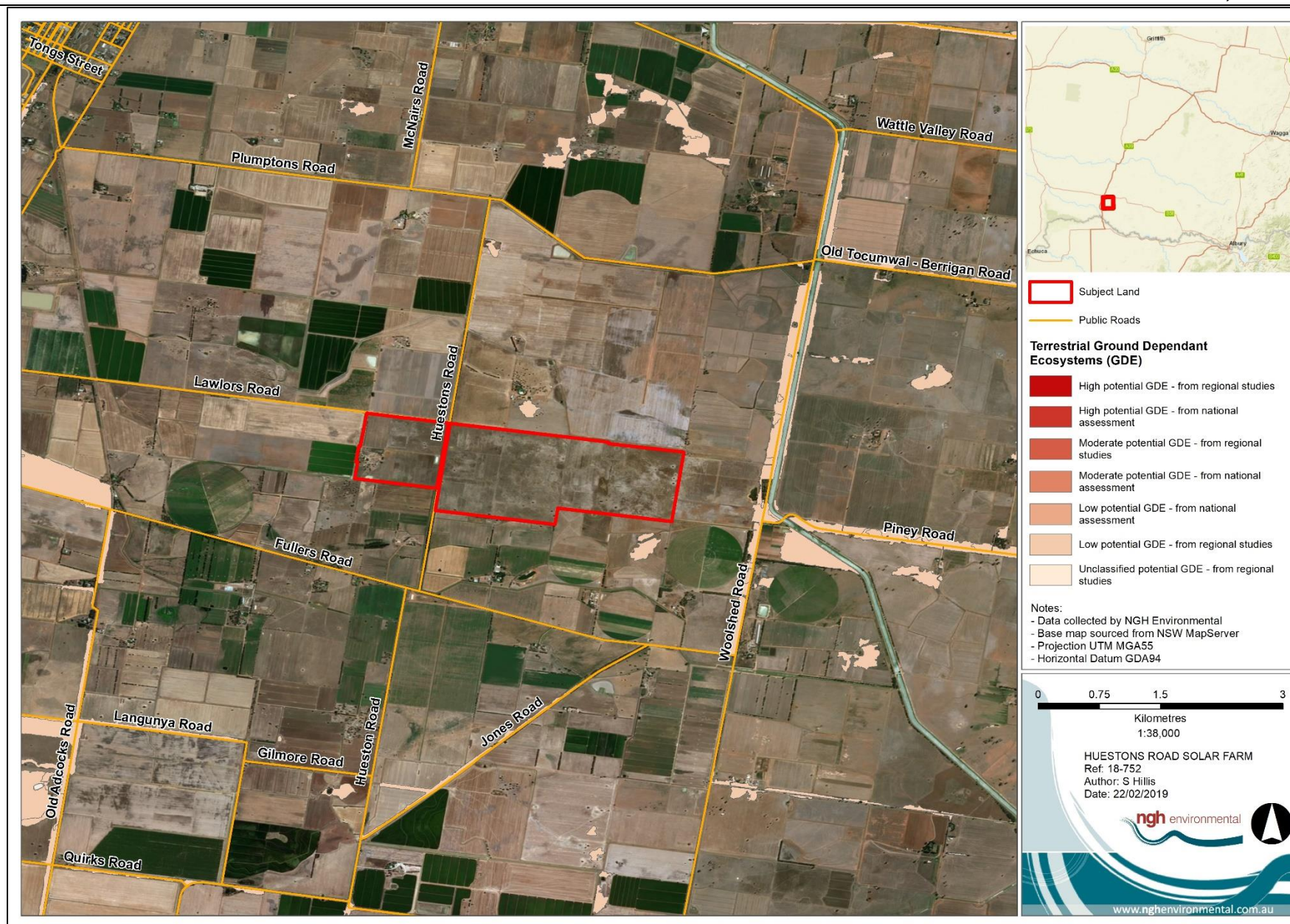


Figure 7-4 Groundwater Dependant Ecosystems – terrestrial.

### **7.3 OTHER ENVIRONMENTAL ISSUES**

There are a range of potential environmental issues associated with the proposal which are not considered to be key issues. These 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 7-3. The impacts and any required mitigation relating to these issues would be addressed at an appropriate level of detail in the EIS.

Table 7-3 Other environmental issues.

| Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Potential impacts                                                                                                                                                          | Management and mitigation                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Soils</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           |
| <p>CSIRO's ASRIS database shows that the development site is dominated by chromosols. Sodosols are soils with a strong texture contrast between A horizons and B horizons. The latter are not strongly acid and are not sodic. There are also areas of rudosols. Rudosols are soils with negligible (negligible) pedologic organisation apart from (a) minimal development of an A1 horizon or (b) the presence of less than 10% of B horizon material (including pedogenic carbonate) in fissures in the parent rock or saprolite. The soils are apedal or only weakly structured in the A1 horizon and show no pedological colour changes apart from the darkening of an A1 horizon.</p> <p>The nearest eSpade soils profiles (OEH, 2019) are on the south-western side of the township of Finley, around 6 km north-west of the proposal area. The first records sandy clay loam on light clay with low slope (1%). Surface condition is expected to be hard set when dry, and no salting is evident.</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 provide all weather access at the site during construction and operation 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, runoff and potential for erosion and proposed mitigation measures during construction and operation.</p> |
| <b>Historic heritage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           |
| <p>A search of the NSW Heritage Register on 7 February 2019 for the Berrigan LGA identified no records under the NPW Act, 5 items under the NSW Heritage Act, and 22 items listed under the Berrigan Shire LEP and by state agencies. A search of the Australian Heritage Database identified 9 records in the Berrigan Shire LGA (Appendix A).</p> <p>The closest listed heritage items are in the township of Finley, including St Joseph's School, St Mary's Church, Pioneer Railway Station, Police Station, Library, and Log Cabin Museum, which are all at least 5.75 km north-west of the proposal.</p>                                                                                                                                                                                                                                                                                                                                                                                               | <p>There is considered to be a low risk of impact to heritage items.</p>                                                                                                   | <p>The heritage status of the site would be assessed during fieldwork undertaken as part of the archaeological assessment. Appropriate management measures would be implemented if required.</p>                                                                                                                                                                          |
| <b>Access and traffic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                           |
| <p>The RMS NSW Combined Higher Mass Limits and Restricted Access Vehicle Map (RMS 2018) indicates that Woolshed Road east of the development site and the Newell Highway are approved heavy vehicle access routes (25/26 m B-double routes as a maximum) (Appendix A). However, Berrigan Shire Council advised that</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Construction traffic could impact traffic along Huestons Road, Fullers Road, the Newell Highway, and the surrounding road network. Maintenance access tracks during</p> | <p>Construction traffic impacts would be considered in the EIS. Consultation would be undertaken with the local council and local residents regarding</p>                                                                                                                                                                                                                 |

| Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Potential impacts                                                                                                                                                                                                                                  | Management and mitigation                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>their preferred approach was upgrading Fullers Road and Huestons Road to provide the major access and transport/haulage route from the Newell Highway to the west. The major transport route is subject to further assessment, specialist input and consultation with Berrigan Shire council.</p> <p>New site accesses will be constructed off Huestons Road, with proposed emergency and maintenance only access from Lawlors Road. Access design and location is indicative only, subject to further assessment and specialist input. Internal access tracks would be constructed as part of the works.</p> | <p>operation would also be required across the development site.</p> <p>During construction, there may be impacts to residences along the access route associated with dust, vibration and noise.</p>                                              | <p>the works that may affect roads or traffic.</p> <p>The design would also consider any requirements from the Roads and Maritime Services (RMS), local council and other relevant stakeholders on access arrangements to the proposal site.</p> <p>The mitigation measures would require a Traffic Management Plan to be prepared.</p> |
| <b>Contamination</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                         |
| <p>The EPA contaminated land register identified no contaminated sites within the Berrigan Shire LGA (Appendix A).</p> <p>Contamination associated with agricultural activities (e.g. pesticides, petrochemicals) or asbestos construction or insulation materials may still be present on the site.</p>                                                                                                                                                                                                                                                                                                         | <p>There is potential that contaminants may be uncovered during excavation activities at the site.</p>                                                                                                                                             | <p>Risks associated with contamination at the site are considered low and therefore no detailed investigation is likely to be required within the EIS.</p> <p>The mitigation measures would require a CEMP to be prepared to manage any contamination identified during site construction.</p>                                          |
| <b>Air quality</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                         |
| <p>The air quality in the study area is expected to be good and typical of rural settings in NSW with low population density and few industrial pollution sources. Existing sources of air pollution are expected to include vehicle emissions, dust from agricultural practices and smoke from seasonal stubble burning. During colder months, solid fuel heating may result in a localised reduction in air quality, particularly if temperature inversions operate overnight.</p>                                                                                                                             | <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 would be negligible.</p> | <p>The mitigation measures would require a CEMP to be prepared to manage air quality impacts during the construction phase. There is an opportunity to improve local air quality by maintaining ground cover vegetation under the panels.</p>                                                                                           |
| <b>Hazard and risk – electric and magnetic fields (EMF)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                         |

| Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Potential impacts                                                                                                                                                                                                                                                                                                                                                                            | Management and mitigation                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Existing powerlines produce EMF at the site. Additional infrastructure which forms part of the proposal such as connecting powerlines and substation would produce additional electromagnetic emissions at the site.                                                                                                                                                                                                                                                                                                                                                                                                    | The substation and network connection would be located on the proposal site. The powerlines constructed as part of the proposal would not pass through any neighbouring properties. The EMF that would be generated by the proposed powerlines and substation 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 powerlines and substation would be assessed as part of the EIS.                                       |
| <b>Hazard and risk - bushfire</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                      |
| The development site has been predominantly cleared for agriculture. None of the development site have been identified as bushfire prone land on NSW Rural Fire Service mapping.                                                                                                                                                                                                                                                                                                                                                                                                                                        | The proposal is unlikely to be affected by bushfire or pose a significant bushfire risk.                                                                                                                                                                                                                                                                                                     | Bushfire impacts and risk would be assessed in the EIS. Risk of fire from proposed infrastructure will also be addressed in the EIS. |
| <b>Social and economic impacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                      |
| <p>The proposal is located within Berrigan Shire LGA. In 2017, Berrigan Shire LGA had a population of 8,664. The main industry of employment in 2016 was agriculture, forestry and fishing.</p> <p>Workforce accommodation would be required for around 200 staff members during peak construction periods. A large majority of these would already reside locally. For visiting workers, accommodation can be sought from Finley or other towns within a 100 km radius, including Deniliquin and Jerilderie. Options to provide temporary accommodation buildings have been discussed with Berrigan Shire Council.</p> | The proposal would reduce the availability of agricultural land but would generate economic benefits during construction and operation, including local employment opportunities. Other socio-economic impacts would include traffic and access, noise, air quality and visual impacts.                                                                                                      | The EIS would assess potential social and economic impacts of the proposal.                                                          |
| <b>Utilities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                      |
| <b>Electricity network</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | The proposed works would involve works adjacent to these utilities. The solar farm will                                                                                                                                                                                                                                                                                                      | The EIS would assess the proposal against the setback and approval requirements of Essential Energy. The                             |

| Existing environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Potential impacts                                                                                                                                                                                                                                                                                                                                                                                    | Management and mitigation                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Essential Energy manages and operates the high voltage electricity transmission network in NSW. Essential Energy has restrictions on development within powerline easements.</p> <p>Essential Energy guidelines state that activities and encroachments are prohibited within a transmission line easement, including 'the installation of fixed plant or equipment', and 'the placing of obstructions within 20 metres of any part of a transmission line structure or supporting guy wire'. Roads or tracks within 10 metres of the centre-line of a transmission line 132 kV are prohibited although roads that cross the transmission line as a thoroughfare may be permitted.</p>                      | <p>need to connect to the Essential Energy electricity network.</p>                                                                                                                                                                                                                                                                                                                                  | <p>solar farm would be designed to comply with required setback, approval and consultation requirements of Essential Energy.</p>                                                                                            |
| Waste management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |
| <p>The proposal would generate several waste streams and utilise a variety of materials during the construction phase.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>During construction, excavated material and green waste would be generated as waste. Packaging from panels and other components would require disposal. Limited operational waste would be associated with the proposal.</p>                                                                                                                                                                      | <p>A Waste Management Plan would be incorporated into the CEMP, applying the principles to avoid, re-use and recycle to minimise wastes. Cleared trees would be recycled as fauna habitat where possible.</p>               |
| Cumulative impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |
| <p>The proposed development would contribute to overall infrastructure development in the region.</p> <p>A review of the State Significant Development register for Berrigan LGA and surrounding LGAs of Murray River, Federation, Murrumbidgee and Edward River (bordering LGAs) was conducted on 11 February 2019. Six major solar farm developments have been submitted: Finley (Berrigan), Limondale (Murray River), Mulwala (Federation), Coleambally (Murrumbidgee), Tarleigh Park and Currawarra (Edward River). A number of other State Significant Developments have been applied for in the surrounding LGAs, but only a bridge replacement between Barooga and Cobram is in Berrigan Shire LGA.</p> | <p>During construction and operation, key cumulative impacts may include additional stress on the grid, community complaints such as visual amenity impacts, stress on local business for supply and demand (in particular staff accommodation), noise impacts, air quality, waste management, traffic, etc. Cumulative impacts of renewable energy projects occupying viable agricultural land.</p> | <p>Early consultation with the community regarding cumulative impacts should be conducted. Further assessment/investigation of cumulative impacts will be required, and the EIS would assess potential impact and risk.</p> |

## 8 CONCLUSION

The Preliminary Environmental Assessment has outlined the proposed Finley South Solar Farm and established the environmental and planning context of the proposal. 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.

The report has been prepared to assist the development of the SEARs for the proposal, which will guide the preparation of the EIS.

The report identifies the following key environmental issues associated with the proposal, based on the preliminary investigations:

- Biodiversity.
- Aboriginal Heritage.
- Visual amenity.
- Noise.
- Land use and resources.
- Watercourses and hydrology.

These issues will be assessed in detail in the EIS. It is likely that other issues such as soil values, traffic impacts and natural hazards can be readily addressed by appropriate standard mitigation and management measures. The relevance and importance of issues would be reviewed throughout the EIS process.

## 9 REFERENCES

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## APPENDIX A BACKGROUND SEARCHES

### Summary

#### Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

|                                                           |      |
|-----------------------------------------------------------|------|
| <a href="#">World Heritage Properties:</a>                | None |
| <a href="#">National Heritage Places:</a>                 | None |
| <a href="#">Wetlands of International Importance:</a>     | 7    |
| <a href="#">Great Barrier Reef Marine Park:</a>           | None |
| <a href="#">Commonwealth Marine Area:</a>                 | None |
| <a href="#">Listed Threatened Ecological Communities:</a> | 5    |
| <a href="#">Listed Threatened Species:</a>                | 23   |
| <a href="#">Listed Migratory Species:</a>                 | 11   |

#### Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

|                                                    |      |
|----------------------------------------------------|------|
| <a href="#">Commonwealth Land:</a>                 | 2    |
| <a href="#">Commonwealth Heritage Places:</a>      | None |
| <a href="#">Listed Marine Species:</a>             | 18   |
| <a href="#">Whales and Other Cetaceans:</a>        | None |
| <a href="#">Critical Habitats:</a>                 | None |
| <a href="#">Commonwealth Reserves Terrestrial:</a> | None |
| <a href="#">Australian Marine Parks:</a>           | None |

#### Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

|                                                  |      |
|--------------------------------------------------|------|
| <a href="#">State and Territory Reserves:</a>    | None |
| <a href="#">Regional Forest Agreements:</a>      | None |
| <a href="#">Invasive Species:</a>                | 31   |
| <a href="#">Nationally Important Wetlands:</a>   | None |
| <a href="#">Key Ecological Features (Marine)</a> | None |



**AHIMS Web Services (AWS)**  
Extensive search - Site list report

Your Ref/PO Number : 18-752 Finley SF ACHA  
Client Service ID : 397962

| SiteID    | SiteName              | Datum | Zone | Easting | Northing | Context   | Site Status | SiteFeatures                          | SiteTypes      | Reports |
|-----------|-----------------------|-------|------|---------|----------|-----------|-------------|---------------------------------------|----------------|---------|
| 55-4-0206 | LCST                  | AGD   | 55   | 369700  | 6039700  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0204 | Logie Brae 2          | AGD   | 55   | 383600  | 6059550  | Open site | Valid       | Artefact : -                          | Isolated Find  |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0200 | Murray 1              | AGD   | 55   | 365595  | 6035910  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0201 | Walkers Lagoon        | AGD   | 55   | 366125  | 6036730  | Open site | Valid       | Artefact : -                          | Open Camp Site |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0202 | Chinamans 1           | AGD   | 55   | 367185  | 6043170  | Open site | Valid       | Artefact : -                          | Open Camp Site |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0203 | Chinamans 2           | AGD   | 55   | 366875  | 6041725  | Open site | Valid       | Artefact : -                          | Isolated Find  |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0199 | LALALTY 1             | AGD   | 55   | 381710  | 6037500  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0198 | Walkers Lagoon        | AGD   | 55   | 366060  | 6036730  | Open site | Valid       | Artefact : -                          | Open Camp Site |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 54-6-0036 | Pinelea 1             | AGD   | 55   | 362700  | 6045700  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   | 3656    |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0181 | Site 1 Newell Highway | AGD   | 55   | 372500  | 6059450  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0182 | Finley ST 2;          | AGD   | 55   | 374590  | 6062580  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |
| 55-4-0183 | Finley 3;             | AGD   | 55   | 374600  | 6062600  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree   |         |
|           | <u>Contact</u>        |       |      |         |          |           |             | <u>Permits</u>                        |                |         |



**AHIMS Web Services (AWS)**  
Extensive search - Site list report

Your Ref/PO Number : 18-752 Finley SF ACHA  
Client Service ID : 397962

| SiteID    | SiteName                                | Datum | Zone | Easting | Northing | Context   | Site Status | SiteFeatures                          | SiteTypes    | Reports |
|-----------|-----------------------------------------|-------|------|---------|----------|-----------|-------------|---------------------------------------|--------------|---------|
| 55-4-0184 | Finley ST 4;                            | AGD   | 55   | 374730  | 6062950  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree |         |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 54-6-0046 | Tuppai Creek 1;                         | AGD   | 55   | 362300  | 6045500  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree |         |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 55-4-0193 | Lagunyah 2                              | AGD   | 55   | 376300  | 6045100  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree | 3656    |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 55-4-0194 | Lagunyah 3                              | AGD   | 55   | 376300  | 6045100  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree | 3656    |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 54-6-0006 | North Tuppai/Woperana Station Tocumwal; | AGD   | 55   | 359309  | 6043079  | Open site | Valid       | Earth Mound : -,<br>Hearth : -        | Mound (Oven) | 884     |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 54-6-0007 | North Tuppai/Woperana Station Tocumwal; | AGD   | 55   | 359309  | 6043079  | Open site | Valid       | Earth Mound : -,<br>Hearth : -        | Mound (Oven) | 884     |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 54-6-0008 | North Tuppai/Woperana Station Tocumwal; | AGD   | 55   | 359309  | 6043079  | Open site | Valid       | Earth Mound : -,<br>Hearth : -        | Mound (Oven) | 884     |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 54-6-0009 | North Tuppai/Woperana Station Tocumwal; | AGD   | 55   | 360223  | 6043088  | Open site | Valid       | Earth Mound : -,<br>Hearth : -        | Mound (Oven) | 884     |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 55-4-0195 | Lagunyah 1                              | AGD   | 55   | 370300  | 6045100  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree | 3656    |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 55-4-0196 | Pinelea 3                               | AGD   | 55   | 375600  | 6044900  | Open site | Valid       | Modified Tree (Carved or Scarred) : - | Scarred Tree | 3656    |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |
| 55-4-0250 | Sawmill TSR Toc 1                       | GDA   | 55   | 369178  | 6036443  | Open site | Valid       | Modified Tree (Carved or Scarred) : - |              |         |
|           | <u>Contact</u>                          |       |      |         |          |           |             | <u>Permits</u>                        |              |         |



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& Heritage

# AHIMS Web Services (AWS) Extensive search - Site list report

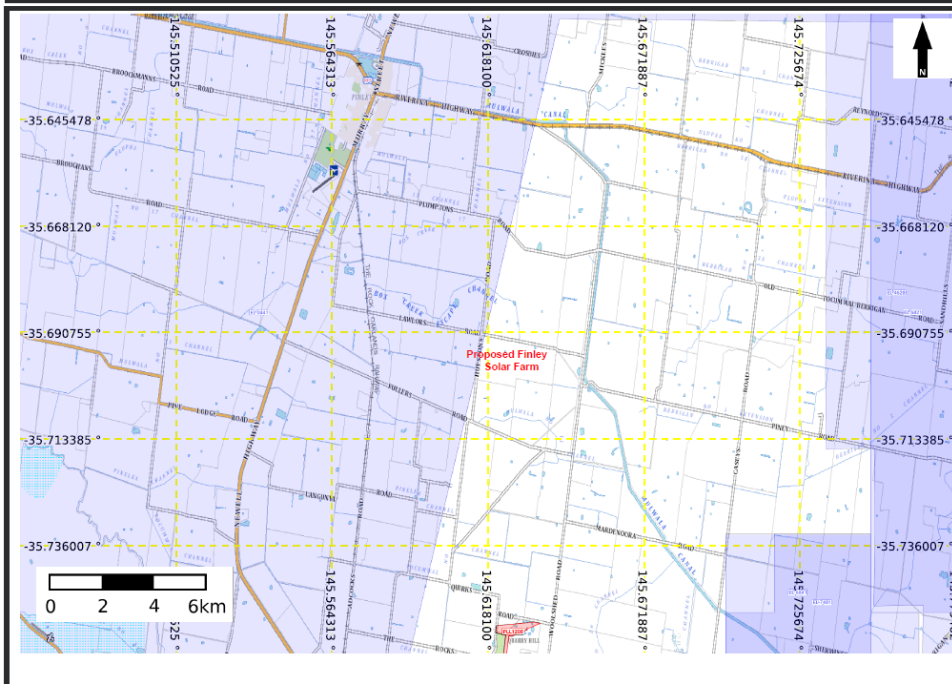
Your Ref/PO Number : 18-752 Finley SF ACHA

Client Service ID : 397962

| SiteID    | SiteName                                      | Datum            | Zone | Easting | Northing | Context   | Site Status | SiteFeatures                           | SiteTypes | Reports |
|-----------|-----------------------------------------------|------------------|------|---------|----------|-----------|-------------|----------------------------------------|-----------|---------|
| 55-4-0251 | Sawmill TSR Toc 2                             | GDA              | 55   | 369181  | 6036388  | Open site | Valid       | Modified Tree<br>(Carved or Scarred) : |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
| 55-4-0252 | Sawmill TSR Toc 3                             | GDA              | 55   | 369353  | 6035941  | Open site | Valid       | Modified Tree<br>(Carved or Scarred) : |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
| 55-4-0253 | Sawmill TSR Toc 4                             | GDA              | 55   | 369374  | 6035878  | Open site | Valid       | Modified Tree<br>(Carved or Scarred) : |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
| 55-4-0254 | Sawmill TSR Toc 5                             | GDA              | 55   | 369300  | 6035900  | Open site | Valid       | Modified Tree<br>(Carved or Scarred) : |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
| 55-4-0255 | Sawmill TSR Toc 6                             | GDA              | 55   | 369274  | 6035963  | Open site | Valid       | Modified Tree<br>(Carved or Scarred) : |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
| 55-4-0256 | Sawmill TSR Toc 7                             | GDA              | 55   | 369153  | 6036069  | Open site | Valid       | Modified Tree<br>(Carved or Scarred) : |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
| 55-4-0262 | Water Tower Burial, Hennessy Street, Tocumwal | GDA              | 55   | 371575  | 6035867  | Open site | Valid       | Burial : -                             |           |         |
|           | <u>Contact</u>                                |                  |      |         |          |           |             | <u>Permits</u>                         |           |         |
|           |                                               | <u>Recorders</u> |      |         |          |           |             |                                        |           |         |
|           |                                               | <u>Recorders</u> |      |         |          |           |             |                                        |           |         |

## Finley Solar Farm

### MinView Search



Legend:

No Legend  
Available



Planning &  
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Feb 13, 2019 8:27 AM

|                                                                                                                                                                                                                                                                                                                                                        |                          |                                                                                                  |                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>  <div>           Australian Government<br/>Department of the Environment and Energy         </div> </div> <div>           You are here: <a href="#">Environment home</a> &gt; <a href="#">Heritage</a> &gt; <a href="#">Australian Heritage Database</a> </div> |                          |                                                                                                  | <div>  <div>           Heritage<br/>Australian Heritage Database         </div> </div> |
| <b>Search Results</b>                                                                                                                                                                                                                                                                                                                                  |                          |                                                                                                  | <a href="#">new search</a> <a href="#">edit search</a>                                                                                                                    |
| 9 results found.                                                                                                                                                                                                                                                                                                                                       |                          |                                                                                                  |                                                                                                                                                                           |
| <a href="#">ANZ Bank (former)</a> 48-50 Chanter St                                                                                                                                                                                                                                                                                                     | Berrigan, NSW, Australia | <a href="#">(Registered)</a><br>Register of the National Estate<br>(Non-statutory archive)       |                                                                                                                                                                           |
| <a href="#">Grave and Tree</a> Tuppal Rd                                                                                                                                                                                                                                                                                                               | Tocumwal, NSW, Australia | <a href="#">(Indicative Place)</a><br>Register of the National Estate<br>(Non-statutory archive) |                                                                                                                                                                           |
| <a href="#">Murray River Trout Cod Habitat</a>                                                                                                                                                                                                                                                                                                         | Mulwala, NSW, Australia  | <a href="#">(Indicative Place)</a><br>Register of the National Estate<br>(Non-statutory archive) |                                                                                                                                                                           |
| <a href="#">RSL Federation Museum</a> 60-70 Jerilderie St                                                                                                                                                                                                                                                                                              | Berrigan, NSW, Australia | <a href="#">(Indicative Place)</a><br>Register of the National Estate<br>(Non-statutory archive) |                                                                                                                                                                           |
| <a href="#">Sportavia Soaring Centre</a> Burma Rd                                                                                                                                                                                                                                                                                                      | Tocumwal, NSW, Australia | <a href="#">(Indicative Place)</a><br>Register of the National Estate<br>(Non-statutory archive) |                                                                                                                                                                           |
| <a href="#">Tocumwal Bridge</a> Newell Hwy                                                                                                                                                                                                                                                                                                             | Tocumwal, NSW, Australia | <a href="#">(Registered)</a><br>Register of the National Estate<br>(Non-statutory archive)       |                                                                                                                                                                           |
| <a href="#">Tocumwal Courthouse</a> Denilquin St                                                                                                                                                                                                                                                                                                       | Tocumwal, NSW, Australia | <a href="#">(Registered)</a><br>Register of the National Estate<br>(Non-statutory archive)       |                                                                                                                                                                           |
| <a href="#">Tocumwal Hangars</a> McCullochs Rd                                                                                                                                                                                                                                                                                                         | Tocumwal, NSW, Australia | <a href="#">(Indicative Place)</a><br>Register of the National Estate<br>(Non-statutory archive) |                                                                                                                                                                           |
| <a href="#">Tocumwal Railway Station</a> Denilquin Rd                                                                                                                                                                                                                                                                                                  | Tocumwal, NSW, Australia | <a href="#">(Indicative Place)</a><br>Register of the National Estate<br>(Non-statutory archive) |                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                        |                          |                                                                                                  | Report Produced: Thu Feb 7 14:06:05 2019                                                                                                                                  |

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Home > Topics > Animals and plants > Search for threatened species > Find by region and habitat

## Combined geographic and habitat search

Use the form below to submit a search

|              |                                                |                                  |                                                                                                      |
|--------------|------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------|
| IBRA         | <input type="text" value="Murray Fans"/>       | <input type="button" value="v"/> | <i>Choose an Interim<br/>Biogeographic<br/>Regionalisation of Australia<br/>region or sub-region</i> |
| Habitat Type | <input type="text" value="All habitat types"/> | <input type="button" value="v"/> | <i>Search by habitat type.</i>                                                                       |
| Species Type | <input type="text" value="All species types"/> | <input type="button" value="v"/> | <i>You can search by all<br/>species or by a particular<br/>species.</i>                             |
|              |                                                |                                  | <input type="button" value="Search"/>                                                                |

Matching records: 480

[Save to CSV](#)

*Click on column headers to sort*

| IBRA Subregion | Scientific name                                                                                   | Common name                                                                                       | NSW status                      | C'wth status          | Occurrence | Vegetation class                |
|----------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------|-----------------------|------------|---------------------------------|
| Murray Fans    | <i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions        | <i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions        | Endangered Ecological Community |                       | Known      | Sand Plain Mallee Woodlands     |
| Murray Fans    | <i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions        | <i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions        | Endangered Ecological Community |                       | Known      | Semi-arid Sand Plain Woodlands  |
| Murray Fans    | <i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions        | <i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions        | Endangered Ecological Community |                       | Known      | Riverine Sandhill Woodlands     |
| Murray Fans    | <i>Allocasuarina luehmannii</i> Woodland in the Riverina and Murray-Darling Depression Bioregions | <i>Allocasuarina luehmannii</i> Woodland in the Riverina and Murray-Darling Depression Bioregions | Endangered Ecological Community | Endangered            | Known      | Riverine Sandhill Woodlands     |
| Murray Fans    | <i>Amphibromus fluitans</i>                                                                       | Floating Swamp Wallaby-grass                                                                      | Vulnerable                      | Vulnerable            | Known      | Inland Riverine Forests         |
| Murray Fans    | <i>Amphibromus fluitans</i>                                                                       | Floating Swamp Wallaby-grass                                                                      | Vulnerable                      | Vulnerable            | Known      | Inland Floodplain Swamps        |
| Murray Fans    | <i>Amphibromus fluitans</i>                                                                       | Floating Swamp Wallaby-grass                                                                      | Vulnerable                      | Vulnerable            | Known      | Inland Floodplain Shrublands    |
| Murray Fans    | <i>Anseranas semipalmata</i>                                                                      | Magpie Goose                                                                                      | Vulnerable                      |                       | Known      | Inland Riverine Forests         |
| Murray Fans    | <i>Anseranas semipalmata</i>                                                                      | Magpie Goose                                                                                      | Vulnerable                      |                       | Known      | Inland Floodplain Woodlands     |
| Murray Fans    | <i>Anseranas semipalmata</i>                                                                      | Magpie Goose                                                                                      | Vulnerable                      |                       | Known      | Riverine Chenopod Shrublands    |
| Murray Fans    | <i>Anseranas semipalmata</i>                                                                      | Magpie Goose                                                                                      | Vulnerable                      |                       | Known      | Inland Floodplain Swamps        |
| Murray Fans    | <i>Anseranas semipalmata</i>                                                                      | Magpie Goose                                                                                      | Vulnerable                      |                       | Known      | Riverine Plain Grasslands       |
| Murray Fans    | <i>Anseranas semipalmata</i>                                                                      | Magpie Goose                                                                                      | Vulnerable                      |                       | Known      | Inland Floodplain Shrublands    |
| Murray Fans    | <i>Anthochaera phrygia</i>                                                                        | Regent Honeyeater                                                                                 | Critically Endangered           | Critically Endangered | Known      | Western Slopes Grassy Woodlands |
| Murray Fans    | <i>Anthochaera phrygia</i>                                                                        | Regent Honeyeater                                                                                 | Critically Endangered           | Critically Endangered | Known      | Inland Riverine Forests         |
| Murray Fans    | <i>Anthochaera phrygia</i>                                                                        | Regent Honeyeater                                                                                 | Critically Endangered           | Critically Endangered | Known      | Floodplain Transition Woodlands |
| Murray Fans    | <i>Anthochaera phrygia</i>                                                                        | Regent Honeyeater                                                                                 | Critically Endangered           | Critically Endangered | Known      | Riverine Sandhill Woodlands     |
| Murray Fans    | <i>Ardeotis australis</i>                                                                         | Australian Bustard                                                                                | Endangered                      |                       | Known      | Western Slopes Grassy Woodlands |
| Murray Fans    | <i>Ardeotis australis</i>                                                                         | Australian Bustard                                                                                | Endangered                      |                       | Known      | Inland Riverine Forests         |

|             |                                        |                    |            |            |                                 |                                 |
|-------------|----------------------------------------|--------------------|------------|------------|---------------------------------|---------------------------------|
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Inland Floodplain Swamps        |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Riverine Plain Grasslands       |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Semi-arid Sand Plain Woodlands  |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Riverine Chenopod Shrublands    |                                 |
| Murray Fans | <i>Ardeotis australis</i>              | Australian Bustard | Endangered | Known      | Aeolian Chenopod Shrublands     |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Riverine Chenopod Shrublands    |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Aeolian Chenopod Shrublands     |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Dune Mallee Woodlands           |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Inland Floodplain Swamps        |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Semi-arid Sand Plain Woodlands  |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Riverine Plain Grasslands       |                                 |
| Murray Fans | <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow  | Vulnerable | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Austrostipa metatoris</i>           | A spear-grass      | Vulnerable | Vulnerable | Known                           | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Austrostipa metatoris</i>           | A spear-grass      | Vulnerable | Vulnerable | Known                           | Inland Riverine Forests         |

|             |                                 |                      |            |                       |           |                                 |
|-------------|---------------------------------|----------------------|------------|-----------------------|-----------|---------------------------------|
| Murray Fans | <i>Austrostipa metatoris</i>    | A spear-grass        | Vulnerable | Vulnerable            | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Austrostipa metatoris</i>    | A spear-grass        | Vulnerable | Vulnerable            | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Austrostipa metatoris</i>    | A spear-grass        | Vulnerable | Vulnerable            | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Austrostipa metatoris</i>    | A spear-grass        | Vulnerable | Vulnerable            | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Austrostipa wakoolica</i>    | A spear-grass        | Endangered | Endangered            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Austrostipa wakoolica</i>    | A spear-grass        | Endangered | Endangered            | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Austrostipa wakoolica</i>    | A spear-grass        | Endangered | Endangered            | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Austrostipa wakoolica</i>    | A spear-grass        | Endangered | Endangered            | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Austrostipa wakoolica</i>    | A spear-grass        | Endangered | Endangered            | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Austrostipa wakoolica</i>    | A spear-grass        | Endangered | Endangered            | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Botaurus poiciloptilus</i>   | Australasian Bittern | Endangered | Endangered            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Botaurus poiciloptilus</i>   | Australasian Bittern | Endangered | Endangered            | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Botaurus poiciloptilus</i>   | Australasian Bittern | Endangered | Endangered            | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Botaurus poiciloptilus</i>   | Australasian Bittern | Endangered | Endangered            | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Brachyscome muelleroides</i> | Claypan Daisy        | Vulnerable | Vulnerable            | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Brachyscome muelleroides</i> | Claypan Daisy        | Vulnerable | Vulnerable            | Predicted | Riverine Plain Grasslands       |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Burhinus grallarius</i>      | Bush Stone-curlew    | Endangered |                       | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Calidris ferruginea</i>      | Curlew Sandpiper     | Endangered | Critically Endangered | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Calidris ferruginea</i>      | Curlew Sandpiper     | Endangered | Critically Endangered | Known     | Inland Floodplain Shrublands    |

|             |                               |                        |            |                       |           |                                 |
|-------------|-------------------------------|------------------------|------------|-----------------------|-----------|---------------------------------|
| Murray Fans | <i>Calidris tenuirostris</i>  | Great Knot             | Vulnerable | Critically Endangered | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Callitriche cyclocarpa</i> | Western Water-starwort | Not listed |                       | Predicted | Inland Riverine Forests         |
| Murray Fans | <i>Callitriche cyclocarpa</i> | Western Water-starwort | Not listed |                       | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Certhionyx variegatus</i>  | Pied Honeyeater        | Vulnerable |                       | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Chalinolobus picatus</i>   | Little Pied Bat        | Vulnerable |                       | Known     | Inland Floodplain Shrublands    |

|             |                                       |                                        |            |       |                                 |
|-------------|---------------------------------------|----------------------------------------|------------|-------|---------------------------------|
| Murray Fans | <i>Chthonicola sagittata</i>          | Speckled Warbler                       | Vulnerable | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Chthonicola sagittata</i>          | Speckled Warbler                       | Vulnerable | Known | Inland Riverine Forests         |
| Murray Fans | <i>Chthonicola sagittata</i>          | Speckled Warbler                       | Vulnerable | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Chthonicola sagittata</i>          | Speckled Warbler                       | Vulnerable | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Chthonicola sagittata</i>          | Speckled Warbler                       | Vulnerable | Known | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Chthonicola sagittata</i>          | Speckled Warbler                       | Vulnerable | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Inland Riverine Forests         |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Dune Mallee Woodlands           |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Inland Floodplain Swamps        |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Riverine Plain Woodlands        |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Circus assimilis</i>               | Spotted Harrier                        | Vulnerable | Known | Inland Floodplain Shrublands    |
| Murray Fans | <i>Climacteris picumnus victoriae</i> | Brown Treecreeper (eastern subspecies) | Vulnerable | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Climacteris picumnus victoriae</i> | Brown Treecreeper (eastern subspecies) | Vulnerable | Known | Inland Riverine Forests         |
| Murray Fans | <i>Climacteris picumnus victoriae</i> | Brown Treecreeper (eastern subspecies) | Vulnerable | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Crinia sloanei</i>                 | Sloane's Froglet                       | Vulnerable | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Crinia sloanei</i>                 | Sloane's Froglet                       | Vulnerable | Known | Inland Riverine Forests         |
| Murray Fans | <i>Crinia sloanei</i>                 | Sloane's Froglet                       | Vulnerable | Known | Inland Floodplain Swamps        |
| Murray Fans | <i>Crinia sloanei</i>                 | Sloane's Froglet                       | Vulnerable | Known | Floodplain Transition Woodlands |

|             |                                  |                      |            |            |           |                                 |
|-------------|----------------------------------|----------------------|------------|------------|-----------|---------------------------------|
| Murray Fans | <i>Cullen parvum</i>             | Small Scurf-pea      | Endangered |            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Cullen parvum</i>             | Small Scurf-pea      | Endangered |            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Cullen parvum</i>             | Small Scurf-pea      | Endangered |            | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Cullen parvum</i>             | Small Scurf-pea      | Endangered |            | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Daphoenositta chrysoptera</i> | Varied Sittella      | Vulnerable |            | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Dasyurus maculatus</i>        | Spotted-tailed Quoll | Vulnerable | Endangered | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Dasyurus maculatus</i>        | Spotted-tailed Quoll | Vulnerable | Endangered | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Dasyurus maculatus</i>        | Spotted-tailed Quoll | Vulnerable | Endangered | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Dasyurus maculatus</i>        | Spotted-tailed Quoll | Vulnerable | Endangered | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Dasyurus maculatus</i>        | Spotted-tailed Quoll | Vulnerable | Endangered | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Epthianura albifrons</i>      | White-fronted Chat   | Vulnerable |            | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Epthianura albifrons</i>      | White-fronted Chat   | Vulnerable |            | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Epthianura albifrons</i>      | White-fronted Chat   | Vulnerable |            | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Epthianura albifrons</i>      | White-fronted Chat   | Vulnerable |            | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Epthianura albifrons</i>      | White-fronted Chat   | Vulnerable |            | Known     | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Eriocaulon australasicum</i>  | Austral Pipewort     | Endangered | Endangered | Predicted | Inland Floodplain Swamps        |

|             |                                              |                         |            |           |                                 |
|-------------|----------------------------------------------|-------------------------|------------|-----------|---------------------------------|
| Murray Fans | <i>Eucalyptus leucoxylon subsp. pruinosa</i> | Yellow Gum              | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Eucalyptus leucoxylon subsp. pruinosa</i> | Yellow Gum              | Vulnerable | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Eucalyptus leucoxylon subsp. pruinosa</i> | Yellow Gum              | Vulnerable | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Eucalyptus leucoxylon subsp. pruinosa</i> | Yellow Gum              | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Inland Riverine Forests         |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Inland Floodplain Woodlands     |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Dune Mallee Woodlands           |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Floodplain Transition Woodlands |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Riverine Plain Woodlands        |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Riverine Plain Grasslands       |
| Murray Fans | <i>Falco hypoleucos</i>                      | Grey Falcon             | Endangered | Predicted | Inland Floodplain Shrublands    |
| Murray Fans | <i>Glossopsitta porphyrocephala</i>          | Purple-crowned Lorikeet | Vulnerable | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Glossopsitta porphyrocephala</i>          | Purple-crowned Lorikeet | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Glossopsitta porphyrocephala</i>          | Purple-crowned Lorikeet | Vulnerable | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Glossopsitta porphyrocephala</i>          | Purple-crowned Lorikeet | Vulnerable | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Glossopsitta porphyrocephala</i>          | Purple-crowned Lorikeet | Vulnerable | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Glossopsitta porphyrocephala</i>          | Purple-crowned Lorikeet | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Glossopsitta pusilla</i>                  | Little Lorikeet         | Vulnerable | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Glossopsitta pusilla</i>                  | Little Lorikeet         | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Glossopsitta pusilla</i>                  | Little Lorikeet         | Vulnerable | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Glossopsitta pusilla</i>                  | Little Lorikeet         | Vulnerable | Known     | Riverine Sandhill Woodlands     |

|             |                               |                         |            |            |                                 |                                 |
|-------------|-------------------------------|-------------------------|------------|------------|---------------------------------|---------------------------------|
| Murray Fans | <i>Goodenia macbarronii</i>   | Narrow Goodenia         | Not listed | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Goodenia macbarronii</i>   | Narrow Goodenia         | Not listed | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Goodenia macbarronii</i>   | Narrow Goodenia         | Not listed | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Goodenia macbarronii</i>   | Narrow Goodenia         | Not listed | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Goodenia macbarronii</i>   | Narrow Goodenia         | Not listed | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Goodenia macbarronii</i>   | Narrow Goodenia         | Not listed | Known      | Riverine Plain Grasslands       |                                 |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Inland Riverine Forests         |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Inland Floodplain Woodlands     |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Floodplain Transition Woodlands |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Grantiella picta</i>       | Painted Honeyeater      | Vulnerable | Vulnerable | Known                           | Riverine Plain Woodlands        |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Riverine Chenopod Shrublands    |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Aeolian Chenopod Shrublands     |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Inland Floodplain Swamps        |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Riverine Plain Grasslands       |                                 |
| Murray Fans | <i>Grus rubicunda</i>         | Brolga                  | Vulnerable | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Haliaeetus leucogaster</i> | White-bellied Sea-Eagle | Vulnerable | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Haliaeetus leucogaster</i> | White-bellied Sea-Eagle | Vulnerable | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Haliaeetus leucogaster</i> | White-bellied Sea-Eagle | Vulnerable | Known      | Inland Floodplain Woodlands     |                                 |

|             |                                 |                         |            |           |                                 |
|-------------|---------------------------------|-------------------------|------------|-----------|---------------------------------|
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Haliaeetus leucogaster</i>   | White-bellied Sea-Eagle | Vulnerable | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Inland Riverine Forests         |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Inland Floodplain Woodlands     |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Floodplain Transition Woodlands |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Riverine Plain Grasslands       |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Inland Floodplain Shrublands    |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Hamirostra melanosternon</i> | Black-breasted Buzzard  | Vulnerable | Predicted | Dune Mallee Woodlands           |
| Murray Fans | <i>Hieraaetus morphnoides</i>   | Little Eagle            | Vulnerable | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Hieraaetus morphnoides</i>   | Little Eagle            | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Hieraaetus morphnoides</i>   | Little Eagle            | Vulnerable | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Hieraaetus morphnoides</i>   | Little Eagle            | Vulnerable | Known     | Inland Floodplain Swamps        |

|             |                                                                                                                 |                                                                                                                 |                                 |                       |                                 |                                 |
|-------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Riverine Plain Grasslands       |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Semi-arid Sand Plain Woodlands  |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Riverine Chenopod Shrublands    |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Aeolian Chenopod Shrublands     |                                 |
| Murray Fans | <i>Hieraaetus morphnoides</i>                                                                                   | Little Eagle                                                                                                    | Vulnerable                      | Known                 | Dune Mallee Woodlands           |                                 |
| Murray Fans | Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Nandewar and Brigalow Belt South Bioregions | Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Nandewar and Brigalow Belt South Bioregions | Endangered Ecological Community | Endangered            | Known                           | Floodplain Transition Woodlands |
| Murray Fans | <i>Lathamus discolor</i>                                                                                        | Swift Parrot                                                                                                    | Endangered                      | Critically Endangered | Known                           | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Lathamus discolor</i>                                                                                        | Swift Parrot                                                                                                    | Endangered                      | Critically Endangered | Known                           | Inland Riverine Forests         |
| Murray Fans | <i>Lathamus discolor</i>                                                                                        | Swift Parrot                                                                                                    | Endangered                      | Critically Endangered | Known                           | Inland Floodplain Woodlands     |
| Murray Fans | <i>Lathamus discolor</i>                                                                                        | Swift Parrot                                                                                                    | Endangered                      | Critically Endangered | Known                           | Floodplain Transition Woodlands |
| Murray Fans | <i>Lathamus discolor</i>                                                                                        | Swift Parrot                                                                                                    | Endangered                      | Critically Endangered | Known                           | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Lepidium monoplacoides</i>                                                                                   | Winged Peppergrass                                                                                              | Endangered                      | Endangered            | Known                           | Inland Floodplain Woodlands     |
| Murray Fans | <i>Lepidium monoplacoides</i>                                                                                   | Winged Peppergrass                                                                                              | Endangered                      | Endangered            | Known                           | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Lepidium monoplacoides</i>                                                                                   | Winged Peppergrass                                                                                              | Endangered                      | Endangered            | Known                           | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Lepidium monoplacoides</i>                                                                                   | Winged Peppergrass                                                                                              | Endangered                      | Endangered            | Known                           | Inland Floodplain Swamps        |
| Murray Fans | <i>Lepidium monoplacoides</i>                                                                                   | Winged Peppergrass                                                                                              | Endangered                      | Endangered            | Known                           | Floodplain Transition Woodlands |
| Murray Fans | <i>Lepidium monoplacoides</i>                                                                                   | Winged Peppergrass                                                                                              | Endangered                      | Endangered            | Known                           | Sand Plain Mallee Woodlands     |

|             |                                  |                           |            |            |           |                                 |
|-------------|----------------------------------|---------------------------|------------|------------|-----------|---------------------------------|
| Murray Fans | <i>Lepidium monoplacoides</i>    | Winged Peppergrass        | Endangered | Endangered | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Lepidium monoplacoides</i>    | Winged Peppergrass        | Endangered | Endangered | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Lepidium monoplacoides</i>    | Winged Peppergrass        | Endangered | Endangered | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Lepidium pseudopapillosum</i> | Formbe Peppergrass        | Endangered | Vulnerable | Predicted | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Limosa limosa</i>             | Black-tailed Godwit       | Vulnerable |            | Predicted | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Limosa limosa</i>             | Black-tailed Godwit       | Vulnerable |            | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Limosa limosa</i>             | Black-tailed Godwit       | Vulnerable |            | Predicted | Inland Floodplain Shrublands    |
| Murray Fans | <i>Litoria raniformis</i>        | Southern Bell Frog        | Endangered | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Litoria raniformis</i>        | Southern Bell Frog        | Endangered | Vulnerable | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Litoria raniformis</i>        | Southern Bell Frog        | Endangered | Vulnerable | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Litoria raniformis</i>        | Southern Bell Frog        | Endangered | Vulnerable | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Lophochroa leadbeateri</i>    | Major Mitchell's Cockatoo | Vulnerable |            | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Lophoictinia isura</i>        | Square-tailed Kite        | Vulnerable |            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Lophoictinia isura</i>        | Square-tailed Kite        | Vulnerable |            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Lophoictinia isura</i>        | Square-tailed Kite        | Vulnerable |            | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Lophoictinia isura</i>        | Square-tailed Kite        | Vulnerable |            | Known     | Riverine Chenopod Shrublands    |

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|-------------|----------------------------------------|-----------------------------------|---------------------|------------|---------------------------------|---------------------------------|
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Aeolian Chenopod Shrublands     |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Inland Floodplain Swamps        |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Semi-arid Sand Plain Woodlands  |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Riverine Plain Grasslands       |                                 |
| Murray Fans | <i>Lophoictinia isura</i>              | Square-tailed Kite                | Vulnerable          | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Maireana cheelii</i>                | Chariot Wheels                    | Vulnerable          | Vulnerable | Known                           | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Maireana cheelii</i>                | Chariot Wheels                    | Vulnerable          | Vulnerable | Known                           | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Maireana cheelii</i>                | Chariot Wheels                    | Vulnerable          | Vulnerable | Known                           | Riverine Plain Woodlands        |
| Murray Fans | <i>Maireana cheelii</i>                | Chariot Wheels                    | Vulnerable          | Vulnerable | Known                           | Riverine Plain Grasslands       |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Semi-arid Sand Plain Woodlands  |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Dune Mallee Woodlands           |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Melanodryas cucullata cucullata</i> | Hooded Robin (south-eastern form) | Vulnerable          | Known      | Riverine Chenopod Shrublands    |                                 |
| Murray Fans | <i>Melithreptus gularis gularis</i>    | Black-chinned subspecies)         | Honeyeater (eastern | Vulnerable | Known                           | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Melithreptus gularis gularis</i>    | Black-chinned subspecies)         | Honeyeater (eastern | Vulnerable | Known                           | Inland Riverine Forests         |

|             |                                                                                                                                                                  |                                                                                                                                                                  |                                 |            |                                 |                                 |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------|---------------------------------|---------------------------------|
| Murray Fans | <i>Melithreptus gularis gularis</i>                                                                                                                              | Black-chinned subspecies)                                                                                                                                        | Honeyeater (eastern             | Vulnerable | Known                           | Inland Floodplain Woodlands     |
| Murray Fans | <i>Melithreptus gularis gularis</i>                                                                                                                              | Black-chinned subspecies)                                                                                                                                        | Honeyeater (eastern             | Vulnerable | Known                           | Floodplain Transition Woodlands |
| Murray Fans | <i>Melithreptus gularis gularis</i>                                                                                                                              | Black-chinned subspecies)                                                                                                                                        | Honeyeater (eastern             | Vulnerable | Known                           | Riverine Sandhill Woodlands     |
| Murray Fans | Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions | Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions | Endangered Ecological Community | Endangered | Known                           | Riverine Chenopod Shrublands    |
| Murray Fans | Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions | Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions | Endangered Ecological Community | Endangered | Known                           | Riverine Plain Woodlands        |
| Murray Fans | <i>Myotis macropus</i>                                                                                                                                           | Southern Myotis                                                                                                                                                  | Vulnerable                      | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Myotis macropus</i>                                                                                                                                           | Southern Myotis                                                                                                                                                  | Vulnerable                      | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Myotis macropus</i>                                                                                                                                           | Southern Myotis                                                                                                                                                  | Vulnerable                      | Known      | Inland Floodplain Swamps        |                                 |
| Murray Fans | <i>Myotis macropus</i>                                                                                                                                           | Southern Myotis                                                                                                                                                  | Vulnerable                      | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Myotis macropus</i>                                                                                                                                           | Southern Myotis                                                                                                                                                  | Vulnerable                      | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Neophema pulchella</i>                                                                                                                                        | Turquoise Parrot                                                                                                                                                 | Vulnerable                      | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Neophema pulchella</i>                                                                                                                                        | Turquoise Parrot                                                                                                                                                 | Vulnerable                      | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Neophema pulchella</i>                                                                                                                                        | Turquoise Parrot                                                                                                                                                 | Vulnerable                      | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Neophema pulchella</i>                                                                                                                                        | Turquoise Parrot                                                                                                                                                 | Vulnerable                      | Known      | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Neophema pulchella</i>                                                                                                                                        | Turquoise Parrot                                                                                                                                                 | Vulnerable                      | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Ninox connivens</i>                                                                                                                                           | Barking Owl                                                                                                                                                      | Vulnerable                      | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Ninox connivens</i>                                                                                                                                           | Barking Owl                                                                                                                                                      | Vulnerable                      | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Ninox connivens</i>                                                                                                                                           | Barking Owl                                                                                                                                                      | Vulnerable                      | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Ninox connivens</i>                                                                                                                                           | Barking Owl                                                                                                                                                      | Vulnerable                      | Known      | Inland Floodplain Swamps        |                                 |

|             |                              |                         |            |            |                                 |                                 |
|-------------|------------------------------|-------------------------|------------|------------|---------------------------------|---------------------------------|
| Murray Fans | <i>Ninox connivens</i>       | Barking Owl             | Vulnerable | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Ninox connivens</i>       | Barking Owl             | Vulnerable | Known      | Riverine Sandhill Woodlands     |                                 |
| Murray Fans | <i>Ninox connivens</i>       | Barking Owl             | Vulnerable | Known      | Riverine Plain Woodlands        |                                 |
| Murray Fans | <i>Ninox connivens</i>       | Barking Owl             | Vulnerable | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Ninox strenua</i>         | Powerful Owl            | Vulnerable | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Ninox strenua</i>         | Powerful Owl            | Vulnerable | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Inland Riverine Forests         |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Floodplain Transition Woodlands |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Inland Floodplain Shrublands    |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Riverine Plain Woodlands        |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Dune Mallee Woodlands           |
| Murray Fans | <i>Nyctophilus corbeni</i>   | Corben's Long-eared Bat | Vulnerable | Vulnerable | Predicted                       | Inland Floodplain Woodlands     |
| Murray Fans | <i>Oxyura australis</i>      | Blue-billed Duck        | Vulnerable | Known      | Inland Floodplain Swamps        |                                 |
| Murray Fans | <i>Oxyura australis</i>      | Blue-billed Duck        | Vulnerable | Known      | Inland Floodplain Shrublands    |                                 |
| Murray Fans | <i>Oxyura australis</i>      | Blue-billed Duck        | Vulnerable | Known      | Aeolian Chenopod Shrublands     |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Western Slopes Grassy Woodlands |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Inland Riverine Forests         |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Inland Floodplain Woodlands     |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Dune Mallee Woodlands           |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Floodplain Transition Woodlands |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Sand Plain Mallee Woodlands     |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Semi-arid Sand Plain Woodlands  |                                 |
| Murray Fans | <i>Pachycephala inornata</i> | Gilbert's Whistler      | Vulnerable | Known      | Riverine Sandhill Woodlands     |                                 |

|             |                               |                         |            |                       |       |                                 |
|-------------|-------------------------------|-------------------------|------------|-----------------------|-------|---------------------------------|
| Murray Fans | <i>Pachycephala inornata</i>  | Gilbert's Whistler      | Vulnerable |                       | Known | Inland Floodplain Shrublands    |
| Murray Fans | <i>Pedionomus torquatus</i>   | Plains-wanderer         | Endangered | Critically Endangered | Known | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Pedionomus torquatus</i>   | Plains-wanderer         | Endangered | Critically Endangered | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Petaurus norfolcensis</i>  | Squirrel Glider         | Vulnerable |                       | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Petaurus norfolcensis</i>  | Squirrel Glider         | Vulnerable |                       | Known | Inland Riverine Forests         |
| Murray Fans | <i>Petaurus norfolcensis</i>  | Squirrel Glider         | Vulnerable |                       | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Petaurus norfolcensis</i>  | Squirrel Glider         | Vulnerable |                       | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Petaurus norfolcensis</i>  | Squirrel Glider         | Vulnerable |                       | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Petroica boodang</i>       | Scarlet Robin           | Vulnerable |                       | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Petroica boodang</i>       | Scarlet Robin           | Vulnerable |                       | Known | Inland Riverine Forests         |
| Murray Fans | <i>Petroica boodang</i>       | Scarlet Robin           | Vulnerable |                       | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Petroica boodang</i>       | Scarlet Robin           | Vulnerable |                       | Known | Riverine Plain Woodlands        |
| Murray Fans | <i>Petroica boodang</i>       | Scarlet Robin           | Vulnerable |                       | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Petroica phoenicea</i>     | Flame Robin             | Vulnerable |                       | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Petroica phoenicea</i>     | Flame Robin             | Vulnerable |                       | Known | Inland Riverine Forests         |
| Murray Fans | <i>Petroica phoenicea</i>     | Flame Robin             | Vulnerable |                       | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Phascogale tapoatafa</i>   | Brush-tailed Phascogale | Vulnerable |                       | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Phascogale tapoatafa</i>   | Brush-tailed Phascogale | Vulnerable |                       | Known | Inland Riverine Forests         |
| Murray Fans | <i>Phascogale tapoatafa</i>   | Brush-tailed Phascogale | Vulnerable |                       | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Inland Riverine Forests         |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Riverine Plain Woodlands        |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Phascolarctos cinereus</i> | Koala                   | Vulnerable | Vulnerable            | Known | Semi-arid Sand Plain Woodlands  |

|             |                                           |                                           |            |            |           |                                 |
|-------------|-------------------------------------------|-------------------------------------------|------------|------------|-----------|---------------------------------|
| Murray Fans | <i>Phascolarctos cinereus</i>             | Koala                                     | Vulnerable | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Pilularia novae-hollandiae</i>         | Austral Pillwort                          | Endangered |            | Predicted | Inland Riverine Forests         |
| Murray Fans | <i>Pilularia novae-hollandiae</i>         | Austral Pillwort                          | Endangered |            | Predicted | Inland Floodplain Woodlands     |
| Murray Fans | <i>Pilularia novae-hollandiae</i>         | Austral Pillwort                          | Endangered |            | Predicted | Inland Floodplain Swamps        |
| Murray Fans | <i>Pilularia novae-hollandiae</i>         | Austral Pillwort                          | Endangered |            | Predicted | Floodplain Transition Woodlands |
| Murray Fans | <i>Pilularia novae-hollandiae</i>         | Austral Pillwort                          | Endangered |            | Predicted | Riverine Plain Woodlands        |
| Murray Fans | <i>Pilularia novae-hollandiae</i>         | Austral Pillwort                          | Endangered |            | Predicted | Riverine Plain Grasslands       |
| Murray Fans | <i>Polytelis anthopeplus monarchoides</i> | Regent Parrot (eastern subspecies)        | Endangered | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Polytelis anthopeplus monarchoides</i> | Regent Parrot (eastern subspecies)        | Endangered | Vulnerable | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Polytelis anthopeplus monarchoides</i> | Regent Parrot (eastern subspecies)        | Endangered | Vulnerable | Known     | Dune Mallee Woodlands           |
| Murray Fans | <i>Polytelis anthopeplus monarchoides</i> | Regent Parrot (eastern subspecies)        | Endangered | Vulnerable | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Polytelis anthopeplus monarchoides</i> | Regent Parrot (eastern subspecies)        | Endangered | Vulnerable | Known     | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Polytelis anthopeplus monarchoides</i> | Regent Parrot (eastern subspecies)        | Endangered | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Polytelis swainsonii</i>               | Superb Parrot                             | Vulnerable | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable |            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable |            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable |            | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable |            | Known     | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable |            | Known     | Floodplain Transition Woodlands |

|             |                                           |                                           |                       |            |       |                                 |
|-------------|-------------------------------------------|-------------------------------------------|-----------------------|------------|-------|---------------------------------|
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable            |            | Known | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable            |            | Known | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable            |            | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable            |            | Known | Riverine Plain Woodlands        |
| Murray Fans | <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | Vulnerable            |            | Known | Inland Floodplain Shrublands    |
| Murray Fans | <i>Prasophyllum sp. Moama</i>             | Prasophyllum sp. Moama                    | Critically Endangered |            | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Pterostylis despectans</i>             | Pterostylis despectans                    | Critically Endangered | Endangered | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Pterostylis despectans</i>             | Pterostylis despectans                    | Critically Endangered | Endangered | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Pterostylis despectans</i>             | Pterostylis despectans                    | Critically Endangered | Endangered | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Rostratula australis</i>               | Australian Painted Snipe                  | Endangered            | Endangered | Known | Inland Riverine Forests         |
| Murray Fans | <i>Rostratula australis</i>               | Australian Painted Snipe                  | Endangered            | Endangered | Known | Inland Floodplain Swamps        |
| Murray Fans | <i>Rostratula australis</i>               | Australian Painted Snipe                  | Endangered            | Endangered | Known | Inland Floodplain Shrublands    |
| Murray Fans | <i>Rostratula australis</i>               | Australian Painted Snipe                  | Endangered            | Endangered | Known | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Rostratula australis</i>               | Australian Painted Snipe                  | Endangered            | Endangered | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Inland Riverine Forests         |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Inland Floodplain Swamps        |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Saccolaimus flaviventris</i>           | Yellow-bellied Sheath-tail-bat            | Vulnerable            |            | Known | Riverine Plain Woodlands        |

|             |                                                                                                           |                                                                                                           |                                 |            |       |                                 |
|-------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------|------------|-------|---------------------------------|
| Murray Fans | <i>Saccolaimus flaviventris</i>                                                                           | Yellow-bellied Sheathtail-bat                                                                             | Vulnerable                      |            | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Saccolaimus flaviventris</i>                                                                           | Yellow-bellied Sheathtail-bat                                                                             | Vulnerable                      |            | Known | Inland Floodplain Shrublands    |
| Murray Fans | Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions | Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions | Endangered Ecological Community |            | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Sclerolaena napiformis</i>                                                                             | Turnip Copperburr                                                                                         | Endangered                      | Endangered | Known | Riverine Plain Woodlands        |
| Murray Fans | <i>Sclerolaena napiformis</i>                                                                             | Turnip Copperburr                                                                                         | Endangered                      | Endangered | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Inland Riverine Forests         |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Floodplain Transition Woodlands |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Sand Plain Mallee Woodlands     |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Semi-arid Sand Plain Woodlands  |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Riverine Plain Woodlands        |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Riverine Plain Grasslands       |
| Murray Fans | <i>Stagonopleura guttata</i>                                                                              | Diamond Firetail                                                                                          | Vulnerable                      |            | Known | Inland Floodplain Shrublands    |
| Murray Fans | <i>Stictonetta naevosa</i>                                                                                | Freckled Duck                                                                                             | Vulnerable                      |            | Known | Inland Riverine Forests         |
| Murray Fans | <i>Stictonetta naevosa</i>                                                                                | Freckled Duck                                                                                             | Vulnerable                      |            | Known | Inland Floodplain Swamps        |
| Murray Fans | <i>Stictonetta naevosa</i>                                                                                | Freckled Duck                                                                                             | Vulnerable                      |            | Known | Inland Floodplain Shrublands    |
| Murray Fans | <i>Stictonetta naevosa</i>                                                                                | Freckled Duck                                                                                             | Vulnerable                      |            | Known | Aeolian Chenopod Shrublands     |
| Murray Fans | <i>Stictonetta naevosa</i>                                                                                | Freckled Duck                                                                                             | Vulnerable                      |            | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Swainsona murrayana</i>                                                                                | Slender Darling Pea                                                                                       | Vulnerable                      | Vulnerable | Known | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Swainsona murrayana</i>                                                                                | Slender Darling Pea                                                                                       | Vulnerable                      | Vulnerable | Known | Inland Floodplain Woodlands     |
| Murray Fans | <i>Swainsona murrayana</i>                                                                                | Slender Darling Pea                                                                                       | Vulnerable                      | Vulnerable | Known | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Swainsona murrayana</i>                                                                                | Slender Darling Pea                                                                                       | Vulnerable                      | Vulnerable | Known | Aeolian Chenopod Shrublands     |

|             |                               |                       |            |            |           |                                 |
|-------------|-------------------------------|-----------------------|------------|------------|-----------|---------------------------------|
| Murray Fans | <i>Swainsona murrayana</i>    | Slender Darling Pea   | Vulnerable | Vulnerable | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Swainsona murrayana</i>    | Slender Darling Pea   | Vulnerable | Vulnerable | Known     | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Swainsona murrayana</i>    | Slender Darling Pea   | Vulnerable | Vulnerable | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Swainsona murrayana</i>    | Slender Darling Pea   | Vulnerable | Vulnerable | Known     | Riverine Plain Grasslands       |
| Murray Fans | <i>Swainsona murrayana</i>    | Slender Darling Pea   | Vulnerable | Vulnerable | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Swainsona plagiotropis</i> | Red Darling Pea       | Vulnerable | Vulnerable | Predicted | Riverine Plain Woodlands        |
| Murray Fans | <i>Swainsona plagiotropis</i> | Red Darling Pea       | Vulnerable | Vulnerable | Predicted | Riverine Plain Grasslands       |
| Murray Fans | <i>Swainsona plagiotropis</i> | Red Darling Pea       | Vulnerable | Vulnerable | Predicted | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Swainsona sericea</i>      | Silky Swainson-pea    | Vulnerable |            | Predicted | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Swainsona sericea</i>      | Silky Swainson-pea    | Vulnerable |            | Predicted | Riverine Chenopod Shrublands    |
| Murray Fans | <i>Swainsona sericea</i>      | Silky Swainson-pea    | Vulnerable |            | Predicted | Floodplain Transition Woodlands |
| Murray Fans | <i>Swainsona sericea</i>      | Silky Swainson-pea    | Vulnerable |            | Predicted | Riverine Sandhill Woodlands     |
| Murray Fans | <i>Swainsona sericea</i>      | Silky Swainson-pea    | Vulnerable |            | Predicted | Riverine Plain Woodlands        |
| Murray Fans | <i>Swainsona sericea</i>      | Silky Swainson-pea    | Vulnerable |            | Predicted | Riverine Plain Grasslands       |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Western Slopes Grassy Woodlands |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Inland Riverine Forests         |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Inland Floodplain Swamps        |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Floodplain Transition Woodlands |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Inland Floodplain Shrublands    |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Riverine Plain Woodlands        |
| Murray Fans | <i>Tyto novaehollandiae</i>   | Masked Owl            | Vulnerable |            | Known     | Inland Floodplain Woodlands     |
| Murray Fans | <i>Wilsonia rotundifolia</i>  | Round-leaved Wilsonia | Endangered |            | Predicted | Inland Floodplain Swamps        |

# Search for NSW heritage

[Return to search page where you can refine/broaden your search.](#)

## Statutory listed items

Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by the Heritage Division.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the NSW Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the NSW Heritage Act. This information is provided by the Heritage Division.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act, 1979 and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

## Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search did not return any matching results.

## Section 2. Items listed under the NSW Heritage Act.

Your search returned 5 records.

| Item name ^                                                     | Address                     | Suburb   | LGA      | SHR   |
|-----------------------------------------------------------------|-----------------------------|----------|----------|-------|
| <a href="#">Finley Presbyterian Church</a>                      | 13-19 Denison Street        | Finley   | Berrigan |       |
| <a href="#">Finley Railway Precinct</a>                         | Narrandera-Tocumwal railway | Finley   | Berrigan | 01144 |
| <a href="#">Old Cobram-Barooga Bridge</a>                       | Vermont Street              | Barooga  | Berrigan | 01972 |
| <a href="#">Tocumwal Railway Station group</a>                  | Narrandera-Tocumwal railway | Tocumwal | Berrigan | 01270 |
| <a href="#">Tocumwal road and rail bridge over Murray River</a> | Narrandera-Tocumwal railway | Tocumwal | Berrigan | 01061 |

## Section 3. Items listed by Local Government and State Agencies.

Your search returned 22 records.

| Item name ^                                     | Address                 | Suburb   | LGA      | Information source |
|-------------------------------------------------|-------------------------|----------|----------|--------------------|
| <a href="#">21-23 Deniliquin Road</a>           | 21-23 Deniliquin Road   | Tocumwal | Berrigan | LGOV               |
| <a href="#">2-6 Murray Street (Former Bank)</a> | 2-6 Murray Street       | Tocumwal | Berrigan | LGOV               |
| <a href="#">35-37 Deniliquin Street</a>         | 35-37 Deniliquin Street | Tocumwal | Berrigan | LGOV               |
| <a href="#">39 Deniliquin Street</a>            | 39 Deniliquin Street    | Tocumwal | Berrigan | LGOV               |

|                                                                           |                                             |          |          |      |
|---------------------------------------------------------------------------|---------------------------------------------|----------|----------|------|
| <a href="#"><u>41-43 Deniliquin Street</u></a>                            | 41-43 Deniliquin Street                     | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>8 Murray Street</u></a>                                    | 8 Murray Street                             | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>Berrigan Police Station</u></a>                            | 82 Jerilderie Street                        | Berrigan | Berrigan | SGOV |
| <a href="#"><u>Boomanoomana Homestead off Mulwala Road</u></a>            | Mulwala Road                                | Barooga  | Berrigan | GAZ  |
| <a href="#"><u>Boomanoomanah</u></a>                                      | Mulwala Road                                | Barooga  | Berrigan | LGOV |
| <a href="#"><u>Butcher &amp; Newsagent, Tocumwal</u></a>                  | 1-5 Deniliquin Street                       | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>Cobram Bridge over Murray River</u></a>                    | Main Road 226                               | Barooga  | Berrigan | SGOV |
| <a href="#"><u>Finley Police Station</u></a>                              | 229 Murray Street                           | Finley   | Berrigan | SGOV |
| <a href="#"><u>Finley Railway Precinct</u></a>                            | Endeavour Street                            | Finley   | Berrigan | SGOV |
| <a href="#"><u>Former Gaurdian Newspaper</u></a>                          | Murray Street                               | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>Scots Presbyterian Church</u></a>                          | 13-19 Denison Street                        | Finley   | Berrigan | LGOV |
| <a href="#"><u>St. John's Church</u></a>                                  | 130-132 Chanter Street                      | Berrigan | Berrigan | LGOV |
| <a href="#"><u>Tocumwal Bridge</u></a>                                    | Dean street                                 | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>Tocumwal Bridge over Murray River</u></a>                  | Newell Highway (SH 17)                      | Tocumwal | Berrigan | SGOV |
| <a href="#"><u>Tocumwal Hotel</u></a>                                     | 17-33 Deniliquin Street                     | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>Tocumwal Police Station</u></a>                            | 66-78 Deniliquin Road, Corner Morris Street | Tocumwal | Berrigan | SGOV |
| <a href="#"><u>Tocumwal Police Station, Stables &amp; Court House</u></a> | Deniliquin Street                           | Tocumwal | Berrigan | LGOV |
| <a href="#"><u>Tocumwal Post Office</u></a>                               | 56-64 Deniliquin Street                     | Tocumwal | Berrigan | LGOV |

There was a total of 27 records matching your search criteria.

**Key:**

LGA = Local Government Area

GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.

**Note:** While the Heritage Division seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

## Berrigan Local Environmental Plan 2013

Historical version for 1 September 2017 to 2 April 2018 (accessed 7 February 2019 at 14:14) Current version  
Schedule 5

### Schedule 5 Environmental heritage

#### Part 1 Heritage items

| Suburb   | Item name                                        | Address                   | Property description                                         | Significance | Item no |
|----------|--------------------------------------------------|---------------------------|--------------------------------------------------------------|--------------|---------|
| Barooga  | Old Cobram-Barooga Bridge                        | Murray River              | Lot 80, DP 752274                                            | Local        | I1      |
| Barooga  | Boomanoomana Homestead                           | Ruwolts Road              | Lot 12, DP 752276                                            | Local        | I2      |
| Berrigan | Residence (Dr Whitney)                           | 1-5 Chanter Street        | Lots 1 and 2, DP 1102894                                     | Local        | I10     |
| Berrigan | Berrigan Hotel                                   | 2-8 Chanter Street        | Lot 2, DP 854461                                             | Local        | I3      |
| Berrigan | The Big Store                                    | 11-25 Chanter Street      | Lot 52, DP 877191                                            | Local        | I4      |
| Berrigan | Former ANZ Bank                                  | 48-50 Chanter Street      | Lot 1, Section X, DP 3041                                    | Local        | I6      |
| Berrigan | Momalong Hotel                                   | 53-61 Chanter Street      | Lot 2, DP 536770                                             | Local        | I7      |
| Berrigan | Federal Hotel                                    | 80-96 Chanter Street      | Lots 1-5, Section N, DP 2512                                 | Local        | I5      |
| Berrigan | War Memorial Hall                                | 99-109 Chanter Street     | Lot 1, DP 917479; Lots 1 and 2, DP 539811; Lot 57, DP 665763 | Local        | I16     |
| Berrigan | St John's Church                                 | 130-132 Chanter Street    | Lots 7 and 8, Section P, DP 3197                             | Local        | I15     |
| Berrigan | Presbyterian Manse                               | 134-136 Chanter Street    | Lots 9 and 10, Section P, DP 3197                            | Local        | I9      |
| Berrigan | St Columba's Church group                        | 10-16 Corcoran Street     | Lots 40 and 41, Section A, DP 2425                           | Local        | I14     |
| Berrigan | RSL and Heritage Museum                          | 60-70 Jerilderie Street   | Lot 4, Section 1, DP 758097                                  | Local        | I12     |
| Berrigan | Royal Hotel                                      | 61-71 Jerilderie Street   | Lots 3 and 4, Section A, DP 2425                             | Local        | I11     |
| Berrigan | St Aidan's Anglican Church                       | 133-135 Jerilderie Street | Lots 9 and 10, Section Y, DP 3041                            | Local        | I13     |
| Berrigan | Nangunia Homestead                               | 123 Yarrawonga Road       | Lot 62, DP 752284                                            | Local        | I8      |
| Finley   | St Joseph's School                               | 2-14 Coree Street         | Lots 6-8, Section 2, DP 758412                               | Local        | I27     |
| Finley   | St Mary's Church                                 | 1-11 Denison Street       | Lot 5, Section 2, DP 758412                                  | Local        | I28     |
| Finley   | Scots Presbyterian Church                        | 13-19 Denison Street      | Lot 1, Section 2, DP 758412                                  | Local        | I56     |
| Finley   | Christian Revival Crusade (former Masonic Lodge) | 16 Denison Street         | Lot 2, DP 515785                                             | Local        | I20     |
| Finley   | Dwelling                                         | 21-23 Denison Street      | Lot 5, Section 7, DP 758412                                  | Local        | I21     |
| Finley   | Pioneer railway station and surrounds            | Endeavour Street          | Lot 1, DP 1126444                                            | State        | I24     |
| Finley   | Station Master's residence                       | Endeavour Street          | Lot 6, DP 814092                                             | Local        | I29     |

|          |                                         |                         |                                               |       |     |
|----------|-----------------------------------------|-------------------------|-----------------------------------------------|-------|-----|
| Finley   | School of Arts                          | 83–87 Murray Street     | Lot 1, Section 3, DP 758412                   | Local | I26 |
| Finley   | Tuppall Hotel                           | 149–153 Murray Street   | Lot 3, DP 221336                              | Local | I30 |
| Finley   | Albion Hotel                            | 155–161 Murray Street   | Lot 1, DP 103007                              | Local | I17 |
| Finley   | Country Club Hotel                      | 167–177 Murray Street   | Lot 4, Section 13, DP 758412                  | Local | I19 |
| Finley   | Police Station                          | 215–221 Murray Street   | Lot 701, DP 1001705                           | Local | I25 |
| Finley   | Library                                 | 223–229 Murray Street   | Lot 1, DP 135958                              | Local | I22 |
| Finley   | Log Cabin Museum                        | 300–320 Murray Street   | Lot 7004, DP 1019585                          | Local | I23 |
| Finley   | Closes foundry                          | 48–52 Wollamai Street   | Lot 6, Section 8, DP 758412                   | Local | I18 |
| Tocumwal | St Peter's Catholic Church and School   | 37–45 Charlotte Street  | Lots 1–6, Section 15, DP 758981               | Local | I47 |
| Tocumwal | Railway station                         | Dean Street             | Railway Lots 16, 27 and 33                    | State | I41 |
| Tocumwal | Newsagents                              | 1–3 Deniliquin Street   | Lot 1, DP 606951                              | Local | I38 |
| Tocumwal | Tattersalls Hotel                       | 2–6 Deniliquin Street   | Lot 10, DP 331629                             | Local | I48 |
| Tocumwal | Butcher                                 | 5–7 Deniliquin Street   | Lot 2, DP 606951                              | Local | I32 |
| Tocumwal | Shop and residence                      | 9–15 Deniliquin Street  | Lot P, DP 6222; Lot 1, DP 925164              | Local | I55 |
| Tocumwal | Tocumwal Hotel                          | 17–33 Deniliquin Street | Lot 1, DP 622036                              | Local | I50 |
| Tocumwal | Shops                                   | 35–37 Deniliquin Street | Lot 1, DP 33382                               | Local | I45 |
| Tocumwal | House                                   | 39 Deniliquin Street    | Lot 1, DP 525317                              | Local | I36 |
| Tocumwal | Shop                                    | 41–43 Deniliquin Street | Lot K, DP 6222                                | Local | I42 |
| Tocumwal | Memorial Hall                           | 50–54 Deniliquin Street | Lot 7, Section 24, DP 758981                  | Local | I37 |
| Tocumwal | Post Office                             | 56–64 Deniliquin Street | Lot 2, DP 776795                              | Local | I40 |
| Tocumwal | Police station, stables and court house | 66–78 Deniliquin Street | Lot 1, Section 23, DP 758981                  | Local | I39 |
| Tocumwal | Vacant shop                             | 80–86 Deniliquin Road   | Lot 105, DP 1141944                           | Local | I53 |
| Tocumwal | Bakery Park Motor Inn                   | 83–89 Deniliquin Street | Lots 1 and 2, DP 1174504                      | Local | I31 |
| Tocumwal | Terminus Hotel                          | 88–92 Deniliquin Road   | Lot 5, Section 35, DP 758981; Lot 1, DP 34788 | Local | I49 |
| Tocumwal | St Alban's Church                       | 13–19 Finley Street     | Lot 8, DP 3124                                | Local | I46 |
| Tocumwal | Tocumwal Public School— Building B00A   | 17–33 Hennessy Street   | Lot 1, Section 11, DP 758981                  | Local | I51 |
| Tocumwal | Former rectory                          | 47 Hennessy Street      | Lot 49, DP 1108722                            | Local | I35 |
| Tocumwal | Former convent                          | 61–67 Hennessy Street   | Lots 3 and 4, Section 9, DP 758981            | Local | I34 |
| Tocumwal | Tocumwal rail bridge                    | Murray River            |                                               | State | I52 |
| Tocumwal | Former bank                             | 2–6 Murray Street       | Lot 2, DP 837922                              | Local | I33 |
| Tocumwal | Shop                                    | 8 Murray Street         | Lot B, DP 312657                              | Local | I43 |
| Tocumwal | Shop and house                          | 10–12 Murray Street     | Lot 6, Section 32, DP 758981                  | Local | I44 |
| Tocumwal | Vacant shop                             | 23–29 Murray Street     | Lot 2, DP 1024391                             | Local | I54 |

## Part 2 Heritage conservation areas

| Name of heritage conservation area | Identification on <a href="#">Heritage Map</a> | Significance |
|------------------------------------|------------------------------------------------|--------------|
| Berrigan Conservation Area         | Shown by red hatching and labelled "C1"        | Local        |
| Tocumwal Conservation Area         | Shown by red hatching and labelled "C2"        | Local        |



## Contaminated land

- + Management of contaminated land
- + Consultants and site auditor scheme
- + Underground petroleum storage systems
- Guidelines under the CLM Act
- NEPM amendment
- + Further guidance
- Record of notices
  - About the record
  - Search the record
  - Search tips
  - Disclaimer
- List of NSW contaminated sites notified to EPA
- Frequently asked questions
- Forms
- + Other contamination issues
- + Contaminated Land Management Program

[Home](#) [Contaminated land](#) [Record of notices](#)

## Search results

Your search for: LGA: Berrigan Shire Council

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the [planning process](#).

More information about particular sites may be available from:

- The [POEO public register](#)
- The appropriate planning authority: for example, on a planning certificate issued by the local council under [section 149 of the Environmental Planning and Assessment Act](#).

See [What's in the record and What's not in the record](#).

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.

This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the [POEO public register](#).

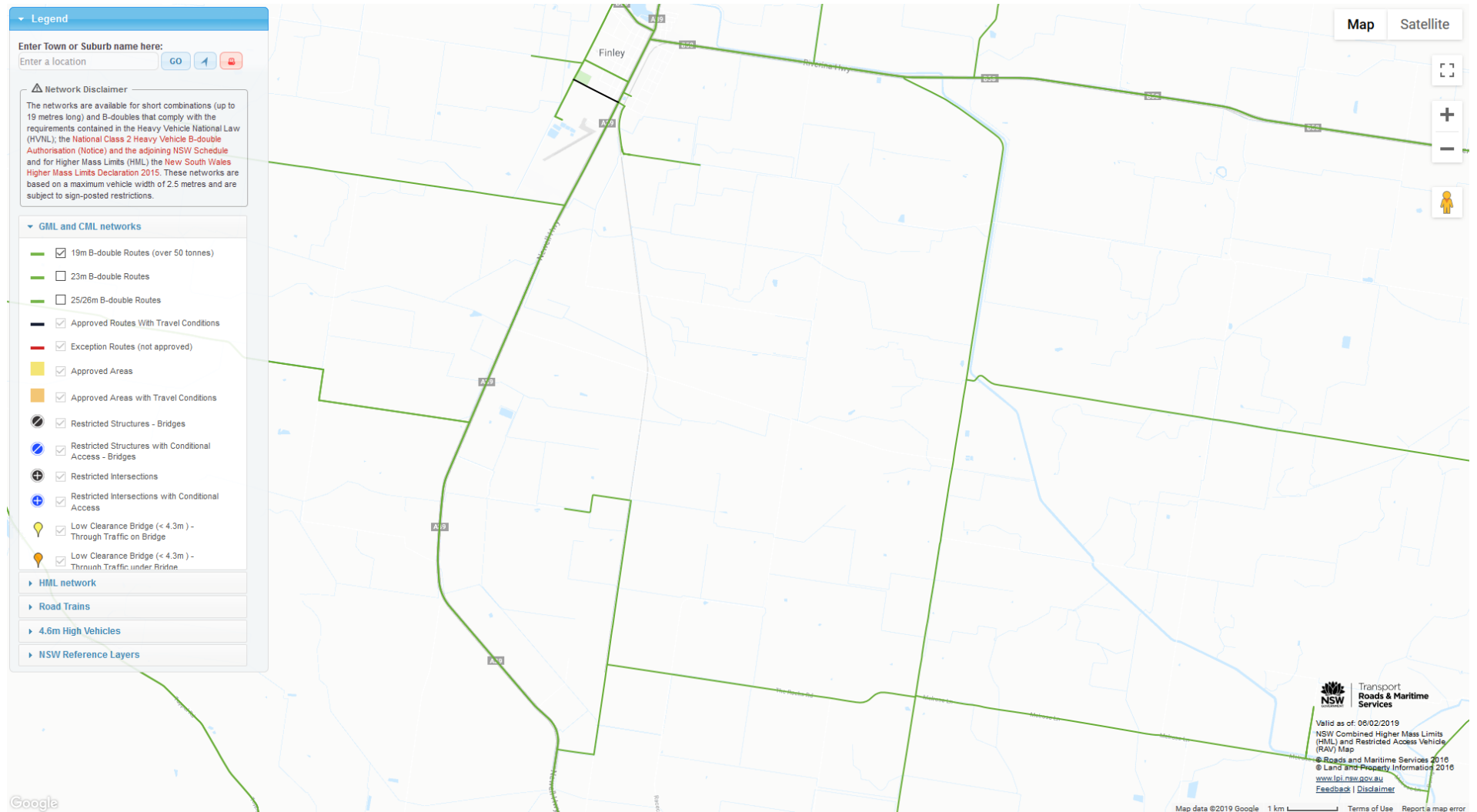
Search Again Refine Search

### Search TIP

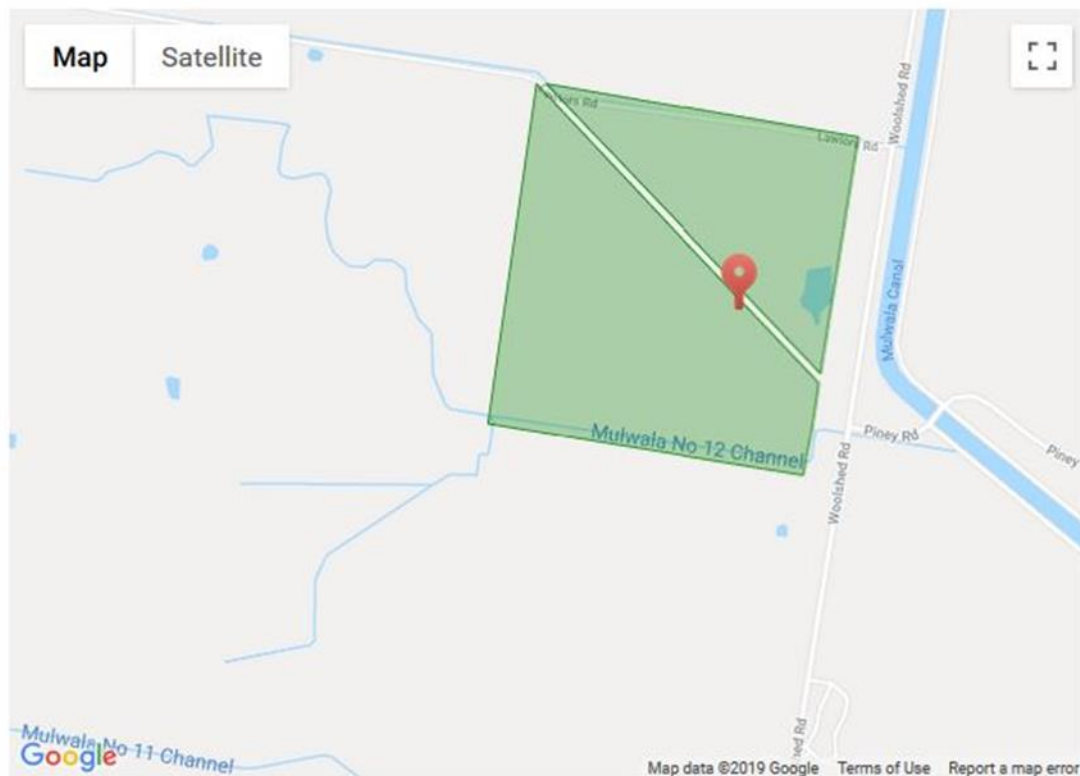
To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

[more search tips](#)

7 February 2019



## Your Property



## Your search result

You have conducted a search of the online bush fire prone land tool for the land in the map above. This search result is valid for the date the search was conducted. If you have any questions about the Bush Fire Prone Land Tool please contact [bushfireprone.mapping@rfs.nsw.gov.au](mailto:bushfireprone.mapping@rfs.nsw.gov.au)

The parcel of land selected is not identified as bush fire prone however you could still be affected by a bush fire.

Think about where you work, travel or holiday. These areas may be at risk of a bush fire.

Remember, discuss with your family about what to do if a bush fire were to happen near you. It may save your life, your community and your family.

For more information on making a plan for bush fire check out our [guide to making your bush fire survival plan](#).

## Your Property



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## **APPENDIX B LETTER RESPONSE FROM GSNSW**



Planning &  
Environment

21 February 2019

Sarah Hillis  
Senior Environmental Consultant  
NGH Environmental  
PO Box 5464  
Wagga Wagga NSW 2650

Emailed: [sarah.h@nghenvironmental.com.au](mailto:sarah.h@nghenvironmental.com.au)

Your Reference: Huestons Road Solar Farm  
Our Reference: DOC19/136471

Dear Ms Hillis,

**Re: Huestons Road Solar Farm - NGH Environmental  
Pre-Secretary's Environmental Assessment Requirements (Clause 13 Compatibility  
Test)**

I refer to your email dated 13 February 2019 inviting NSW Department of Planning & Environment – Division of Resources & Geoscience to provide comments on the Huestons Road Solar Farm proposal.

The Division appreciates the opportunity for early consultation on this State Significant Development proposal for a large-scale solar farm in the Berrigan LGA. The Division provides project specific requirements to supplement the Secretary's Environmental Assessment Requirements (SEARs), issued by Department of Planning and Environment – Planning Services, for the preparation of Environmental Impact Statements (EIS) accompanying State Significant Development applications for renewable energy proposals.

Resources specific SEARs for renewable energy projects require an assessment of the impact of the development on existing land uses, including the compatibility of the development with the existing land uses on the site and adjacent land (e.g. operating mines, extractive industries, mineral or petroleum resources, exploration activities), during operation and after decommissioning.

This requires the proponent to identify any of the above in the EIS and consult with the operators and or titleholders to establish if the proposal is likely to have a significant impact on current or future extraction of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and any way the proposed development may be incompatible with any existing or approved uses, or current or future extraction or recovery under the land use compatibility requirements of Part 3 (13) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

In fulfilling these requirements, a search of current mineral, coal and petroleum titles must be undertaken through the Division's MinView application, with the results shown on a map, in

NSW Department of Planning and Environment  
DIVISION of RESOURCES & GEOSCIENCE  
PO Box 344 Hunter Region Mail Centre NSW 2310  
E: [landuse.minerals@geoscience.nsw.gov.au](mailto:landuse.minerals@geoscience.nsw.gov.au)  
Tel: 02 4063 6500  
ABN 38 755 709 681

drafting of the EIS. Additionally, the EIS must identify whether there are adjacent mines or quarries for land use compatibility considerations.

Current mining, and exploration titles and applications can be viewed at:  
<https://resourcesandgeoscience.nsw.gov.au/miners-and-explorers/geoscience-information/services/online-services/minview>

According to current departmental databases, the Division has identified that there are no current mineral, coal or petroleum titles and no extractive industries over the site or adjacent lands.

Queries regarding the above information, and future requests for advice in relation to this matter, should be directed to the Division of Resources & Geoscience - Land Use team at [landuse.minerals@geoscience.nsw.gov.au](mailto:landuse.minerals@geoscience.nsw.gov.au).

Yours sincerely,

Andrew Helman  
A/Manager - Land Use

A handwritten signature in black ink, appearing to be 'P. Dale', with a small mark at the end.

for Paul Dale  
Director – Land Use & Titles Advice

NSW Department of Planning and Environment  
DIVISION of RESOURCES & GEOSCIENCE  
PO Box 344 Hunter Region Mail Centre NSW 2310  
E: [landuse.minerals@geoscience.nsw.gov.au](mailto:landuse.minerals@geoscience.nsw.gov.au)  
Tel: 02 4063 6500  
ABN 38 755 709 681

## APPENDIX C CONSULTATION FLYER



# PROPOSED DEVELOPMENT FINLEY SOUTH SOLAR FARM

Huestons Road, Finley - NSW



## PROJECT OVERVIEW

### LOCATION & MOTIVATION

#### Location

- ~60 km east of Deniliquin, Berrigan Shire Council area, NSW
- 260 ha on Lots 3 & 7 DP 4958, and Lot 1 DP 856004, with site access off of Huestons Road
- Agricultural land (paddocks, grazing, cropping), with some native vegetation in the form of scattered paddock trees, grassland and roadside vegetation
- Murray Irrigation channel north of the site

#### Motivation (for location)

- Excellent solar exposure
- Excellent access to local and major roads
- Excellent access to the grid transmission network
- Likely low level of environmental impact (site already cleared and disturbed)
- Suitable topography, land size and land zoning

### KEY INFRASTRUCTURE

- 436,000 steel frame-mounted photovoltaic (PV) solar panels, generating approximately 140 MW (AC) of renewable energy
- Underground electrical conduits and cabling to connect arrays to inverters & transformers
- Inverter units, with one substation connecting to the existing Essential Energy transmission line
- Site office and maintenance building, parking, internal access track and perimeter security fencing
- Upgrade of Huestons Road and Fullers Road from Newell Highway
- Road crossing and easement electrical crossing through underground and overhead lines

### POSSIBLE ENVIRONMENTAL IMPACTS

A preliminary environmental risk assessment has been conducted, highlighting key environmental and social matters that would require detailed assessment. These include:

- Biodiversity
- Aboriginal heritage
- Visual amenity
- Construction noise
- Land use and resources
- Watercourses and hydrology



### POSSIBLE SOCIAL BENEFITS

- 200+ direct jobs and indirect supply chain jobs during construction
- 2 - 3 full-time staff during operation
- Contribution to future possible reduced energy prices
- Diversification of local land use - additional / alternative source of income and economic activity, and indirect support industry growth
- Alignment with NSW Renewable Energy Action Plan - promoting energy security through diversified sources, reducing coal dependence, lowering emission energy sources

### TIME LINES

- Construction: 12 - 18 months
- Operation: 30 years
- Decommissioned, or upgraded; depending on regional planning needs at that time.



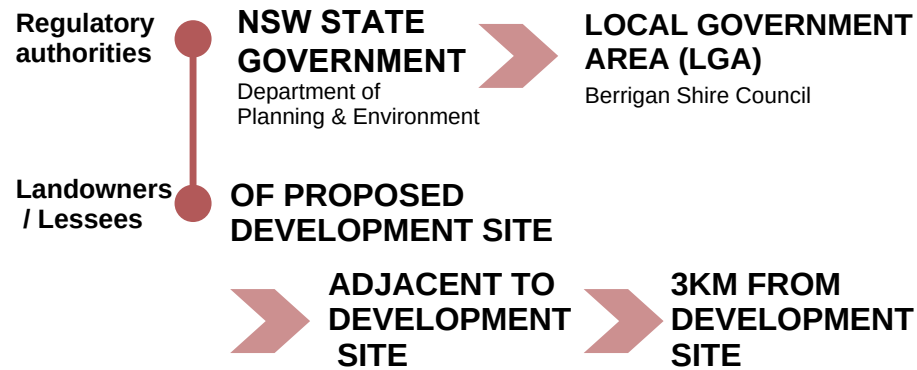
# PROPOSED DEVELOPMENT FINLEY SOUTH SOLAR FARM

Huestons Road, Finley - NSW



## COMMUNITY CONSULTATION

### INTERESTED & AFFECTED PARTIES (I&APs)



### HOW CAN YOU GET INVOLVED?

There will be an opportunity to find out more about the project during two upcoming community meetings. Key affected landowners will also be contacted personally. Should you wish to attend the meetings, or raise any comments before then, please contact:

**Ms Raina Hattingh - Community Liaison Officer**  
02 6923 1564 / [community@finleysouthsolarfarm.com.au](mailto:community@finleysouthsolarfarm.com.au), or go to:  
[www.finleysouthsolarfarm.com.au](http://www.finleysouthsolarfarm.com.au)

### COMMUNITY CONSULTATION APPROACH

