# West Mokoan Solar Farm

## Planning Report



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Planning Report

Client: 892 Yarrawonga Development Pty Ltd.

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Prepared by

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# 1.0 Introduction

## 1.1 Report Structure

This Planning Report for the Project is presented as follows:

- Section 1.0 provides an overview of the Project, information about the applicant, relevant documents and consultation with the local community, Benalla Rural City Council, Department of Environment, Land, Water and Planning (DELWP) and other authorities.
- Section 2.0 provides details on the subject site and surrounds, along with existing conditions and uses present on site.
- Section 3.0 outlines the proposal, detailing the Project's key components.
- Section 4.0 provide details regarding the construction, operation and decommissioning of the Project.
- Section 5.0 provides planning policies and controls that are of relevance to the Project.
- Section 6.0 provides a detailed planning assessment against the key legislation and policies outlined in Section 5.0 of the Planning Report.
- Section 7.0 provides a summary of the Specialist Technical Reports and Assessments and any potential impacts.
- Section 8.0 provides a summary of the findings of this Report.

## 1.2 Supporting Documents

This Report should be read in conjunction with the following documents prepared and submitted as part of the application:

- Consultation Material prepared by South Energy (June 2019) (Appendix A)
- Application Plans prepared by AECOM (August 2021) (Appendix B)
- Flora and Fauna Assessment prepared by AECOM (June 2021) (Appendix C)
- Surface Water Assessment prepared by AECOM (June 2021) (Appendix D)
- Hydrology and Hydraulic Modelling Report prepared by AECOM (June 2021) (Appendix E
- Traffic Impact Assessment prepared by AECOM (May 2021) (Appendix F)
- Landscape and Visual Impact Assessment prepared by AECOM (June 2021) (Appendix G)
- Landscape Plans prepared by AECOM (June 2021) (Appendix H)
- Glint and Glare Assessment prepared by AECOM (August 2021) (Appendix I)
- Preliminary Environmental Management Plan prepared by AECOM (June 2021) (Appendix J)
- Geotechnical Assessment prepared by AECOM (June 2021) (Appendix K)
- Agricultural Impact Assessment prepared by Ag-Challenge (May 2021) (Appendix L)
- Cultural Heritage Management Plan prepared by AECOM (June 2021) (Appendix M)
- Operational Noise Assessment prepared by AECOM (August 2021) (Appendix N)
- Survey Plans prepared by Tomkinson Group (August 2021) (Appendix O)
- Woodland Restoration Plan prepared by AECOM (May 2021) (Appendix P)
- Landscape Early Works Strategy prepared by AECOM (August 2021) (Appendix Q)
- Goulburn Murray Water Landowner's Consent (December 2020) (Appendix R)

- Landscape Connectivity Literature Review - The Role of Remnant Patches and Scattered Paddock Trees in Facilitating Landscape Connectivity (May 2021) (Appendix S)
- Preliminary Hazard Assessment (April 2021) (Appendix T)

## 1.3 Overview of the Proposal

AECOM Australia Pty Ltd (AECOM) has prepared this Planning Report for South Energy on behalf of *892 Yarrawonga Development Pty Ltd* to support a planning permit application for the use and development of a Renewable Energy Facility (solar and energy storage) (the Project) on land at 892 Benalla-Yarrawonga Road, Goorambat; Benalla-Yarrawonga Road, Benalla and 616 Benalla-Yarrawonga Road, Benalla (the subject site). The subject site is approximately 10 kilometres north east of the town centre of Benalla and is within Rural City of Benalla. Benalla Rural City forms part of the Hume Region in North East Victoria.

The purpose of the Project is to supply electricity generated from solar irradiation into the National Energy Market. The solar farm (referred to as the West Mokoan Solar Farm) will connect to the grid via the existing 220 kV transmission lines associated with the Glenrowan to Shepparton network, operated by the Australian Energy Market Operator.

The Project is expected to have an installed capacity of up to 233 Megawatts (MW) which will be provided by approximately 531,216 solar photovoltaic (PV) panels/modules comprising 440 Watt PV collectors mounted on single axis trackers. Associated infrastructure for the solar farm will include approximately 57 power conversion units (PCUs) containing electrical switchgear, inverters and transformers and a central substation, operations and maintenance facility and energy storage area along with internal access tracks and security fencing which will surround the site. The Project also includes the realignment of a number of easements.

A planning permit is required for the proposal under the Benalla Planning Scheme (the Planning Scheme) for the:

- Use of land for the purposes of a ‘Solar Energy Facility’ and ‘Utility Installation’ in the Farming Zone (**Clause 35.07-1**). The Project must comply with the requirements outlined in **Clause 53.13** of the Planning Scheme.
- Pursuant to **Clause 36.01-1** (Table of uses), ‘Utility Installation’ is a Section 2 use and a permit is required to use land for a ‘Utility Installation’.
- Pursuant to **Clause 36.01-2** (Permit requirement) a permit is required to construct a building or construct or carry out works for any Section 2 use.
- Construction of a building or to carry out works associated with the development of a ‘Solar Energy Facility’ and ‘Utility Installation’ in the Farming Zone (**Clause 35.07-4**).
- Removal and creation of an easement (**Clause 52.02**).
- Construction and display of a business identification sign (**Clause 52.05-14**).
- Removal or lopping of native vegetation, including dead native vegetation (**Clause 52.17-2**).
- Creation or altering of access to a road in a Road Zone, Category 1 (**Clause 52.29-2**).

Further, car parking for the solar farm must be provided to the satisfaction of the Responsible Authority in accordance with **Clause 52.06-6** since ‘Solar Energy Facility’ and ‘Utility Installation’ are not specified in Table 1 of **Clause 52.06-5**.

A portion of the site is identified as an area of Aboriginal Cultural Heritage Sensitivity. The Aboriginal Cultural Heritage Assessment (7.11) found that no registered Aboriginal cultural heritage sites were identified within the Activity Area, however, two areas of Aboriginal cultural heritage sensitivity were identified to be partially located within the Activity Area. A complex Cultural Heritage Management Plan (CHMP) has been prepared and is included at Appendix M.

The planning application associated with the Project is summarised in Table 1.

**Table 1 Application Details**

| Requirements | Details | |
|---|---|---|
| **Responsible Authority** | The Minister for Planning | |
| **Property Address** | 892 Benalla-Yarrawonga Road, Goorambat<br>Benalla-Yarrawonga Road, Benalla<br>Crown Land<br>616 Benalla-Yarrawonga Road, Benalla<br>Road reserves of Lake Mokoan Road and Benalla-Yarrawonga Road | |
| **Formal Property Description** | Lot 1 PS625748F<br>Lot 1 TP173518C<br>Lot 1 TP104377J | 98B PP2704<br>Lot 1 LP206524H<br>Lots 2-5 LP206524H<br>Lot 1 TP576184 |
| **Total Site Area** | Approximately 430 hectares | |
| **Proposal** | Use and Development of a Solar Energy Facility and Utility Installation and associated buildings and works, removal of native vegetation, display of business identification signage and removal and creation of an easement. | |
| **Planning Permit Triggers** | • **Clause 35.07 Farming Zone** – A 'Solar Energy Facility' and 'Utility Installation' are defined as Section 2, Permit Required uses (**Clause 33.01-1**). A planning permit is also required to construct a building or carry out works (**Clause 33.01-4**) for a Section 2 use.<br>• **Clause 36.01 Public Use Zone** – A 'Utility Installation' is defined as a Section 2, Permit Required use (**Clause 36.01-1**). A planning permit is also required to construct or carry out works for a Section 2 use (**Clause 36.01-2**).<br>• **Clause 52.02 –** A permit is required to create, vary or remove an easement or restriction Under Section 23 of the *Subdivision Act 1988.*<br>• **Clause 52.05 Signs – Clause 35.07-7** refers to the advertising signage at **Clause 52.05** and specifies that the Farming Zone is in *Category 4 – Sensitive Areas*. A 'Business Identification Sign' is a Section 2 sign (permit required) and must not exceed three (3) square metres.<br>• **Clause 52.17 Native Vegetation** – **Clause 52.17-2** requires a planning permit to remove, destroy or lop native vegetation, including dead native vegetation.<br>• **Clause 52.29 Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road – Clause 52.29-2** requires a planning permit to create or alter access to a road in a Road Zone, Category 1.<br>• **Clause 53.13 Renewable Energy Facility (other than wind energy facility and geothermal energy extraction) –** applies to land proposed to be used and developed for a Renewable Energy Facility including a Solar Energy Facility. **Clause 53.13-2** outlines the requirements that must be accompanied with the application.<br>Additionally:<br>• **Clause 52.06 Car Parking –** The provision of car spaces must be made before a new use commences (**Clause 52.06-2**). Car parking provision is to the satisfaction of the Responsible Authority. | |
| **Zone** | Farming Zone (**Clause 35.07**) | |
| **Overlays** | N/A | |
| **Aboriginal Cultural Heritage Sensitivity** | The land includes Areas of Aboriginal Cultural Heritage Sensitivity. | |

## 1.4 Background

### 1.4.1 The Applicant

The applicant, *892 Yarrawonga Development Pty Ltd* is a subsidiary company of South Energy.

South Energy is a leading Australian developer of projects including utility scale solar farms. South Energy is committed to responsible and sustainable land development, building a green Australia for future generations through collaborating with industry leaders to deliver clean energy solutions. South Energy are also involved in various other solar farm projects across Victoria, including approved projects in Toongabbie, Raywood, Goorambat and Benalla.

### 1.4.2 Consultation

South Energy has undertaken preliminary consultation throughout the development of the concept design for the Project. Consultation has been undertaken with the DELWP, Benalla Rural City Council, relevant State agencies and the broader community. While further consultation will be undertaken throughout the planning application and construction phases of the Project, this preliminary consultation has been undertaken to ensure that key matters have been addressed prior to the lodgement of the planning permit application. Details of this consultation are summarised below.

#### 1.4.2.1 Pre-Application with Benalla Rural City Council

On Tuesday 30 October 2018 AECOM attended a pre-application meeting at Benalla Rural City Council. The meeting was held with Joel Ingham. The outcomes of the pre-application are as summarised below:

- Applications for solar farms along a VicRoads managed road such as Benalla-Yarrawonga Road would require a Glint and Glare Assessment and a Visual Impact Assessment.
- Consultation is required with the Winton Wetlands Group, the Benalla Sustainable Futures Group and the Regent Honeyeater Group. The Winton Wetlands has Indigenous history, and it was recommended that the Registered Aboriginal Party (Yorta Yorta) be consulted. A CHMP would need to be undertaken for any works impacting the area of Cultural Heritage Sensitivity.
- The existing channel running along the southern boundary of the subject site is a Council asset. The channel also currently carries run-off from surrounding land and is not an irrigation channel. Investigations are being undertaken as to whether the channel could carry higher quality water into the Winton Wetland.
- The cumulative impact of proposed or approved solar farms, with regard given to (cumulative) visual impact, is required.
- Justification for development on agricultural land in the Farming Zone is required. An application would also need to outline how much of the entirety of farming areas in the locality and within Benalla will be occupied by solar farms. An Agricultural Assessment is therefore recommended.
- Avoidance of vegetated areas, particularly around the channel, is recommended by Council.

#### 1.4.2.2 Pre-Application with Department of Environment, Land, Water and Planning

On 14 November 2019 AECOM attended a pre-application meeting with the DELWP Renewables team, with key outcomes summarised below:

- A portion of the subject site is Crown Land. An application for Licence to Use Crown Land is being submitted by South Energy concurrently to this planning permit application.
- DELWP encourage opportunities to fence trees/patches in order to support regeneration of the vegetation within the site.
- AECOM are to provide further detail on the cumulative impact from a visual perspective in the application.
- An opportunity to plant vegetation along the Stockyard Creek channel was identified. DELWP recommended that a Revegetation Plan be prepared.
- The application is to demonstrate impacts on water levels.

- The application is to demonstration why 30 metre setbacks are not being proposed for the development. Each property setback should be discussed in the planning application with justification for why that setback has been used on that boundary.

#### 1.4.2.3 Community and Stakeholder Consultation

Community consultation undertaken prior to the lodgement of the planning application included an information session open to the public held on 13 June 2019. The session was held at the Mokoan Hub and Café (652 Lake Mokoan Road, Chesney Vale) from 3.30pm to 6pm and was an opportunity to share with the community the vision for the West Mokoan Solar Farm and to collaborate with the community to receive ideas relevant to the proposal. The session was advertised in the Benalla Ensign Newspaper (Wednesday 5 June 2019).

The community consultation session was well attended by a range of community members, including a representative from the Winton Wetlands Committee of Management and the Regent Honeyeater Group.

Some members of the community raised concerns relating to:

- Impact on farming land;
- Potential impact on property values;
- Visual impact and views from surrounding properties;
- The removal of trees; and
- Water channels and the potential for flooding.
- Questions were raised relating to which organisation would manage the community fund; and what type and where screening would be provided.

Feedback and questions received from the community have been addressed in the planning permit application and direct responses have been provided to members of the community who have requested further information. Consultation with the community will continue throughout the life of the Project. A copy of the advertisement in the Benalla Ensign Newspaper and community consultation materials is attached at Appendix A.

#### 1.4.2.4 Benalla Sustainable Future Group

South Energy met with the Benalla Sustainable Future Group (BSFG) in November 2018. The BSFG were supportive of this type of development in Benalla and of South Energy's community investment fund. The BSFG advised that Benalla is aiming for 100% renewables in 2030.

#### 1.4.2.5 Winton Wetlands

Winton Wetlands is located to the north east of the site and has Aboriginal Cultural Heritage significance. Members of the Winton Wetlands Committee of Management attended the community consultation session. The Committee were generally supportive of the Project and of South Energy's community investment fund.

#### 1.4.2.6 Regent Honeyeater Group

The Regent Honeyeater Group is committed to restoring remnant box-ironbark habitat for the endangered Honeyeater bird. The Regent Honeyeater Project takes place exclusively in the Lurg Hills, near Benalla. Members of the Regent Honeyeater Group attended the community consultation session. The Group was further consulted in June and July of 2019. The Group was provided with an extract of the Landscape Plan and planting list for the Project and provided comments in relation to tree and shrub species and advice in relation to groundcover.

#### 1.4.2.7 Goulburn Murray Water and Goulburn Broken Catchment Management Authority

AECOM sought floodplain advice from the Goulburn Broken Catchment Management Authority (GBCMA) in February 2019. GBCMA responded with a letter confirming that they would not object to the proposed solar farm, subject to conditions (refer to Appendix D for full GBCMA advice).

Following the issue of the floodplain advice response, AECOM sought further clarification from GBCMA on the determination of appropriate setbacks for waterways that are poorly defined (i.e. no banks or channels). The GBCMA advised that generally a setback of 15 metres from the centreline of a waterway would be acceptable.

A joint site meeting was held with the GBCMA and Goulburn Murray Water (GMW) on 2 June 2019 to discuss designated waterways on site. The site meeting provided an opportunity to discuss setbacks for some of the waterways across the site. It was confirmed during the discussion that setbacks can vary for different waterways and, where it can be demonstrated there are no impacts, setbacks of 5m wide may be accepted.

AECOM submitted a Waterway Determination application to GMW on 15 July 2019. GMW subsequently carried out the waterway determination assessment and provided a response on 30 July 2019 which identified one designated waterway within the northern land parcel and one within the southern land parcel.

The full GBCMA floodplain advice response and GMW waterway determination assessment can be found at Appendix B and C of the Surface Water Assessment. The Surface Water Assessment is located at Appendix D of this Report.

#### 1.4.2.8 Country Fire Authority

The subject site is located within a Bushfire Prone Area. As stated at **Clause 13.02-1S** (Bushfire Planning), it is recommended to consult with the relevant fire authority to receive recommendations and implement appropriate bushfire protection measures. The Country Fire Authority (CFA) was contacted to seek advice on how to address the risks associated with either structural fire or bushfire from solar farm developments. The recommendations provided by the CFA and outlined in detail in the CFA Guidelines for Renewable Energy Installations (refer also 5.2.11) are as follows:

- Site Operations:
  - A fire break area with a ten (10) metre width is to be maintained around perimeter of the facilities, electricity compounds and substations. This area is to be on non-combustible mulch or mineral earth and must be free of vegetation and obstruction.
- Firefighting Water Supply:
  - Location of firefighting water access points and the quantity of water supply is to be established through a comprehensive risk management process.
- With regards to access tracks and to enable access for fire appliances, the CFA requires the following provisions to be considered:
  - A four (4) metre perimeter should be constructed within the ten (10) metre perimeter fire break.
  - Incorporate passing bays at least every 600 metres which must be at least 20 metres long and have a minimum trafficable width of 6 metres. Road networks must enable responding emergency services to access all areas of the facility.
  - At least two (2) access points must be provided to the site – this number should be informed through a risk management process.

#### 1.4.2.9 Other Authorities

AusNet, and the Department of Transport (VicRoads) have also been contacted about the Project prior to the lodgement of the planning application. Any requirements or recommendations have been taken into consideration for the design and layout of the Project.

### 1.4.3 Community Fund

South Energy will be initiating a community investment program, where a portion of the Project's revenue will be invested back into the local community, aiming to help fund projects that benefit the quality of life and wellbeing of the community.

The funding will be secured through the ongoing revenue accumulated over the operational period of the Project. To decide on how funding is spent, South Energy seek to work closely with the local

community to identify current and future projects that require funding. At this stage, it can be anticipated that funding may go into the Winton Wetland Restoration Project and the Honeyeater Reservation Project. Any remaining funds will be invested back into local organisations and projects that benefit the quality of life and wellbeing of the community.

Further, South Energy recognise that Benalla Rural City Council have an existing community fund program. South Energy have expressed their interest in working with Council to contribute to this community fund program should Council agree to do so.

# 2.0 Subject Site and Existing Conditions

## 2.1 Subject Site

The site comprises land located at 892 Benalla-Yarrawonga Road, Goorambat; Benalla-Yarrawonga Road, Benalla, 81 Lake Mokoan Road, Goorambat, Crown Land, 616 Benalla-Yarrawonga Road, Benalla and the road reserves of Lake Mokoan Road and Benalla-Yarrawonga Road (the subject site).

The subject site is located within the Rural City of Benalla which forms part of the Hume Region in north eastern Victoria. It is approximately ten kilometres north east of Benalla, and 175 kilometres north east of Melbourne. Larger regional cities within the Hume Region include Shepparton, Wangaratta and Wodonga. The Region has high solar irradiance as identified in the solar exposure data collected by the Bureau of Meteorology at the Goorambat Station, where the level of total solar energy for a day falling on a horizontal surface in Goorambat is approximately 17.2 Mega joule per square metre ($MJ/m^2$).

The subject site is formally described as:

- Lot 1 PS625748F
- Lot 1 TP104377
- Lot 1 TP173518C
- Lot 1 TP576184
- Lot 1 LP206524H
- 98B PP2704
- Lots 2-5 LP206524H

The subject site is located on the eastern side of Benalla-Yarrawonga Road and has frontages to Benalla-Yarrawonga Road, Lake Mokoan Road and Dam Wall/Boundary Road. It is intersected by Stockyard Creek and for the purposes of this report, the subject site is referred to as the 'northern land parcel' and the 'southern land parcel' in reference to its location on either side of Stockyard Creek. The site is irregular in shape with a total area of approximately 426.4 hectares.

Access to the subject site is provided from Benalla – Yarrawonga Road along the western boundary and from Lake Mokoan Road, which intersects the northern land parcel.

Figure 1 provides the site context of the subject site. Figure 2, Figure 3 and Figure 4 provide views to the site from Benalla-Yarrawonga Road, Dam Wall/Boundary Road and of scattered trees located on the northern land parcel.

### 2.1.1 Land Use

The subject site is currently used for agricultural purposes, including livestock grazing (sheep and cattle), and contains some vegetation (refer Figure 4). The site contains three residential dwellings with minimal farm related infrastructure, including out-buildings (refer Figure 5 and Figure 6). The dwellings are located at 892 Benalla-Yarrawonga Road in the north west of the subject site; and at 616 Benalla-Yarrawonga Road in the south-west of the subject site. Vehicular access to these properties is provided via Benalla-Yarrawonga and Lake Mokoan Roads respectively.

### 2.1.2 Landscape

The land of the subject site is relatively flat and has been cleared for its current use of sheep and cattle grazing and cropping. The site contains a number of scattered trees as well as planted vegetation. Intersecting the subject site generally north east / south west is a channel named Stockyard Creek. A number of scattered trees sit between the northern side of the channel and the subject site. Winton Wetlands, a significant restoration project, is located directly to the east of the subject site, though notably separated from the subject site by a tall dam wall.

Vegetation on the site is classified as Ecological Vegetation Class (EVC) 803 Plains Woodland, EVC 55_62 Plains Grassy Woodland, EVC 235 Plains Woodland/Herb-rich Gilgai Wetland Mosaic and EVC 175_61 Grassy Woodland. Additional information on the existing landscape and vegetation is contained in the Flora and Fauna Assessment at Appendix C and Section 7.1 respectively.

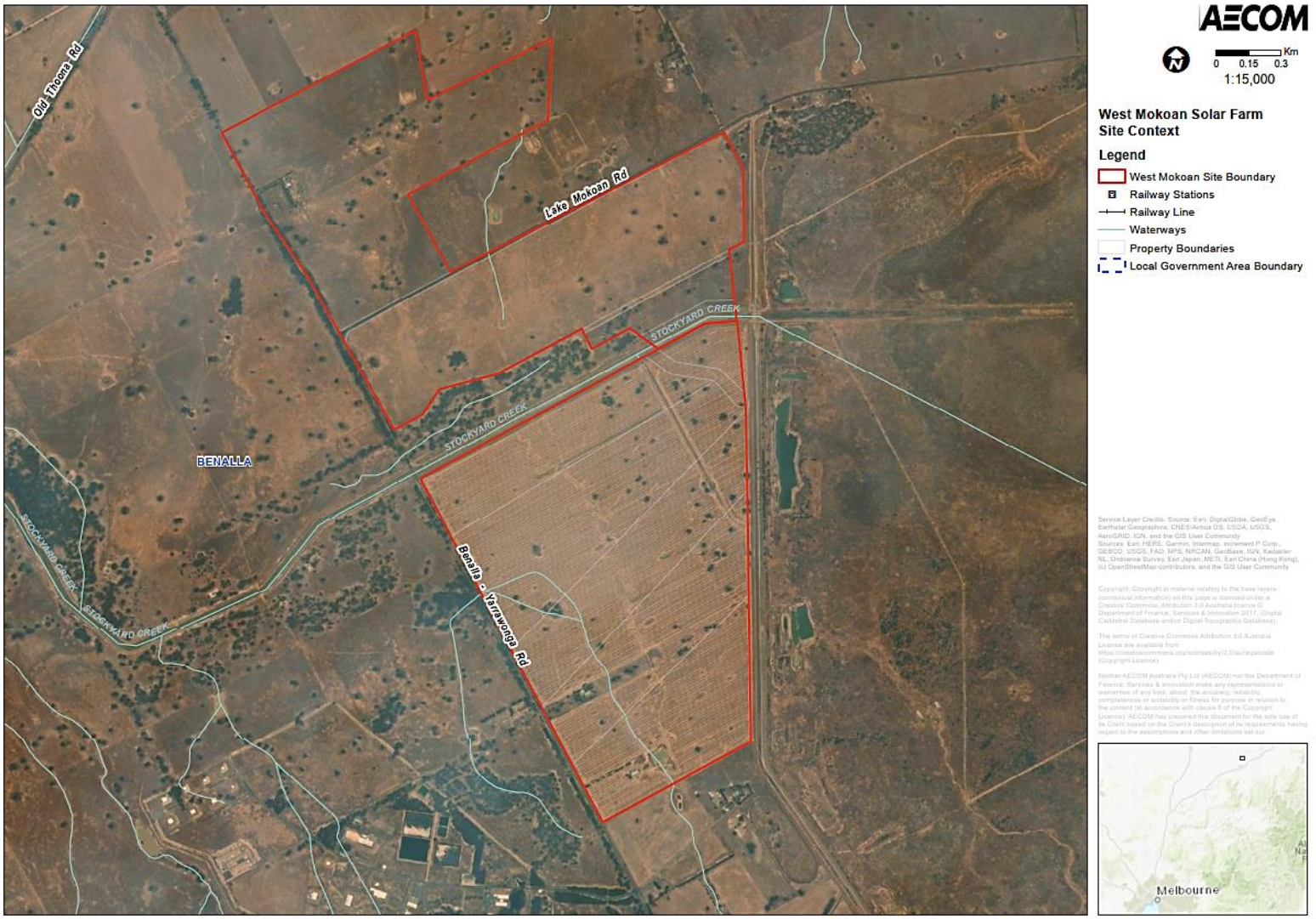


**Figure 1 Site Context**

**Figure 2 Subject site (viewed from Benalla-Yarrawonga Road)**

**Figure 3 Subject site (viewed from eastern property boundary along Boundary Road)**

**Figure 4 Large scattered trees on the subject site (view of northern land parcel from Lake Mokoan Road)**

**Figure 5 Dwelling along Benalla-Yarrawonga Road**

**Figure 6 Dwelling along Benalla-Yarrawonga Road**

### 2.1.3 Existing Power Infrastructure

The 220kV Glenrowan to Shepparton overhead transmission line traverses through the subject site (refer to Figure 7), running generally north west to south east. A number of powerlines are also located within the subject site. Table 2, below, outlines the identified easements on the subject site, Appendix B (Landownership) maps out the location of these easements on relation to the subject site.

**Figure 7 Subject site, including existing infrastructure (Powerlines)**

**Table 2 Easements on subject site**

| Easement | Purpose |
|---|---|
| E-1 (Lot 1 PS625748F) (TP 173518C) | Transmission of Electricity |
| E-2 (Lot 1 PS625748F) | Transmission of Electricity and Telecommunications |
| E-3 (Lot 1 PS625748F) | Powerline |
| C (Lot 1 TP173518C) | Easement to the State Electricity Commission |
| E-4 and E-5 (Lot 1 and 2 PS625748F) | Powerline |
| E-1 (Lot 1-5 LP206524H) | Easement to the State Electricity Commission |
| E-2 and E-4 (Lots 1-5 LP206524H) | Electricity Easement |
| E-3 (Lots 2-5 LP LP206524H) | Drainage Easement |

## 2.2 Site Surrounds

### 2.2.1 Land Use

The subject site is generally surrounded by land used for agricultural purposes with associated dwellings and farm related infrastructure, vegetation and waterways. The surrounding land is within the Farming, Public Use and Special Use Zones. The immediate surrounds can be described as follows (and is shown at Figure 8):

- **North:** Directly to the north of the site is land used for broadacre farming. Further north at the corner of Farnley Road and Benalla -Yarrawonga Road is 18 Farnley Road, which contains a dwelling and farm related infrastructure. Land further north is predominantly used for broadacre farming with associated dwellings and is zoned for farming purposes. The township of Goorambat is located approximately eight kilometres to the north west of the site.
- **South:** Directly to the south of the site is 524 Benalla-Yarrawonga Road, which contains a dwelling and farm related infrastructure. Land further to the south is generally used for agricultural purposes with some properties containing associated dwellings and infrastructure within the Farming Zone. The Hume Freeway, a Road Zone Category 1, is located approximately nine kilometres south of the site. The Benalla CBD and Benalla Airport are located approximately ten kilometres south-west of the site.
- **East:** Directly abutting the site's eastern boundary is the Winton Wetlands. This land is predominantly within the Public Use Zone 1 (Service and Utility). Figure 9 and Figure 10 provide an indication of the views to and infrastructure associated with the Winton Wetlands. North of the land at Benalla-Yarrawonga Road (Lot 1 TP10377J) and east of the land at 892 Benalla-Yarrawonga Road (Lot 1 PS625748) is a dwelling located on the rural property at 81 Lake Mokoan Road.
- **West:** Directly west of the subject site is Benalla-Yarrawonga Road, a Road Zone Category 1. Further to the west is Thales Australian Munitions within the Special Use Zone 1 (Defence Industries Benalla) and the Benalla Landfill and Resource Recovery Centre, zoned Public Use Zone 1 (Service and Utility). Areas used as agricultural land with associated dwellings (within the Farming Zone) are also located in the vicinity to the west of the site.

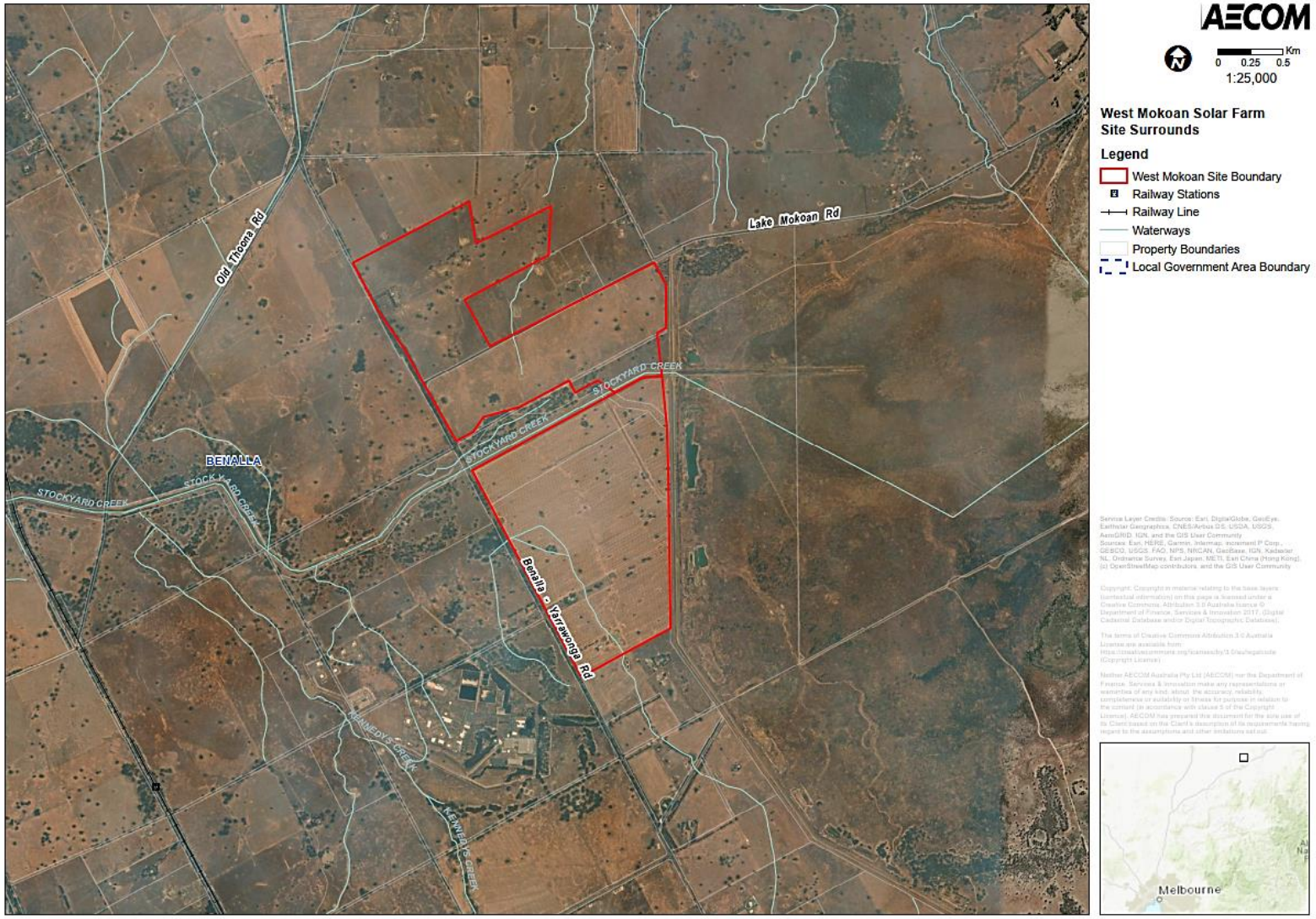


**Figure 8 Site Surrounds**

**Figure 9 Winton Wetlands Infrastructure (holds rainwater runoff)**

**Figure 10 Winton Wetlands Infrastructure (internal drainage basin infrastructure)**

### 2.2.2 Surrounding Sensitive Receptors

The closest sensitive uses to the site are identified as dwellings within the Farming Zone, Special Use Zone and Public Use Zone. Areas of greater sensitivity, such as urban areas, are situated approximately eight kilometres north west and nine kilometres south west from the subject site within the Goorambat and Benalla townships respectively.

The sensitive uses located in proximity to the subject site include residential properties at:

- 81 Lake Mokoan Road, Goorambat
- 18 Farnley Road, Goorambat
- 286 Farnley Road, Goorambat
- 28 Sergeant Road, Chesney Vale

- 524 Benalla-Yarrawonga Road, Benalla
- 623 Benalla-Yarrawonga Road, Benalla

### 2.2.3 Access

The main road corridors in the region include the Hume Freeway which connects Melbourne city centre to the Hume region and the Midland Highway which connects Bendigo through northern Victoria east towards Shepparton and to Benalla. The Midland Highway is located approximately 2 kilometres west of the site and the Hume Freeway is approximately 9 kilometres south of the site. In addition, there are various other notable road corridors including:

- Benalla-Yarrawonga Road which abuts the site to the west
- Benalla-Tocumwal Road further to the west of the site
- Benalla-Winton Road to the south of the site

A summary of the local roads is provided in Table 3 below:

**Table 3 Local Road Summary**

| Road | Description |
|---|---|
| Farnley Road | Unsealed, single carriageway to the north of the site |
| Sergeant Road | Unsealed, single carriageway to the north east of the site |
| Lake Mokoan Road | Sealed, two-way carriageway which separates the northern and southern land parcels of the subject site. |
| Boundary Road | Unsealed, single carriageway to the east of the site |
| Benalla-Yarrawonga Road | Sealed, two-way carriageway to the west of the site |

### 2.2.4 Solar Farm Context

There are currently seven known solar farms that are within proximity to the proposal. Please refer to Figure 11 for the location of the solar farms in relation to West Mokoan Solar Farm and Table 4 for the known solar farms in the area, their status and their distance to the proposal.

**Table 4 Solar Farms in Proximity to West Mokoan Solar Farm**

| Solar Farm | Approved/Proposed | Distance from Proposal |
|---|---|---|
| Winton North Solar farm | Under assessment | 20 kilometres south-east |
| Winton Solar Farm | Approved | 11 kilometres south-east |
| Mokoan Solar Farm | Approved | 10 kilometres south-east |
| Glenrowan West Solar Farm | Approved | 14 kilometres south-east |
| Glenrowan Solar Farm | Approved | 16 kilometres south-east |
| Goorambat Solar Farm | Approved | 8 kilometres north |
| Goorambat East Solar Farm | Approved | 8.5 kilometres north |
| Kennedys Creek Solar Farm | Approved | 5.2 kilometres south |

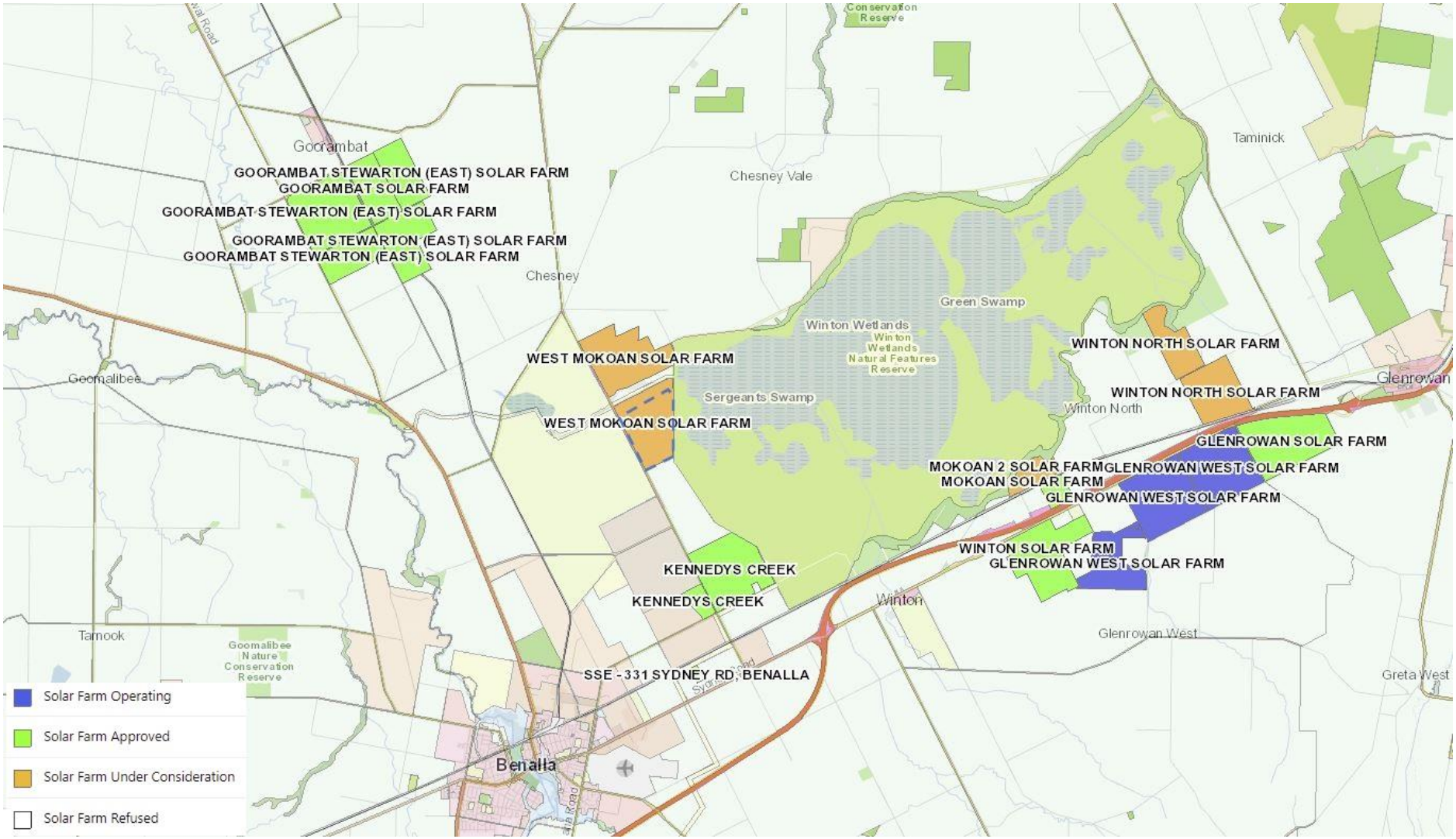


**Figure 11 Solar Farm locations in relation to West Mokoan Solar Farm**

## 2.3 Site Selection

The subject site was selected for its suitability as a solar farm due to its levels of solar exposure (estimated to be approximately 17.2 ($MJ/m^2$) annually) and for the following reasons:

- The topography of the land is relatively flat ensuring a straightforward and efficient layout, construction and ongoing maintenance process.
- The site has direct access to existing transmission lines associated with the Glenrowan to Shepparton network.
- The proposed development will not result in the loss of high quality agricultural land as identified in the Agricultural Impact Assessment (Appendix L).
- There are a limited number of residential dwellings within close proximity to the site.
- The proposed design has sought to limit the extent of native vegetation removal on the subject site. This ensures that minimal clearance and loss of native vegetation will be required for the Project.
- Generally, solar developments are compatible with farming regions and are able to co-exist with agricultural operations that may be located near the subject site. Furthermore, as part of an ongoing maintenance program for the Project, livestock (sheep) may continue to be utilised for grazing purposes on the site following construction of the Project.

# 3.0 Proposal Details

The following section provides a summary of the proposal and should be read in conjunction with the accompanying application drawings prepared by AECOM. The primary project components consist of:

- Approximately 531,216 solar PV panels on a single-axis tracking system mounted on aluminium or steel piles with an installed capacity of up to 192 MW Alternating Current (AC) (233 DC Capacity).
- Approximately 57 Power Conversion Units (PCU – Inverter buildings with hard standings).
- Direct Current (DC) and AC cabling for electrical reticulation.
- A designated substation and operations and maintenance (O&M) facility area that includes a substation, a Battery Storage Facility/Energy Storage System (ESS) of up to 20MW/20MWh capacity, a control building, substation transformers, office and amenities.
- Internal all-weather access tracks and a laydown area.
- Creation of a new access to Benalla-Yarrawonga Road and Lake Mokoan Road.
- Landscaping and revegetation.
- Removal of 1.891 hectares of native vegetation.
- Security fencing, CCTV and Infra-Red lighting.
- Business identification signage including three signs totalling 3 sqm in display area (1 sqm each) located at site entrances along Benalla-Yarrawonga Road and Lake Mokoan Road.
- Realignment of easements.

## 3.1 Solar Modules and Mounting Structure

The concept layout (Appendix B) comprises of a Single Axis Tracking System (refer Figure 12 for typical system to be used). The final layout for the Project will be subject to a detailed design process.

Photovoltaic (PV) modules, or ‘solar panels’ convert energy from the sun into DC electricity through a process known as the photoelectric effect. The modules likely to be selected for this project will be 440W, 144 cell monocrystalline modules with dimensions of approximately 2.115 metres by 1.052 metres. These modules are attached to mounting structures and will be set back at least 10 metres from all property boundaries.

Single Axis Tracking Systems likely to be selected for this Project will comprise of two modules in portrait orientation (refer to examples in Figure 12 and Figure 13). The panel modules are sited to rotate around the horizontal axis, following the suns trajectory. The mounting configuration for this Project will consist of modules mounted on each tracker arm in portrait arrangement, with the tracking angle ranging from +60 to -60 degrees to the horizontal each day. The width of the rows for this aforementioned arrangement would be approximately 7.5 metres for single axis tracking. A typical Single Axis Tracker System comprises PV modules mounted on steel or aluminium racking systems aligned north to south with a maximum height above ground level of approximately 4.2 metres. Due to potential flooding in some areas of the subject site (refer to Appendix D and Appendix E), some PV modules will be elevated 300 mm above the applicable flood level (maximum height above ground level of approximately 4.5 metres). The exact height of these PV modules will be subject to detailed design.

In regard to the electrical configuration, groups of PV modules are connected in a series to form a string. The modules generate electricity in Direct Current (DC), which is converted to Alternating Current (AC) via an inverter, which is then transformed to a suitable voltage for onward transmission to the grid network.

Table 5 outlines the specifications of the proposed system.

**Table 5 Typical Single Axis Tracking System Specifications**

| Item | Single Axis Tracking System |
|---|---|
| **Mounting Structure Configuration** | |
| Row Alignment | North south (tracking east west) |
| Tracker Rotation Range | Tracker range -60˚ to +60˚ |
| Row Spacing (centre to centre) | 7.5 metres |
| PV Module Mounting Configuration | Double line of 84 PV modules in portrait |
| **Electrical Configuration** | |
| String Configuration | 28 modules per string |
| Quantity of Modules | 531,216 |
| Maximum Capacity | 192.37 MW (AC) / 233.74 MW (DC) |

**Figure 12 Typical Single Axis Tracking System with Two Modules in Portrait Orientation**

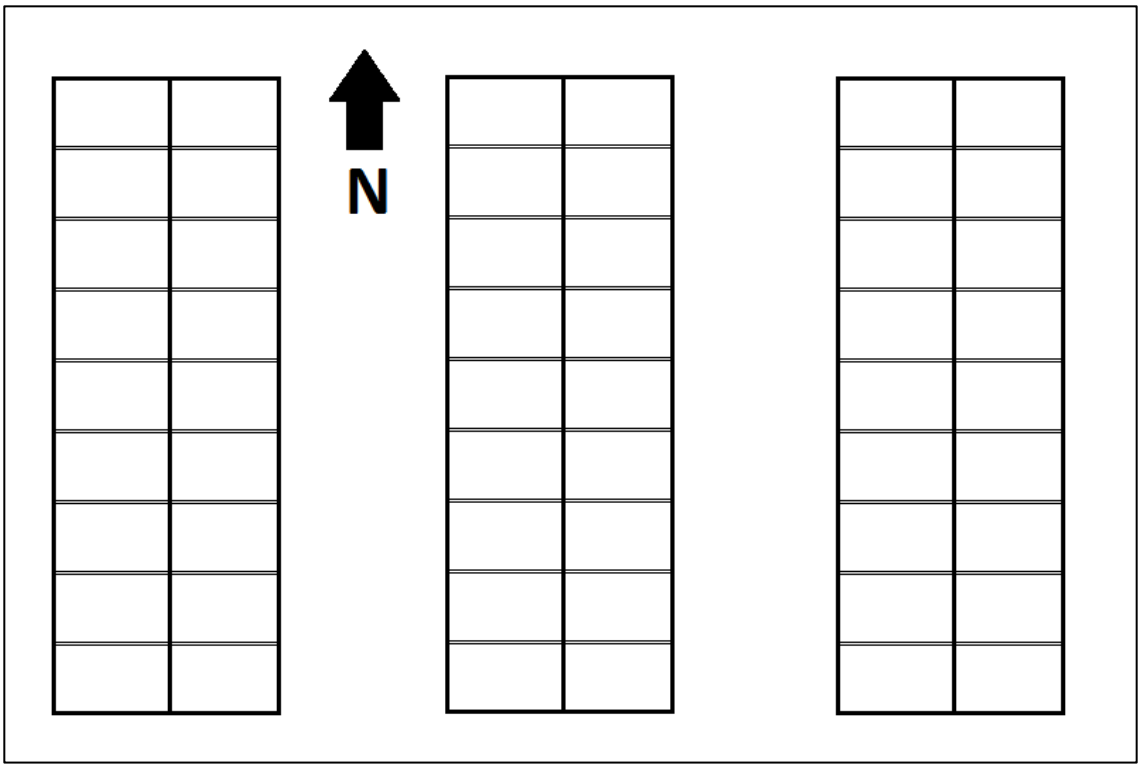


**Figure 13 Solar farm panel rows oriented along the north south axis**

## 3.2 Power Conversion Units

Power Conversion Units, or PCUs, house transformers and inverters which will be sited between the PV Module Arrays, along the solar farm's internal access tracks. There will be approximately 57 PCUs across the site (12 single inverters and 45 double inverters). The PCUs convert the Direct Current (DC) to Alternating Current (AC), while the transformers increase the voltage from Low Voltage to a Medium or High Voltage, as required for the electricity grid connection.

PCUs are a compact, containerised product, with each unit measuring approximately 2.5 metres wide by 2.9 metres high, with a depth of 12.2 metres (equivalent to a 40 foot shipping container for the double inverter units). Due to potential flooding over parts of the subject site, some of the PCUs will be elevated a 300 mm above the applicable flood level in accordance with GBCMA requirements (refer to Section 7.2). The exact height of these PCUs will be subject to detailed design. The location of the PCUs are identified in the Application Plans at Appendix B. Figure 14 and Figure 15 provide examples of typical PCUs.


**Figure 14 Typical Single Inverter**


**Figure 15 Typical Double Inverter**

## 3.3 Cabling

DC and AC cabling, consisting of copper or aluminium cables, will be installed in a trench of a maximum 1,200mm underground and up to 1,500mm wide. Cables would typically be bedded in a sand backfill approximately 100mm above and below each cable, with excavated material used to backfill the trench to ground level. Identification of the location of the cables is via tape or near the top of the trench backfill. The cables extend through the PV Module Array, thereby following the array layout and access tracks and PCUs to the control building. A medium voltage overhead powerline is proposed to cross the land at Stockyard Creek, connecting the northern and southern land parcels with power.

## 3.4 Utility Zone

### 3.4.1 Operations and Maintenance Facility Area and Substation

An onsite O&M facility will be provided for staff. Details of this area will be confirmed; however, it is anticipated that it will include an office, workshop and warehouse building as well as a yard for car parking, waste storage and receiving deliveries. The O&M facilities are used for all operational and maintenance requirements of the solar farm and substation, and will contain external lighting covering the yard, and all necessary utilities including water and electricity. An Aux Transformer (33kV/415V) will supply energy for onsite requirements such as amenities, the O&M building and the Supervisory Control and Data Acquisition (SCADA) industrial control system.

A control building will be located within O&M facility area which will accommodate the switch room, auxiliary room and control room. These rooms contain the medium voltage reticulation switchgear, auxiliary power systems including battery banks and the SCADA system. The switchgear comprises a combination of electrical disconnect switches, fuses or circuit breakers which are used to control, protect and isolate electrical equipment. Typically, the control building will be developed on stilts to allow for cable reticulation. The control building is likely to be 80 square metres.

A substation will be located within the O&M facility area. Cables from the PV Solar Arrays will collect in the proposed substation. Power generated from the Project will be connected to the existing 220kV line. Typical elevations for the substation are contained in the Application Plans at Appendix B.

A switchyard will be located within the designated O&M facility area adjacent to the control room. The switchyard will consist of High Voltage switching equipment.

### 3.4.2 Grid Connection

The Glenrowan to Shepparton 220kV line currently runs through the site. Based on a preliminary grid connection assessment undertaken by AECOM, there is a maximum network capacity of approximately 200 Megawatts to connect to the double circuit Glenrowan to Shepparton 220kV line. Cables from the PV Solar Arrays will collect in the proposed switchyard. Power generated from the Project will be fed into the National Energy Market.

### 3.4.3 Battery Storage

The proposed Battery Storage Facility/ Energy Storage System (BESS) will be located within a secure compound within the Project's utility zone (adjacent to the substation and O&M facility area). The BESS capacity will be confirmed at detailed design stage. The BESS will enable the solar farm to be a flexible energy generation source, providing energy when it is required the most. The BESS converts energy into electrical energy and stores the energy internally. It may also contribute towards network security Frequency Control Ancillary Services (FCAS) in the Region. The exact specifications of the proposed battery storage area are not yet determined and will be determined during the detailed design phase of the Project. Typical elevations and layout for the BESS are contained in the Application Plans at Appendix B.


**Figure 16 Typical Battery Storage Facility**

## 3.5 Laydown Area and Site Access

The proposed laydown area will be located adjacent to the control room. This area will be utilised during construction to store equipment. This area is also likely to include parking and amenities, office buildings and maintenance sheds that may be required during construction or operation. The proposed laydown area will be accessed via the internal access tracks. The size of the laydown area is still to be confirmed and will depend on the contractor requirements for the Project.

A network of site access tracks will provide access throughout the site during construction and will remain in situ for the ongoing maintenance of the solar farm. The access tracks will be approximately four metres wide and includes a track around the site perimeter. This four metre wide perimeter access track is sited within a ten metre wide fire break in accordance with CFA recommendations. The site access gates will be located on Benalla-Yarrawonga Road and Lake Mokoan Road. The existing crossover along Benalla-Yarrawonga Road at the southern end of the site will be utilised, however upgrades to the crossover are likely to occur, to allow construction vehicles to access the site.

Additional site access will be created further north along Benalla-Yarrawonga Road, and at three locations along Lake Mokoan Road.

## 3.6 Landscaping

Landscaping Plans have been prepared by AECOM for the Project (Appendix H). The Landscape Plan proposes:

- Targeted screen planting of 10 metres in width where boundaries have frontage towards sensitive receptors, to mitigate visual impact. This includes most northern boundaries of the northern land parcel including the far north boundary, and the northern boundary intersected by Lake Mokoan Road, part of the eastern boundary of the northern land parcel, part of the western boundary at the southern land parcel, and the southern-most boundary of the subject site.
- Typical screen planting of 5 metres in width along most eastern boundaries to mitigate visual impact from sensitive receptors and the Dam Wall Hiking Trail.
- Typical screen planting of 5 metres in width along parts of the western boundary to mitigate visual impacts from Benalla-Yarrawonga Road and sensitive receptors.
- Typical screen planting of 5 metres in width along parts of the northern boundary intersected by Lake Mokoan Road, to mitigate visual impact from the silo tourist trail route and to reduce glint and glare.
- Existing vegetation along Benalla-Yarrawonga Road is to be retained with infill planting to be incorporated.

Where possible, existing (native) vegetation is proposed to be retained, particularly where visual screening already occurs. The existing vegetation, along with vegetation within the road reserves, will contribute to the overall screening of the solar farm.

A Landscape and Visual Impact Assessment (LVIA) has been prepared by AECOM (Appendix G) which provides an assessment of the potential landscape and visual impacts during the construction and operation stages of the Project (including proposed landscaping). Photomontages have also been prepared to identify the visual impact of the Project on the surrounding area (Appendix G).

## 3.7 Native Vegetation

### 3.7.1 Native Vegetation Removal

The use and development of land for the proposed solar farm will require the removal of native vegetation. The removal of this vegetation is considered necessary to provide an efficient and effective layout of the solar farm to ensure maximum yield and that the operation of the solar farm is not hindered by the overshadowing of solar panels. The Flora and Fauna Assessment prepared by AECOM (Appendix C) includes a Native Vegetation Removal Report which confirms 1.891 hectares (28 scattered trees, 26 large, 2 small) of proposed removal of native vegetation. As a result, an offset of 0.394 general habitat units with a minimum strategic biodiversity score of 0.312 is required. Refer also to Section 7.1 of this report.

### 3.7.2 Woodland Management Plan

The area identified in the Application Plans (Appendix B) described as ‘Native Vegetation Enhancement Area’, north of Stockyard Creek (Lot 1 TP104377 and Lot 98B PP2704) is proposed to be restored to contribute to regional landscape linkages by adding value to past revegetation efforts and connecting areas of remnant woodland through biodiversity enhancement activities. This will be achieved through managing issues such as grazing, weeds, pest animals, biomass levels, and through tree and shrub enhancement planting. In addition, a remnant woodland currently managed for biodiversity conservation and protected under a Trust for Nature (TFN) conservation covenant will be managed by the Project. Along with adjacent areas of Crown land, these areas will be managed and restored to reconnect woodland values (refer to Figure 17). Most of this land is under control of the Solar Developer (892 Yarrawonga Development Pty Ltd). A portion of the land is Crown Land and landowner consent to use Crown Land has been sought (refer to Section 7.15). A Woodland Management Plan has been prepared (Appendix P) which incorporates standard biodiversity

enhancement techniques whilst drawing on local experience and methods adopted by the Regent Honeyeater Group which have high planting success rates in the region.

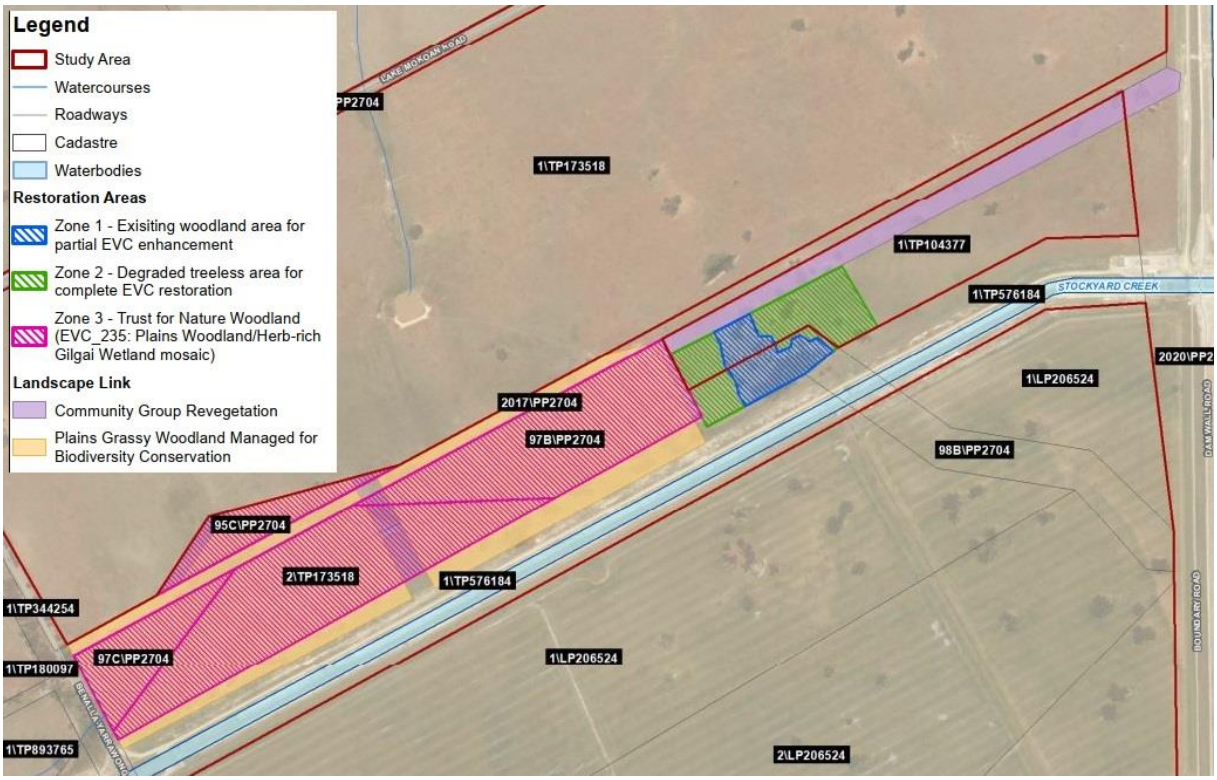


**Figure 17 Restoration area and landscape link**

## 3.8 Security Fencing

The solar farm will be surrounded by a chain link fence measuring up to two and a half metres in height. The extent of security fencing is dependent on insurance requirements for the Project. Typical security fence vehicle gates will be incorporated into the fencing system to allow vehicular and pedestrian access to the PV modules, inverters, transformers and substation locations for operation and maintenance activities. It is noted that the proposed fencing will seek to accommodate wildlife management and movement through the site and will not incorporate barbed wire. Inclusion of a permit condition requiring further details be provided prior to the commencement of works is appropriate. Appropriate safety signage will be displayed on the fencing and gates. An example of typical fencing anticipated to be used for the Project is included in the Application Plans at Appendix B. Security fencing will also be installed around the substation which will be approximately three metres in height.

## 3.9 CCTV and Infra-Red Lighting

A CCTV security system may be installed with cameras and infrared lighting. If required, the system will be installed at regular intervals on the site perimeter and within the site, most likely on support posts of up to 3.5 metres high. The location of the CCTV cameras is subject to detailed design and future security requirements but is likely to be sited on some site perimeters and access ways. It is proposed to install lighting for the substation and O&M facility area. Whilst exact details of the proposed lighting are not yet known, it will be low-level and directed to the facility area to minimise the potential for light spill. No flood lights are proposed to provide illumination of this area. The proposed lighting will comply with *Australian Standard 4282 Control of the obtrusive effects of outdoor lighting*.

The security system used for the Project will include infrared lighting. Infrared lighting uses a spectrum of lighting just below red, and is not visible to the human eye, therefore impacts from lighting from the security system will be minimal.

## 3.10 Business Identification Signage

Business identification signage will be installed to clearly identify certain elements within the subject site, such as the site entrance and safety information. Signage will be limited to the extent necessary for identification purposes and will include three signs (1 square metre each), totalling 3 square metres in display area. The three signs will be installed at the site entrance of each of the main properties comprising the solar farm (616 Benalla-Yarrawonga Road, 892 Benalla-Yarrawonga Road and Benalla-Yarrawonga Road) to identify the West Mokoan Solar Farm. This will result in one sign located along Benalla-Yarrawonga Road, and two signs located along Lake Mokoan Road.

## 3.11 Site Maintenance

There is the opportunity for sheep grazing on the site during the operation of the solar farm to control vegetation growth (see Figure 18). Due to the spacing between the solar panels, there is sufficient space for stock (sheep) to co-exist with the solar panels. The presence of solar panels on the site will also provide shelter for sheep grazing on the site. As the solar panels will be arranged in a Single Axis Tracking Configuration, low hanging wires and exposed electronics will be kept to a minimum, reducing hazards for sheep. Further, the supporting pole for the solar panels for this system is sufficient in height to provide adequate space for the movement of sheep.

With regards to weed management, sheep grazing can be seen as an effective solution, however this will be subject to entering into an agreement with a local farmer. If this does not become a viable option, other alternatives for weed and fire fuel control will be included in the Environmental Management Plan (EMP) for the Project.

**Figure 18 Example of sheep grazing amongst solar panels**

## 3.12 Easements

There are easements on the subject site as described in detail in Section 2.1.3 and a number of these are proposed to be realigned. In order to realign the easements, the easements are required to be removed, and new easements created. This is to facilitate the demolition of dwellings that therefore no longer require services, as well as to maximise the most efficient use of land for development of infrastructure associated with the proposed West Mokoan Solar Farm.

### 3.12.1 22kV powerline easements

*Northern Land Parcel*

All of the powerline easements shown as E-3, E-4 and E-5 on Lot 1 PS625748F are to be removed (refer to the Survey Plans shown at Appendix O).

The dwelling located at 892 Benalla-Yarrawonga Road is proposed to be demolished to facilitate the Project and therefore, no longer requires connection to power.

As shown in the Powerline Easement Plan (refer to Appendix B), the portion of the powerline easement that is within land at 81 Lake Mokoan Road (Lot 2 PS625748) will not be removed as this land is not part of the Project. The power supply to the dwelling located at 81 Lake Mokoan Road will be maintained from the east.

No easement exists for the powerline on Lot 1 TP173518C, therefore, while the powerline is proposed to be removed, no easement is proposed to be realigned on this parcel.

*Southern Land Parcel*

The 22kV powerline easements shown as E-2 and E-4 in Lots 1-5 of LP206524H are to be removed. Powerline easement E-1 is to be created in order to realign the easement. The realigned easement is to be located along the boundaries at the south west corner of the southern land parcel (refer to Powerline Easement Plan included within Application Plans shown at Appendix B and the Survey Plans shown at Appendix O).

### 3.12.2 Drainage easements

The drainage easement is proposed to be realigned to correct the current misalignment between the actual location of the drainage and the easement shown on the title plan. The drainage easement shown as E-3 and E-4 in lots 2-5 on LP206524H is to be removed. The drainage easement is to be realigned by creating easement E-1 (refer to Survey Plans shown at Appendix O).

# 4.0 Construction and Operation

## 4.1 Construction Activities

It is anticipated that construction activities would occur over an 18 month period commencing in the second half of 2022 (subject to obtaining required approvals). The Project will create more than 250 jobs during the construction phase. The construction process for the Project is anticipated to involve the following activities:

- Preliminary site access for site set up and mobilisation to establish construction area;
- Civil works, which may include clearing of the land, grading, compaction, stormwater drainage, sediment controls and dust suppression;
- Installation of footings (final siting to be determined during detailed design);
- Installation of the solar panels onto mounting structures as described in Section 3.0;
- Installation and connection of the solar panels to solar farm infrastructure including electrical control cabinets;
- Installation of the PCUs;
- Connection of site infrastructure, including the electrical control cabinets, PCUs and underground cabling;
- Construction of substation; and
- Construction of control building and Operation and Maintenance area.

Construction activities would be undertaken during standard hours for building and works. Ongoing communication with local residences would occur to inform them of the timing and duration of proposed activities, prior to the commencement of any works.

Construction will be managed through a Construction Environment Management Plan (CEMP) as proposed by the Preliminary Environmental Management Plan (PEMP) included at Appendix J.

### 4.1.1 Existing Dwellings

The dwellings located at 892 and 616 Benalla-Yarrawonga Road are proposed to be demolished.

## 4.2 Operation

The solar farm is anticipated to operate for up to 30 years. This estimated project life is due to the degradation of solar panels over time, with solar panels currently having a lifespan of around 30 years before needing to be replaced. A minimal number of personnel would be required for the operation and maintenance of the Project, with up to six full-time equivalent (FTE) jobs to be created for the operational phase on a long-term or permanent basis. As identified at Section 3.11, sheep may be used to manage vegetation growth amongst the solar panels during the operation of the solar farm.

Monitoring is typically undertaken remotely. Cleaning of the modules will be required on an as needs basis and will be dependent on weather conditions (this may be required once every two years, or several times per year). Full servicing of PCUs and switchyard equipment will be undertaken on a quarterly basis. There will be no storage of hazardous or dangerous goods or materials on site during the operation of the Project.

## 4.3 Decommissioning

At the end of its anticipated lifespan of approximately 30 years, the West Mokoan Solar Farm will be decommissioned (the removal of all above ground infrastructure and any infrastructure within 1.2 metres of ground level) and rehabilitated to its pre-works state. Alternatively, the solar farm may also be upgraded and continue to operate if required, depending on the appropriate planning controls in place at the time of decommissioning.

Most materials deployed are capable of being recycled and it is expected that an aspiration to recycle or reuse the majority of materials will be achievable. Following decommissioning of the site, rehabilitation of the site will ensure that it continues to be viable for agricultural farming purposes or potential to upgrade and continue electricity generation.

## 4.4 Construction and Operational Traffic

It is anticipated that the following vehicle movements and activity requirements will be required during the construction of the solar farm:

- Site set up and mobilisation (semi-trailer and low loader).
- Road and hardstand material construction equipment delivery (truck, dog and low loader).
- General equipment delivery (low loader and semi-trailer).
- AC Cable installation (semi-trailer and low loader).
- Overhead line installation (semi-trailer, low loader and Restricted Access Vehicle (RAV)).
- Switchyard construction (concrete agitator, low loader, semi-trailer, RAV and truck).
- Other employee movements, waste, consumables etc. (light vehicle, van and truck).

It is anticipated that approximately 600 truck movements would occur over the construction period. During operation, the Project is anticipated to generate approximately 1-3 vehicle movements per day.

# 5.0 Legislation and Policy

The following section contains legislation and policies of relevance to the proposed solar farm. The policies form the Planning Policy Framework, including the Municipal Strategic Statement and the Local Planning Policy Framework of the Planning Scheme. An assessment against these policies is provided in Section 5.10 of this Report.

## 5.1 Commonwealth Legislation

### 5.1.1 Environment Protection and Biodiversity Conservation Act (1999)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for a Commonwealth assessment and approvals system for:

- Actions that have a significant impact on Matters of National Environmental Significance.
- Actions that (indirectly or directly) have a significant environmental impact on Commonwealth land.
- Actions carried out by the Commonwealth Government.

A project requires the approval of the Environment Minister if an action is likely to have a significant impact on a matter of national environmental significance (MNES) or listed as a matter of national significance which includes World Heritage Properties, Wetlands of International Importance, Commonwealth listed threatened species and ecological communities, commonwealth listed migratory species, nuclear action, commonwealth marine areas and commonwealth land.

## 5.2 State Legislation and Policy

### 5.2.1 Planning and Environment Act (1987)

The *Planning and Environment Act 1987* (Vic) (the P&E Act) establishes '*a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians.*' Section 4 of the P&E Act contains the overarching objectives of planning in Victoria, which include:

*a. To provide for the fair, orderly, economic and sustainable use, and development of land;*

*b. To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;*

*c. To secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria;*

*d. To conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historic interest, or otherwise of special cultural value;*

*e. To protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community;*

*f. To facilitate development in accordance with the objectives set out in paragraphs (a), (b), (c),(d) and (e)*

*fa. To facilitate the provision of affordable housing in Victoria;*

*g. To balance the present and future interests of all Victorians.*

### 5.2.2 Environment Effects Act (1978)

In Victoria, the assessment of potential environmental impacts or effects of a proposal may be required under the *Environment Effects Act 1978* (Vic) (EE Act). The process under this Act enables statutory decision-makers (Ministers, local government and statutory authorities) to make decisions about whether a development with potentially significant environmental effects should proceed. The EE Act enables the Minister for Planning to decide whether an Environmental Effects Statement (EES) should be prepared for a Development. The Ministerial Guidelines for Assessment of Environmental

Effects (DSE, 2006) specify criteria under which a development must be referred to the Minister for Planning, for a decision on the need for an EES.

### 5.2.3 Flora and Fauna Guarantee Act (1988)

The *Flora and Fauna Guarantee Act (1988)* (Vic) (FFG Act) is the primary legislation dealing with biodiversity and conservation and sustainable use of native ecology in Victoria. Under the FFG Act, a permit is required for the impacts (to kill, injure, disturb or collect) protected or threatened listed flora and fauna. In August 2019, the Victorian Parliament passed changes to amend the Flora and Fauna Guarantee Act 1988 to provide for a modern and strengthened framework for the protection of Victoria's biodiversity. The Flora and Fauna Guarantee Amendment Act 2019 came into effect on 1 June 2020, introducing changes that include a new duty on public authorities to have regard to biodiversity conservation objectives, and a new approach to listing threatened species and designating critical habitat.

### 5.2.4 Renewable Energy Action Plan (2017)

Victoria's *Renewable Energy Action Plan (2017)* establishes Victoria's long-term renewable energy policy agenda and pathway. The Plan states that Victoria's renewable energy target (VRET) is to be 25 per cent renewable energy generation by 2020 and 40 per cent renewable energy generation by 2025, which includes '*20 per cent for large-scale solar power, to develop strong industry capability and lead the nation.'* The Plan identifies the following opportunities:

- *Investing in growing the renewable energy sector and economy.*
- *Helping communities discover new energy opportunities and manage the transition.*
- *Ensuring a reliable and resilient electricity supply.*
- *Building skills and capabilities to grow the sector.*

On 30 October 2019, the Renewable Energy (Jobs and Investment) Amendment Bill 2019 (Vic) passed the Victorian Parliament, bringing the increased VRET of 50% by 2030, into legislation.

### 5.2.5 Victoria's Climate Change Framework (2016)

*Victoria's Climate Change Framework (2016)* identifies the Government's long-term vision for climate change action. The vision for 2050 for Victoria is for net-zero emissions. The Plan sets out four pillars that underpin the State's transition to net zero emissions while maintaining economic prosperity which includes:

- *Increase energy efficiency and productivity.*
- *Move to a clean electricity supply.*
- *Electrify our economy and switch to clean fuels.*
- *Reduce non-energy emissions and increase carbon storage.*

### 5.2.6 Victoria's Climate Change-Adaptation Plan (2017-2020)

Victoria's Climate Change Adaptation Plan 2017-2020 lays out a blueprint for action that will help Victoria meet the challenges and act on the opportunities of climate change. It seeks to help sustain a thriving natural environment and make sure Victoria is a healthy, prosperous, safe and vibrant place to live, work and play for all Victorians, and for the thousands of visitors welcomed each year. The Adaptation Plan lays out the priorities for the next four years for the Victorian Government to better understand and manage current impacts, and to prepare for the long-term risks of climate change. The Adaptation Plan explains how the Government will support adaptation and coordinate action on different scales (local, regional and sectoral) and how it will embed climate change considerations across Government.

### 5.2.7 Aboriginal Heritage Act (2006)

The main purpose of the *Aboriginal Heritage Act (2006)* (Vic) (AH Act) is to provide for the protection of Aboriginal cultural heritage in Victoria. The AH Act seeks to empower traditional owners as protectors of their cultural heritage, strengthen the ongoing right to maintain the distinctive spiritual,

cultural, material and economic relationship of traditional owners of the land and waters and promote respect for Aboriginal cultural heritage.

### 5.2.8 Water for Victoria (2016)

Water for Victoria is the Victorian Government's strategic plan for management of water resources. The Plan recognises agriculture's significant contribution to the State and national economy. Water and its management are vital to the development of the agricultural sector. The Victorian Government aims to (among others):

- *Support regional development and change.*
- *Invest in rural infrastructure.*

Further, the Plan acknowledges the importance of water for Aboriginal people and seeks to collaborate with Traditional Owners in the management of water. The Victorian Government aims to:

- *'Recognise Aboriginal values and objectives of water.*
- *Include Aboriginal values and traditional ecological knowledge in water planning.*
- *Support Aboriginal access to water for economic development.*
- Build capacity to increase Aboriginal participation in water management'.

### 5.2.9 Agriculture Victoria Strategy (2017)

The *Agriculture Victoria Strategy (2017)* recognises the sector's importance to economic growth and its potential for enhancing social and economic wellbeing across Victoria. The Strategy recognises a number of challenges for Victorian farmers including adaptation to climate change and '*responding to the potential for increased land use conflict*'.

The Department of Economic Development, Jobs, Transport and Resources' Vision set out in the Strategy is for '*a productive, competitive and sustainable Victorian economy, that contributes to a prosperous and inclusive society.*' The short/intermediate outcomes for agricultural in Victoria include 'collective long-term planning by regional stakeholders seeking agreed agricultural land uses' and *'government, industry and community engage in conversations about future regional land use planning, including strategic agriculture land use'*.

### 5.2.10 Solar Energy Facilities – Design and Development Guideline (August 2019)

The *Solar Energy Facilities – Design and Development Guideline* were developed by the Victorian Government to support the siting, design and assessment of large-scale solar energy facilities. The Guideline was finalised in August 2019 and adopted into the Planning Scheme by Planning Scheme Amendment (Amendment VC161) in September 2019. The main aims of the Guideline are to ensure new solar energy facilities are sited in locations with sufficient access to the electricity transmission network, and to avoid or minimise impacts on the local environment, productive agricultural land, irrigated areas and sensitive land uses.

The Project has considered the document and provided an assessment at Section 6.2.10 of this report. The Guideline recommends ideal siting conditions for solar energy facilities and outline best practice procedures for the design, construction and operational stages. The Guideline states that ideal siting conditions should not lead to:

- *the loss or immediate interruption of supply to the immediate or broader electricity transmission network*
- *the loss of vegetation, habitat or species of environmental importance*
- *the loss of cultural heritage or landscape values of significance*
- *the loss of productive, state-significant agricultural land*
- *increased exposure of the area to fire, flood or other natural or environmental hazard*

Ideal siting conditions of a solar energy facility would be located:

- *on land with topographical conditions that avoids the need for unnecessary or excessive earthworks or changes to the natural landscape*
- *to avoid the loss of native vegetation and biodiversity and if losses cannot be avoided, they are minimised and can be offset*
- *close to the electricity grid network, to minimise the need for additional infrastructure and associated impacts*
- *a sufficient distance from existing urban areas or designated urban growth areas*
- *where there can be adequate space between facilities within an area to avoid cumulative impacts of built form concentration*
- *away from the floodplain of a major water course or wetland*
- *where it has ready access to main roads*

Other site selection criteria to be considered are:

- Policy context, zones and overlays;
- Agricultural values including irrigation infrastructure impacts;
- Heritage and Aboriginal cultural values;
- Landscape values and visual amenity;
- Flora and fauna;
- Biodiversity and native vegetation;
- Natural hazard management;
- Access to the Victorian electricity grid;
- Other infrastructure requirements; and
- Cumulative effect of solar energy facilities in the area.

The Guideline identify that proponents should undertake community consultation in the early phases of project development and prior to lodging a planning permit application in order to best understand the views of the community and address any concerns. The Guideline also includes discussion on a number of best practice standards in relation to:

- Siting Facility Components
- Landscape Screening
- Glint and Glare Management
- Designing Security Measures
- Traffic Impacts
- Noise
- Earthworks and Dust Management
- Natural Hazard Risk Management
- Dangerous Goods and Building Fire Safety
- Electromagnetic Radiation and Interference
- Heat Island Effect
- Environmental Management Plan
- Risk and Emergency Management Planning
- Site Access and Traffic Management

- Construction Noise and Dust Management
- Decommissioning.

### 5.2.11 Guidelines for Renewable Energy Installations, CFA (2019)

The CFA Guidelines for Renewable Energy Installations seeks to provide details about standard measures and processes in relation to fire safety, risk and emergency management that should be considered for all new renewable energy facilities and the upgrading of existing facilities.

## 5.3 Regional Policy

### 5.3.1 Hume Regional Growth Plan (2014)

The *Hume Regional Growth Plan* (RGP) is an identified policy document at **Clause 11.01-1S** of the Planning Scheme. The site is located within the Hume Region as identified at Map 1 of the RGP. Specifically, the site is located in Central Hume as shown at Map 2 of the RGP.

The RGP provides high level land use guidance at a local level and informs the decision making of a range of authorities regarding future investment in the Hume Region. The RGP identifies that the Hume Region is growing and changing, and that the Region is supported by the larger regional cities of Shepparton, Wangaratta and Wodonga.

It is identified that the Region's economy is '*based on access to natural resources, such as water and productive agricultural land (including extensive irrigated areas), environmental assets,(such as significant areas of natural beauty),heritage assets and the strategically important Melbourne-Canberra-Sydney (Hume corridor) and Melbourne-Brisbane (Goulburn Valley corridor) national road and rail transport corridors.*' The economy of the Region is largely reliant on agriculture and manufacturing; however, it is recognised that tourism is also an important industry and is also a major employer for the Region.

Relevant key drivers for change and challenges for growth within the Region are identified as (selected as relevant):

- *Preparing for the potential impacts and opportunities arising from climate change.*
- *Impacts of climatic conditions such as long-term droughts, wide spread flood and an increase in the number of days of extreme heat and fire danger.*
- *Strong transport links connecting the region to intrastate and interstate markets and services as well as gateways for international trade, including potential future links such as high speed rail.*
- *Changes in economic sectors, particularly agriculture and manufacturing.*
- *Economic adjustments to initiatives that support national and global action to reduce greenhouse gas emissions, such as a price on carbon.*

The RGP also acknowledges that *'infrastructure will also be needed to support renewable energy initiatives, such as solar energy generation'* and the importance of *'developing alternative energy sources such as solar*.

The RGP mentions that the Hume Region will continue to be one of Australia's major food producing areas and that *'agricultural production will be supported through the protection and enhancement of key agricultural assets including land and water resources.'*

### 5.3.2 Victoria's Regional Statement (2015)

Victoria's Regional Statement identifies the diverse aspects of Victoria's regional economy, including food, fibre, tourism, manufacturing and natural resources. The Regional Statement recognises the major benefits renewable energy developments have for regional Victoria to reduce emissions, create jobs and put downward pressure on energy prices.

The Statement identifies that Government supports '*sustainable enterprises such as nature-based tourism, resource recovery / recycling industries and clean and innovative industries that have a natural home in the regions, such as new energy technology.'*

Further the Statement identifies that the Victorian Government is committed to:

- *$20 million fund (New Energy Jobs Fund) to support Victorian-based new energy technology projects that create a or preserve long term sustainable jobs.*
- *An initiative to use our energy purchasing power to source renewable energy certificates from new projects in Victoria, bringing forward around $200 million of new investments in renewables.*

### 5.3.3 Goulburn Broken Regional Catchment Strategy (2013-2019)

The Goulburn Broken Regional Catchment Strategy (RCS) highlights the importance of biodiversity within the region, including the important habitat that native vegetation provides for many species. The RCS also identifies the dominant land use within the Catchment as being privately owned land used for dryland agriculture. Waterways, floodplains and wetlands are an integral part of the Catchment due to their environmental, social and economic values. The vision of the RCS aims to achieve healthy, resilient and increasingly productive landscapes supporting vibrant communities.

The RCS provides the strategic framework for aligning sub-strategy implementation by listing the sub-strategies' 20 to 30-year objectives for biodiversity, land, water and people. The Biodiversity Strategy outlines a series of management measures to meet biodiversity objectives and prioritises geographic areas for two main actions: 1) protecting ecosystem services and 2) enhancing existing remnant vegetation through corridors and linkages.

The RCS identifies Benalla as located within 'Productive Plains'. It is highlighted that conservation reserves are too few and small to sustain wildlife, however, the area can be considered fragmented with potential for revegetation and connection of remnant patches.

The focus for the area of 'Productive Plains' includes to increase native vegetation areas and connections to Goulburn and Broken Rivers, Holland and Hughes Creek and Winton Wetland.

## 5.4 Local Policy

### 5.4.1 Council Plan 2017-2021 (2020 Review)

The 2020 Review of the *Benalla Rural City Council Plan 2017-2021* is structured around the following five key themes:

- *Connected and Vibrant Community.*
- *Engaging and Accessible Places and Spaces.*
- *Sustainable Environment.*
- *Thriving and Progressive Economy.*
- *High Performing Organisation.*

Relevant strategic objectives and initiatives of the Plan include:

- *Involve and inform the community on environmental issues, strategies and opportunities for reducing our environmental impact.* (Strategic Objective 3.1).
- *Implement actions from various strategies and plans such as Benalla Rural City Environment Strategy 2016-2020, Climate Change Adaptation Action Plan 2013-2025 and the Roadside Vegetation Management Plan 2014.* (Initiative 3.1.1).
- *Foster strong linkages between Benalla and Winton Wetlands that deliver positive environmental outcomes and physical and mental health benefits for the community.* (Initiative 3.1.2).
- *Support and implement an ongoing collaborative approach to exploring renewable energy opportunities.* (Strategic Objective 3.3).
- *Support investment in renewable energy projects through provision of information, active support to approvals and community engagement. (*Initiative 3.3.2).
- *Attract, support and strengthen local business.* (Strategic Objective 4.1).

- *Work together with key stakeholders such as the Benalla Business Network to engage, support, strengthen and enhance local business.* (Initiative 4.1.1).
- *Support opportunities for diverse local employment.* (Strategic Objective 4.3).
- *Identify opportunities to partner with public and private organisations to facilitate business growth and job creation.* (Initiative 4.3.1).
- *Strengthen community and stakeholder engagement in planning and decision making.* (Strategic Objectives 5.2).
- *Work in partnership with community members, groups and organisations to achieve the aspirations captured within the Benalla Rural City Community Plan 2016-2036.* (Initiative 5.2.2).

### 5.4.2 Benalla Rural City Environment Strategy 2016-2020

The *Environment Strategy* seeks to help to protect the environment and safeguard its ability to support the community into the future. The Strategy outlines a proactive and strategic approach for environmental and sustainability matters and identifies priorities for management. The strategic directions within the Strategy include:

- *Appropriate land-use, development and biodiversity management.*
- *Acting to mitigate climate emissions and adapt to climate change impacts.*
- *Efficient waste management and resource recovery.*
- *Strategic and collaborative water management.*
- *Supporting building community resilience and capacity.*

### 5.4.3 Benalla Community Plan 2016-2036

The *Benalla Rural City Community Plan 2016-2036* identifies how Council and other relevant organisations and stakeholders will work in partnership to achieve maximum health and wellbeing for the community over the next 20 years. The seven themes of the Plan are:

- *Community wellbeing and sense of place.*
- *A well connected and accessible community.*
- *A vibrant, thriving and progressive economy.*
- *Planned population growth.*
- *A sustainable environment.*
- *Benalla Rural City, a destination of choice.*
- *Leadership and community spirit.*

The Plan identifies that '*Benalla Rural City is exposed to the effects of international markets and economic cycles. A diverse economy with ongoing investment and good decision-making will help us manage both the challenges and opportunities this presents.'* Further, it is identified that by 2030, Benalla will experience more extreme weather events that climate change will *'impact on local community, infrastructure, agriculture and the environment. Climate change adaptation and mitigation is essential to managing risks and protecting the economy and the resilience of our communities.'*

The Plan identifies that in 2036 Benalla seeks to have:

- *Quality, well-maintained and utilised infrastructure, including integrated transport and advanced telecommunications,*
- *A diverse, robust and resilient economy attracts ongoing investment, providing a destination of choice for new industries and job opportunities in a culture of innovation and entrepreneurship.*
- *Beautiful scenic landscapes and open spaces while responsibly managing our valued natural resources with innovative practices and planning.*

## 5.5 Planning Policy Framework

The Planning Policy Framework (PPF) of the Benalla Planning Scheme seeks to ensure that land use and development in Victoria meet the objectives of planning as set out in the P&E Act. The PPF is general in nature and is often used to guide more specific planning policies within a municipality. The PPF clauses that are most relevant to the proposed West Mokoan solar farm are detailed below:

- **Clause 11** (Settlement) seeks to '*recognise the need for, and as far as practicable contribute towards:*
  - *Health, wellbeing and safety*
  - *Diversity of Choice*
  - *Adaptation in response to changing technology*
  - *Economic viability*
  - *A high standard of urban design and amenity*
  - *Energy Efficiency*
  - *Prevention of pollution to land, water and air*
  - *Protection of environmentally sensitive areas and natural resources*
  - *Accessibility*
  - *Land use and transport integration*
- **Clause 11.01-1R** (Settlement – Hume) seeks to '*facilitate growth and development specifically in the regional cities of Shepparton, Wangaratta, Wodonga and Benalla.'*
- **Clause 11.01-1S** (Settlement) seeks to '*promote the sustainable growth and development of Victoria and delivery choice and opportunity for all Victorians through a network of settlements*.' The key strategies to achieve this objective that are relevant to the Project include:
  - *Plan for development and investment opportunities along existing and planned transport infrastructure.*
  - *Provide for growth in population and development of facilities and services across a regional or sub-regional network.*
  - *Deliver networks of high-quality integrated settlements that have a strong identity and sense of place, are prosperous and are sustained by:*
    - *Building on strengths and capabilities of each region across Victoria to respond sustainably to population growth and changing environments.*
    - *Developing settlements that will support resilient communities and their ability to adapt and change.*
    - *Balancing strategic objectives to achieve improved land use and development outcomes at a regional, catchment and local level.*
    - *Preserving and protecting features of rural land and natural resources and features to enhance their contribution to settlements and landscapes.*

  The *Hume Regional Growth Plan (Victorian Government; 2014* is listed as a policy document under this Clause.
- **Clause 11.03-6S** (Regional and local places) seeks to '*facilitate integrated place-based planning.*'

  Strategies to support this objective include:
  - *Integrate relevant planning considerations to provide specific direction for the planning of sites, places, neighbourhoods and towns.*
  - *Consider the distinctive characteristics and needs of regional and local places in planning for future land use and development.*

- **Clause 12** (Environmental and Landscape Values) sets out to:
  - *Help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habituated, species and genetic diversity) and conserve areas with identified environmental and landscape values.*
  - *Protect, restore, and enhance sites and features of nature conservation, biodiversity, geological or landscape value.*
- **Clause 12.01-1S** (Protection of biodiversity) seeks to *'assist the protection and conservation of Victoria's biodiversity.'* Key strategies relevant to the Project include:
  - *Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites.*
  - *Ensure that decision making takes into account the impacts of land use and development on Victoria's biodiversity, including consideration of:*
    - *Cumulative impacts.*
    - *Fragmentation of habitat.*
    - *The spread of pest plants, animals and pathogens into natural ecosystems.*
  - *Avoid impacts of land use and development on important areas of biodiversity.*
  - *Consider impacts of any change in land use or development that may affect the biodiversity value of national parks and conservation reserves or nationally and internationally significant sites; including wetlands and wetland wildlife habitat.'*
  - *Assist in the identification, protection and management of important areas of biodiversity.*
  - *Assist in the establishment, protection and re-establishment of links between important areas of biodiversity, including through a network of green spaces and large-scale native vegetation corridor projects.*

  Relevant policy documents include:
  - *Protecting Victoria's Environment – Biodiversity 2037 (Department of Environment, Land, Water and Planning, 2017).*
  - *Guidelines for the removal, destruction, or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017).*
  - *Any applicable biodiversity strategies, including the relevant Regional Catchment Strategy (prepared under Part 4 of the Catchment and Land Protection Act 1994).*
- **Clause 12.01-2S** (Native vegetation management) aims to *'ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.'* In order to achieve this the three-step approach of the *Guidelines for the removal, destruction or lopping of native vegetation (*the Guidelines*)* (Department of Environment, Land, Water and Planning (DELWP), 2017) should be applied to:
  - *Avoid the removal, destruction or lopping of native vegetation.*
  - *Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.*
  - *Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.*

  Relevant policies include:
  - *Guidelines for the removal, destruction or lopping of native vegetation (*the Guidelines*)* (Department of Environment, Land, Water and Planning (DELWP), 2017)
  - *Assessor's handbook – applications to remove, destroy, or lop native vegetation (Department of Environment, Land, Water and Planning, 2017)*

- **Clause 12.03-1S** (River corridors, waterways, lakes and wetlands) aims to *'protect and enhance river corridors, waterways, lakes and wetlands.'* Strategies that are relevant to the Project include:
  - *Protect the environmental, cultural and landscape values of all water bodies and wetlands.*
  - *Ensure development responds to and respects the significant environmental, conservation, cultural, aesthetic, open space, recreation and tourism assets of water bodies and wetlands.*
  - *Ensure development is sensitively designed and sited to maintain and enhance environmental assets, significant views and landscapes along river corridors and waterways and adjacent to lakes and wetlands.*
  - *Ensure development does not compromise bank stability, increase erosion or impact on a water body or wetland's natural capacity to manage flood flow.*

  Relevant policies include:
  - *Healthy Waterways Strategy (Melbourne Water, 2013)*
- **Clause 12.05-2S** (Landscapes) strives to '*protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments.*' Strategies which support this objective include:
  - *Ensure development does not detract from the natural qualities of significant landscape areas.*
  - *Improve the landscape qualities, open space linkages and environmental performance in significant landscapes and open spaces, including green wedges, conservation areas and non-urban areas.*
  - *Recognise the natural landscape for its aesthetic value and as a fully functioning system.*
  - *Ensure important natural features are protected and enhanced.*
- **Clause 13** (Environmental risks and amenity) identifies that planning should:
  - *Strengthen the resilience and safety of communities by adopting a best practice environmental management and risk management approach.*
  - *'Aim to avoid or minimise natural and human-made environmental hazards, environmental degradation and amenity conflicts.'*
  - *'Identify and manage the potential for the environment and environmental changes to impact on the economic, environmental or social wellbeing of society.'*
  - *'Ensure development and risk mitigation does not detrimentally interfere with important natural processes.'*
  - *'Prepare for and respond to the impacts of climate change.*
- **Clause 13.02-1S** (Bushfire planning) applies to all planning and decision making relating to land that is:
  - *Within a designated bushfire prone area;*
  - *Subject to a Bushfire Management Overlay; or*
  - *Proposed to be used or developed in a way that may create a bushfire hazard.*

  The policy aims to *'strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.'*

  Relevant strategies include:
  - *Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.'*
  - *Ensuring that…planning permit applications…properly assess bushfire risk and include appropriate bushfire protection measures.*

In relation to *'Areas of biodiversity conservation value',* the strategy is to *'ensure…development approvals… can implement bushfire protection measures without unacceptable biodiversity impacts by discouraging settlement growth and development in bushfire affected areas that are important areas of biodiversity. '*

'Renewable energy facility' is not a listed land use or development at **Clause 13.02-1S** where bushfire risk should be considered assessing planning applications.

- **Clause 13.03 -1S** (Floodplain management) seeks to assist in the protection of:
  - *'Life, property and community infrastructure from flood hazard.*
  - *The natural flood carrying capacity of rivers, streams and floodways.*
  - *The flood storage functions of floodplains and waterways.*
  - *Floodplain areas of environmental significance or of importance to river health.'*

  Further, this Clause seeks to '*avoid intensifying the impact of flooding through inappropriately located use and development.'*
- **Clause 13.05.1S** – (Noise abatement) seeks to '*assist the control of noise effects on sensitive land uses*'. A key strategy identified within the Clause aims to '*ensure that development is not prejudiced, and community amenity is not reduced*.'
- **Clause 13.07-1S** (Land use compatibility) aims to *'safeguard community amenity while facilitating appropriate commercial, industrial or other uses with potential off-site effects.'*
  . This objective is supported by the following strategies:
  - *'Directing land uses to appropriate locations.*
  - *Using a range of urban design, operational and land use separation measures.'*
- **Clause 14** (Natural Resource Management) states that planning is to:
  - *'Assist in the conservation and wise use of natural resources including energy, water, land, stone and minerals to support both environmental quality and sustainable development.'*
  - *'Ensure agricultural land is managed sustainably, while acknowledging the economic importance of agricultural production.'*
- **Clause 14.01-1S** (Protection of agricultural land) seeks to '*protect the state's agricultural base by preserving productive farmland.'* Relevant strategies at **Clause 14.04-1S** include:
  - *'Avoid permanent removal of productive agricultural land from the state's agricultural base without consideration of the economic importance of the land for the agricultural production and processing sectors.'*
  - *'Protect productive farmland that is of strategic significance in the local or regional context.'*
  - *'Protect productive agricultural land from unplanned loss due to permanent changes in land use.'*
  - *'Consider the compatibility between the proposed or likely development and the existing use of the surrounding land.'*
  - *'Consider the potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas.'*
  - *'Balance the potential off-site effects of a use or development proposal (such as degradation of soil or water quality and land salinisation) against the benefits of the proposal.'*

  Further, this Clause states that *'in considering a proposal to use, subdivide or develop agricultural land, consider the:*
  - 'Desirability and impacts of removing the land from primary production, given its agricultural productivity.

- Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.
- Compatibility between the proposed or likely development and the existing use of the surrounding land.
- The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas.
- Land capability.'

- **Clause 14.01-2S** (Sustainable agricultural land use) seeks to '*encourage sustainable agricultural land use.*' The relevant strategies to the Project include:
  - *'Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources.*
  - *Support the development of innovative and sustainable approaches to agricultural and associated rural land use practices.*
  - *Support adaptation of the agricultural sector to respond to the potential risks arising from climate change.*
  - *Encourage diversification and value-adding of agriculture through effective agricultural production and processing, rural industry and farm-related retailing.'*
- **Clause 14.02-1S** (Catchment planning and management) aims to *'assist the protection and restoration of catchments, water bodies, groundwater, and the marine environment.'* The following strategies are considered relevant to the proposed solar farm in Goorambat:
  - *'Ensure the continued availability of clean, high-quality drinking water by protecting water catchments and water supply facilities.*
  - *Consider the impacts of catchment management on downstream water quality and freshwater, coastal and marine environments.*
  - *Retain natural drainage corridors with vegetated buffer zones at least 30 metres wide along each side of a waterway to:*
    - *Maintain the natural drainage function, stream habitat and wildlife corridors and landscape values,*
    - *Minimise erosion of stream banks and verges, and*
    - *Reduce polluted surface runoff from adjacent land uses.*
  - *Undertake measures to minimise the quantity and retard the flow of stormwater runoff from developed areas.*
  - *Encourage measures to filter sediment and wastes from stormwater prior to its discharge into waterways, including the preservation of floodplain or other land for wetlands and retention basins.*
  - *Ensure that works at or near waterways provide for the protection and enhancement of the environmental qualities of waterways and their instream uses.*
  - *Ensure land use and development proposals minimise nutrient contributions to water bodies and the potential for the development of algal blooms.*
  - *Require appropriate measures to restrict sediment discharges from construction sites.*
  - *Ensure planning is coordinated with the activities of catchment management authorities.'*
- **Clause 14.02-2S** (Water quality) seeks to *'protect water quality.'* Further, this Clause seeks to *'ensure that land use activities potentially discharging contaminated runoff or wastes to waterways are sited and managed to minimise such discharges and to protect the quality of surface water and groundwater resources, rivers, streams, wetlands, estuaries and marine environments.'*

- **Clause 15** (Built Environment and Heritage) seeks to (among others):
  - *Ensure all land use and development appropriately responds to its surrounding landscape and character, valued built form and cultural context.*
  - *Promote development that is environmentally sustainable.*
- **Clause 15.01-6S** (Design for rural areas) seeks to *'ensure development respects valued areas of rural character.'* The relevant strategies in achieving this objective seek to:
  - *Ensure that the siting, scale and appearance of development protects and enhances rural character.*
  - *Protect the visual amenity of valued rural landscapes and character areas along township approaches and sensitive tourist routes by ensuring new development is sympathetically located.*
  - *Site and design development to minimise visual impacts on surrounding natural scenery and landscape features including ridgelines, hill tops, waterways, lakes and wetlands.*
- **Clause 15.02-1S** (Energy and resource efficiency) seeks to *'encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions.'* This objective is supported by the following relevant strategies:
  - *Improve efficiency in energy use through a greater use of renewable energy technologies and other energy efficiency upgrades.*
  - *Encourage retention of existing vegetation and planting of new vegetation as part of development and subdivision proposals.*
- **Clause 15.03-2S** (Aboriginal cultural heritage) seeks to *'ensure the protection and conservation of places of Aboriginal cultural heritage significance.'* Specific strategies to achieve this include:
  - *Provide for the protection and conservation of pre-contact and post-contact Aboriginal cultural heritage places.*
  - *Ensure that permit approvals align with the recommendations of any relevant Cultural Heritage Management Plan approved under the Aboriginal Heritage Act 2006.*
- **Clause 17** (Economic Development) states that:
  - *Planning is to provide for a strong and innovative economy, where all sectors are critical to economic prosperity.*
  - *Planning is to contribute to the economic wellbeing of the state and foster economic growth by providing land, facilitating decisions and resolving land use conflicts, so that each region may build on its strengths and achieve its economic potential.*
- **Clause 17.01-1R** (Diversified economy - Hume) encourages '*appropriate new and developing forms of industry, agriculture, tourism and alternative energy production' '*
- **Clause 17.01-1S** (Diversified economy) sets out to '*strengthen and diversify the economy'* and to specifically '*support rural economies to grow and diversify'.*
- **Clause 17.02-1S** (Business) encourages development which 'meets the communities' needs for retail, entertainment, office and other commercial services.'
- **Clause 19** (Infrastructure) states that planning is to (amongst others):
  - *Facilitate efficient use of existing infrastructure and human services. Providers of infrastructure, whether public or private bodies, are to be guided by planning policies and should assist strategic land use planning.*
  - *Minimise the impact of use and development on the operation of major infrastructure of national, state and regional significance, including communication networks and energy generation and distribution systems.*

- **Clause 19.01-1S** (Energy supply) aims to *'facilitate appropriate development of energy supply infrastructure.'* The strategies to support this objective include:
  - *Support the development of energy facilities in appropriate locations where they take advantage of existing infrastructure and provide benefits to industry and the community.*
  - *Support transition to a low-carbon economy with renewable energy and greenhouse emission reductions including geothermal, clean coal processing and carbon capture and storage.*
  - *Facilitate local energy generation to help diversify the local economy and improve sustainability outcomes.*
- **Clause 19.01-2S** (Renewable energy) promotes *'the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.'* The strategies of relevance to this Project include:
  - *Facilitate renewable energy development in appropriate locations.'*
  - *'Develop appropriate infrastructure to meet community demand for energy services.'*
  - *Consider the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.*

  Further, the Clause outlines the *Solar Facilities Design and Development Guidelines* (Department of Environment, Land, Water and Planning 2019) as a relevant policy document.
- **Clause 19.01-2R** (Renewable energy - Hume) seeks to (as relevant) *'create renewable energy hubs that support co-located of industries to maximise resource use efficiency and minimise waste generation.'*

## 5.6 Local Planning Policy Framework

The Rural City of Benalla's Municipal Strategic Statement (MSS) and Local Planning Policy Framework (LPPF)at **Clause 21** and **Clause 22** of the Planning Scheme covers key matters relating to environment, landscape and heritage, environmental risk, natural resource management, economic development and transport and infrastructure. The LPPF form part of the PPF and therefore, where a provision of this planning scheme requires consideration of the PPF, that consideration must also include the LPPF.

The LPPF clauses that are most relevant to this proposal are detailed below:

- **Clause 21.01-2** (Key planning issues) outlines that one of the key planning issues in Benalla Rural City are for *'identifying opportunities to respond to climate change'* and for *'protecting valuable and productive farming land'.*
- **Clause 21.01-3** (Vision) identifies the vision as outlined in the Council Plan 2013-2017 of: *'A sustainable, thriving and cohesive community where lifestyle, culture, health and wellbeing are important'.*
- **Clause 21.02-1** (Urban growth) outlines that Benalla's growth is supported by a number of other smaller towns in the municipality, including Goorambat and that *'future growth of the small surrounding towns needs to be encouraged.'*
- **Clause 21.03-1** (Flora and Fauna) seeks to *'conserve and protect native vegetation and fauna'*.
- **Clause 21.03-2** (Landscape character) outlines that the *'scenic value of the foothills, valley and cleared grazing country is a characteristic of the district and of intrinsic importance to the landscape.'* Strategies to *'manage and protect the landscape character of the municipality'* include:
  - *Protect significant landscape features, ridges and view corridors of the municipality.*
  - *Encourage the use of mute colours for building materials and the appropriate siting and design of buildings in rural areas.*

- **Clause 21.03-3 (**European and Aboriginal Heritage) identifies that there are gaps in the knowledge of the municipality's heritage assets and Aboriginal heritage which needs to be addressed. Strategies aligned with filling these gaps include the need '*to consider Aboriginal heritage in all aspects on land use planning'.*
- **Clause 21.04-2** (Bushfire) recognises the risk of fire in non-urban development areas and to prioritise protection of human life over all other considerations. This is to be achieved by:
  - *'Discourage development in areas at risk of bush fire*
  - *Locate new development on the most suitable site to minimise threat from bushfire'.*
- **Clause 21.04-4** (Land use conflicts) seeks to ensure development outside of established towns and urban areas has minimal impact upon farming practices in agricultural areas. The relevant strategies in achieving this policy aim to:
  - *Ensure any new industrial development is located in suitable areas so as to reduce the risk of adverse amenity impacts.*
- **Clause 21.05-1** (Agriculture) seeks to protect 'agricultural land from non-agricultural uses' in the municipality. Objective 2 of **Clause 21.05-1** seeks to 'to protect agricultural areas from inappropriate and unsustainable development.' Relevant strategies to support this objective include:
  - *'Protect productive agricultural land from uses and developments that will reduce its potential for agricultural production.'*
  - *'Only consider proposals for non-agricultural uses in rural areas when they are compatible with surrounding agricultural use and when they can be justified in terms of broader community benefit'*
- **Clause 21.08-1** (Benalla) identifies that Benalla is the major urban centre of the municipality, providing residential, commercial, retail and industrial opportunities for the surrounding small towns. The Benalla Structure Plan at **Clause 21.08-1** identifies the township boundary and identifies the preferred land uses within the township. The subject site is in proximity to Benalla, located approximately 10 kilometres north east of the township, however the subject site is not included in the Structure Plan and is situated outside the Township's Urban Growth Boundary.
- **Clause 21.08-5** (Goorambat) identifies that Goorambat is a small township located on the Benalla-Yarrawonga railway line, approximately 20 kilometres north of Benalla. The Goorambat Structure Plan included at **Clause 21.08-5** identifies the township boundary and the preferred land uses within the township. Goorambat is located approximately 8 kilometres north west of the subject site and the subject site is situated outside the Township Boundary.

## 5.7 Land Use Terms

The development of a solar farm and associated infrastructure is consistent with the definition of a '*solar energy facility'* pursuant to **Clause 73.03** (Land Use Terms) of the Planning Scheme. The definition is:

> *Land used to generate electricity from solar energy using ground mounted photovoltaic and thermal technology, where the primary role is to export power to the electricity network. It does not include the generation of electricity principally used for an existing use of land.*

A '*solar energy facility*' is included within the broader definition of '*renewable energy facility'*. The definition of a '*renewable energy facility'* is:

> *Land used to generate energy using resources that can be rapidly replaced by an ongoing natural process. Renewable energy resources include the sun, wind, the ocean, waterflows, organic matter and the earth's heat.*
>
> *It includes any building or other structure or thing used in or in connection with the generation of energy by a renewable resource.*

*It does not include a renewable energy facility principally used to supply energy for an existing use of the land.*

Further, a '*renewable energy facility'* is nested under the land use term '*energy generation facility*'. The definition of an '*energy generation facility'* is as follows:

*Land used to generate energy for use off site other than geothermal energy extraction. It includes any building or other structure or thing used in or in connection with the generation of energy.*

The Project also includes the use for a '*Utility Installation'* pursuant to **Clause 73.03** (Land Use Terms) of the Scheme. The definition is:

*'Land used:*

*a. For telecommunications;*

*b. To transmit or distribute gas or oil;*

***c. To transmit, distribute or store power, including battery storage;***

*d. To collect, treat, transmit, store, or distribute water; or*

*e. To collect, treat, or dispose of storm or flood water, sewage, or sullage.*

*It includes any associated flow measurement device or a structure to gauge waterway flow.'*

Elements of the Project that are considered to fall under the land use term '*Utility Installation'* include the grid connection, substation and the BESS.

## 5.8 Zones and Overlays

### 5.8.1 Farming Zone

The site is located in the Farming Zone (FZ) (refer Figure 19). The purpose of the FZ is:

- *'To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To provide for the use of land for agriculture.*
- *To encourage the retention of productive agricultural land.*
- *To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.*
- *To encourage the retention of employment and population to support rural communities.*
- *To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.*
- *To provide for the use and development of land for the specific purposes identified in a schedule to this zone.'*

Pursuant to **Clause 35.07-1** (Table of uses), a permit is required to use land for a 'Renewable Energy Facility' that complies with the requirements of **Clause 53.13** (Renewable Energy Facility (Other than Wind Energy Facility and Geothermal Energy Extraction)). A permit is also required to use land for a 'Utility Installation', pursuant to **Clause 35.07-1**.

Pursuant to **Clause 35.07-4** (Buildings and works), a permit is required to construct a building or carry out works associated with a Section 2 use.

**Clause 35.07-7** (Signs) specifies that the Farming Zone is in Category 4 – Sensitive Areas.

### 5.8.2 Public Use Zone

Stockyard Creek intersects the site (separating the 'southern' and 'northern' land parcels) which is located within the Public Use Zone Schedule 1 (PUZ1) (refer to Figure 19). The purpose of the PUZ is:

- *'To implement the Municipal Planning Strategy and the Planning Policy Framework'.*

- *To recognise public land use for public utility and community services and facilities.*
- *To provide for associated uses that are consistent with the intent of the public land reservation or purpose.'*

The purpose of the PUZ 1 is Service and Utility. A medium voltage overhead powerline is proposed to cross the land at Stockyard Creek, connecting the northern and southern land parcels with power. Pursuant to **Clause 36.01-1** (Table of uses), 'Utility Installation' is a Section 2 use and a permit is required to use land for a 'Utility Installation'.

Pursuant to **Clause 36.01-2** (Permit requirement), a permit is required to construct a building or construct or carry out works for any Section 2 use. Pursuant to **Clause 36.01-3** (Application Requirements), written consent of the public land manager of Stockyard Creek must be obtained indicating that the public land manager consents to the application for permit being made and to the proposed use or development.

### 5.8.3 Overlays

The site is not affected by any overlays (refer Figure 20).

The site is located within a Designated Bushfire Prone Area.

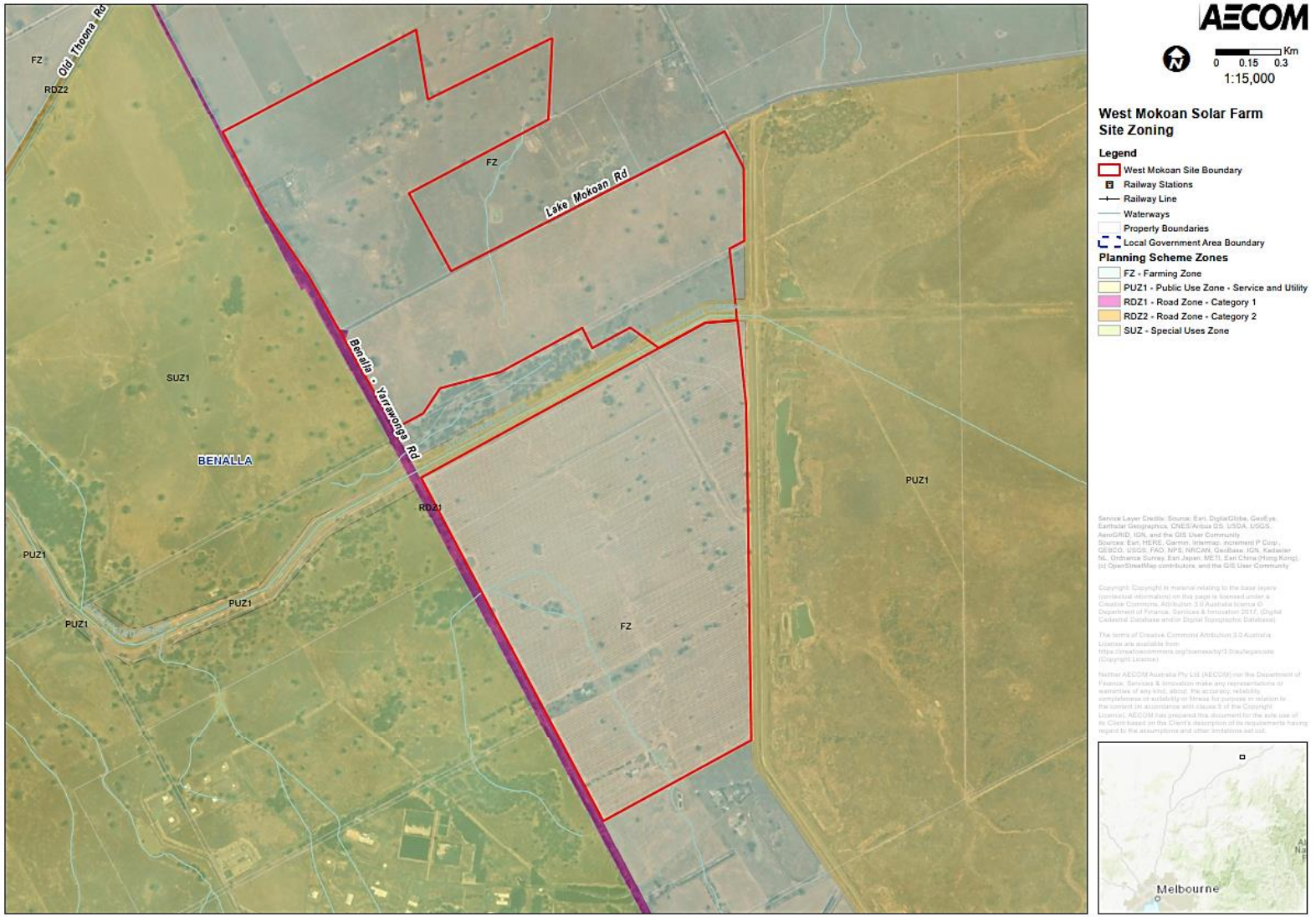


**Figure 19 Subject Site Zones**

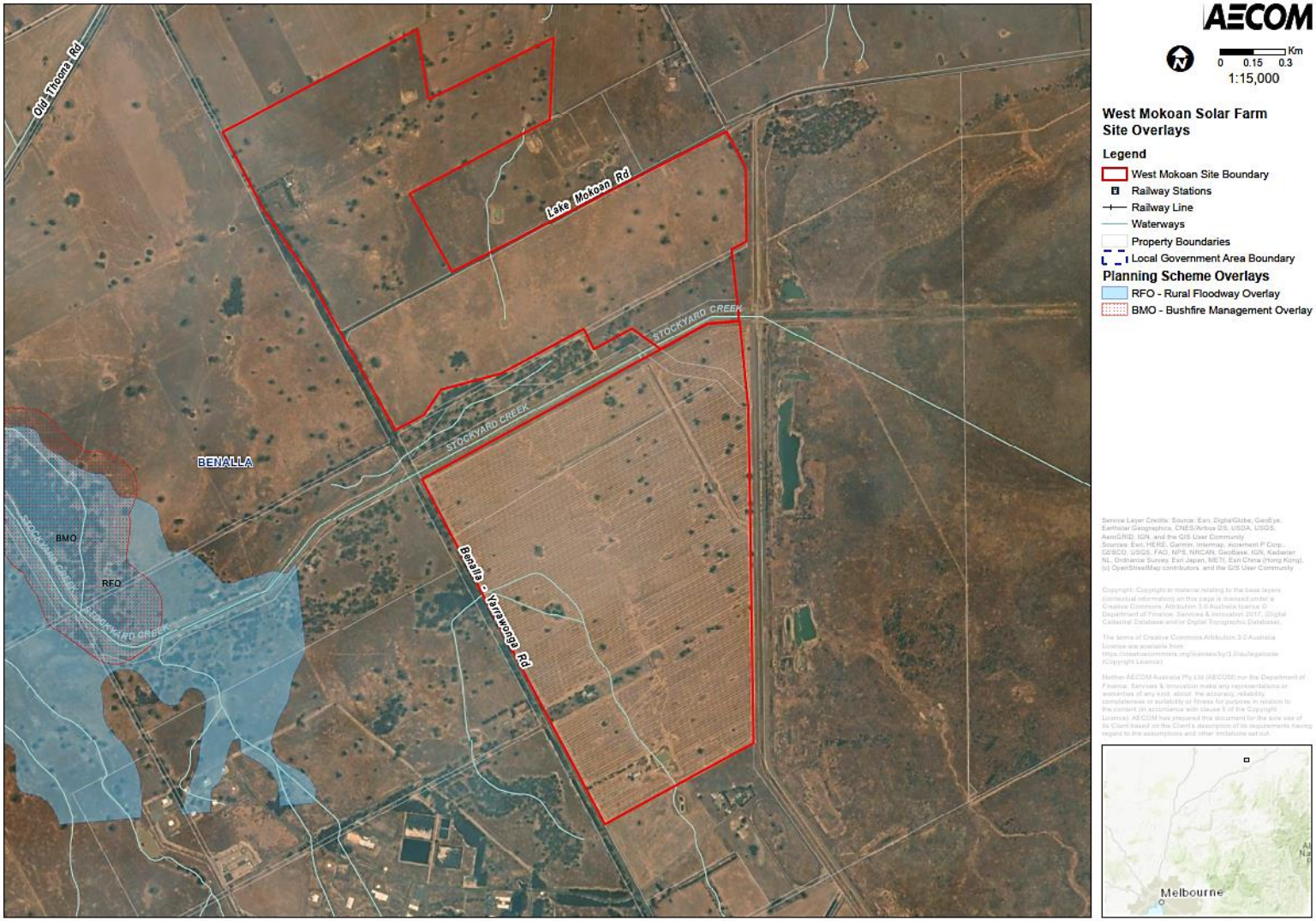


**Figure 20 Subject Site Overlays**

## 5.9 Particular Provisions

### 5.9.1 Clause 52.02 – Easements, Restrictions and Reserves

The purpose of **Clause 52.02** (Easements, Restrictions and Reserves) is *'to enable the removal and variation of an easement or restrictions to enable a use of development that complies with the planning scheme after the interests of affected people are considered'.*

A permit is required to create, vary or remove an easement or restriction Under Section 23 of the *Subdivision Act 1988.*

### 5.9.2 Clause 52.05 – Signs

The purpose of **Clause 52.05** (Signs) is to:

- *Regulate the development of land for signs and associated structures.*
- *Ensure signs are compatible with the amenity and visual appearance of an area, including the existing or desired future character.*
- *Ensure signs do not contribute to excessive visual clutter or visual disorder.*
- *Ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance or efficiency of a road.*

In accordance with **Clause 35.07-7** (Signs), signage in the FZ must apply the signage requirements of **Clause 52.05-14** (Category 4 – Sensitive areas), which places maximum limitations on signage and seeks to '*provide for unobtrusive signs in areas requiring strong amenity control*.'

Pursuant to **Clause 52.05-14** (Category 4 – Sensitive areas) a permit is required for a business identification sign and that the total advertisement area for each premises must not exceed three (3) square metres. Any illumination must be through flood lights only (no internal illumination) and a permit would be required for a floodlit sign pursuant to **Clause 52.05-14.**

### 5.9.3 Clause 52.06 – Car Parking

The key purpose of **Clause 52.06** (Car Parking) is to:

- *Ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *Ensure that car parking does not adversely affect the amenity of the locality.*
- *Ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The land use term renewable energy facility and utility installation are not listed in Table 1 of **Clause 52.06-5** (Number of car parking spaces required under Table 1). In accordance with **Clause 52.06-6** (Number of car parking spaces required for other uses), where a use of land is not specified in Table 1, car parking must be provided to the satisfaction of the responsible authority.

### 5.9.4 Clause 52.17 – Native Vegetation

The purpose of **Clause 52.17** (Native Vegetation) is:

- *'To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach in accordance with the Guidelines (DELWP, 2017):*
  - *Avoid the removal, destruction or lopping of native vegetation.*
  - *Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.*
  - *Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.*

- *To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.'*

Pursuant to **Clause 52.17-1** (Permit requirement) a permit is required to remove, destroy or lop native vegetation.

### 5.9.5 Clause 52.29 – Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road

The purpose of **Clause 52.29** (Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road) is:

- *To ensure appropriate access to identified roads.*
- *To ensure appropriate subdivision of land adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay if the purpose of acquisition is for a Category 1 road.*

Pursuant to **Clause 52.29-2** (Permit requirement), a permit is required to create or alter access to a road in a Road Zone, Category 1. Further, an application to create or alter access to a road declared as an arterial road under the *Road Management Act 2004***,** or land owned by the Roads Corporation for the purpose of a road, must be referred to the Roads Corporation under Section 55 of the P&E Act (in accordance with **Clause 52.29-4** (Referral of applications)).

### 5.9.6 Clause 53.13 – Renewable Energy Facility (other than Wind Energy Facility and Geothermal Energy Extraction)

The key purpose of this Clause is to '*facilitate the establishment and expansion of renewable energy facilities in appropriate locations, with minimal impact on the amenity of the area'* and applies to '*any provision of this planning scheme to use or develop land for a renewable energy facility (other than a wind energy facility)'.***Clause 53.13-2** – Application Requirements provides an overview of all information that must accompany applications (as appropriate) for a renewable energy facility.

## 5.10 General Provisions

### 5.10.1 Clause 62 – General Exemptions

**Clause 62.01** (Uses not requiring a permit) and **Clause 62.02** (Buildings and Works) identify that any requirement in the Planning Scheme relating to the use of land, or the construction of a building or the construction or carrying out of works other than a requirement in the Public Conservation and Resource Zone does not apply to:

- The use of land for a road.
- The use of land to display a sign.
- A temporary shed or temporary structure for construction purposes.
- A fence or roadworks, unless specified in the Planning Scheme.

### 5.10.2 Clause 66 – Referral and Notice Provisions

This Clause outlines referral and notice requirements. The following referrals are required under the Scheme:

- The Secretary to DELWP to remove, destroy or lop native vegetation.
- The relevant electricity transmission authority to construct a building or construct or carry out works on land within 60 metres of a major electricity transmission line (220 Kilovolts or more) or an electricity transmission easement.
- The relevant Roads Corporation to create or alter access to a road declared as a freeway or arterial road under the *Road Management Act 2004*.
- A potential referral is required to the Victorian WorkCover Authority to use land for a utility installation or to construct a building or construct or carry out works on land for a utility installation, if certain conditions apply.

### 5.10.3 Clause 72.04 – Documents Incorporated in this Planning Scheme

The following Incorporated Documents of relevance to this application are contained in the Scheme:

- *Building in Bushfire-Prone Areas* - CSIRO & Standards Australia (SAA HB36-1993), May 1993.
- *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017).

# 6.0 Planning Policy Assessment

The following section identifies and responds to the relevant legislation and policy, the PPF and LPPF, and the zoning, overlay, particular and general provisions set out under the Planning Scheme.

## 6.1 Commonwealth Legislation

### 6.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Project will not result in a significant impact to any MNES as:

- Wetlands of international importance are located more than 50 kilometres from the subject site and are unlikely to be impacted; and
- No listed threatened ecological communities or threatened flora species are likely to occur in the subject site.

It is possible that the EPBC Act threatened fauna species of Regent Honeyeater, Plains-wanderer, Grey-headed Flying-fox and Painted Honeyeater may utilise the site, but they are unlikely to be significantly impacted by the Project. Therefore, the Project is not considered to require approval of the Environment Minister. The Flora and Fauna Assessment for the Project is summarised in Section 7.0 and is attached at Appendix C.

## 6.2 State Legislation and Policy

### 6.2.1 Planning and Environment Act (1987)

This report and supporting documentation form a planning permit application that is consistent with Section 47 of the P&E Act. The following sections provide a detailed assessment of the Project to demonstrate that the Project is consistent with the overarching objectives of planning in Victoria.

### 6.2.2 Environment Effects Act (1978)

The Flora and Fauna Assessment (refer to Section 7.1 and Appendix C) assessed the referral criteria relating to flora and fauna. A referral has not been submitted to the Minister for Planning for formal determination as the Project does not trigger any of the referral criteria.

### 6.2.3 Flora and Fauna Guarantee Act (1988)

The Project does not impact on any FFG Act-listed fauna species; however, Lace Monitor and Bush Stone Curlew have been recorded in the Trust for Nature Woodland adjoining the project area and may on occasion utilise scattered trees and patches within the project area as stepping stones through the landscape.

The Project does not impact on any flora species listed under the FFG Act; however, the Victorian Temperate Woodland Bird Community was identified within the subject site in association with native vegetation patches. These patches contain large trees, placing greater significance on retaining these patches. No specific approvals are required under the FFG Act due to the subject site being located on private land; however, through the avoid and minimise process required under the P&E Act in relation to removal, destruction of lopping of native vegetation (the Guidelines), all patches of native vegetation and a large number of scattered trees have been retained during the design phase. Further, the loss of scattered trees is in accordance with the Guidelines and the appropriate native vegetation offsets are available through the Victorian Native Vegetation Credit Register.

The presence of hollow-bearing trees within the study area means the Project has the potential to exacerbate a potentially threatening process listed under the FFG Act – *loss of hollow bearing trees from Victorian native forests and woodlands*. The Action Statement prepared for the FFG Act threatening process includes objectives to significantly reduce the loss of hollow-bearing trees from private land. No specific approvals are required under the FFG Act but consideration should be given to avoiding and minimising loss of hollow-bearing trees during the design phase which is consistent with the requirements under the P&E Act in relation to loss of native vegetation. The Concept Design demonstrates the Project's commitment to reducing the removal of native vegetation and hollow-bearing trees.

In addition to avoiding and minimising the loss of native vegetation, the Project will also voluntarily manage the Trust for Nature Woodland to the north of Stockyard Creek and will rehabilitate an area adjacent to the woodland in order to contribute to a strategic landscape link between Winton Wetlands and the Broken River. This landscape link will provide a habitat corridor for the Victorian Temperate Woodland Bird Community and contribute to landscape rehabilitation works undertaken by the Regent Honeyeater Group throughout the Benalla region.

### 6.2.4 Renewable Energy Action Plan (2017)

The Project helps to realise the opportunities outlined in the *Renewable Energy Action Plan (2017)* by investing in the renewable energy sector through the development of a solar farm, producing a reliable supply of energy to the Region. Further, the Project will be strengthening the skills and capabilities of the sector by creating more than 250 jobs during the construction phase and offering up to 6 FTE jobs on a long-term or permanent basis for the operation and maintenance of the proposed solar farm.

### 6.2.5 Victoria's Climate Change Framework (2016)

The Project will contribute towards Victoria's 2050 vision for achieving zero-net emissions as identified in the Framework through the development and use of the land for a solar farm that has the potential to reduce carbon dioxide emissions by approximately 400,000 tonnes per year. The Project will support economic prosperity while simultaneously introducing a cleaner supply of energy to the Region.

### 6.2.6 Victoria's Climate Change Adaptation Plan (2017-2020)

The project supports Victoria's Climate Change Adaptation Plan by providing solar energy and contributing towards meeting the renewable energy targets and by building the resilience of community infrastructure. The project also contributes to the protection and improvement of the regions biodiversity and ecosystems through the proposed woodland management plan (refer to Section 3.7.2).

### 6.2.7 Aboriginal Heritage Act (2006)

Two areas of Aboriginal Cultural Heritage Sensitivity are located on the subject site (Refer to Appendix B). One area is associated with Stockyard Creek that traverses the site and the other is located in the north east portion of 616 Benalla-Yarrawonga Road. The Winton Wetlands is also an area affected by Aboriginal Cultural Heritage Sensitivity (located to the east of the site). Approval will be required to be sought under the AH Act prior to any approval being granted for the development of the solar farm. A complex CHMP has been prepared (refer to Section 7.11).

### 6.2.8 Water for Victoria (2016)

The Project recognises that water management and quality is vital to the agricultural sector. The Project supports the objectives of Water for Victoria – Water Plan as the solar farm has been designed in a way where solar panels will be sufficiently set back from the watercourse as to reduce the risk of surface water contamination during the construction phase and to minimise impediment to flood flows during the Project's operation. In addition, in the locations where the security fencing crosses over the watercourse, the fencing will be designed such that it does not obstruct flood flows.

### 6.2.9 Agricultural Victoria Strategy (2017)

The Project recognises the value of productive agricultural land whereby the subject site is located on land that has been deemed suitable for alternative uses other than for agricultural purposes. Further, the design of the Project ensures that the subject site can still be used for the grazing of livestock (sheep) for maintenance purposes, further enhancing the productive quality of the site.

### 6.2.10 Solar Energy Facilities – Design and Development Guideline (2019)

An assessment has been undertaken against the Guideline to ensure that the Project complies with the ideal siting and the best practice standards as detailed in the Guideline to further support this planning permit application. Ideal siting conditions have been considered and addressed through the various specialist reports attached and summarised in Section 7.0. A response to the best practice standards is provided in Table 6. A design response has also been provided in Table 7 in accordance with the Guideline.

**Table 6 Best Practice for Proponents**

| Best Practice Standard | Response |
|---|---|
| **Engaging the Community** | |
| *Well-planned Consultation* | Consultation is discussed at Section 1.4.2. |
| **Design Stage** | |
| *Siting Facility Components* | The proposed site layout has considered and responded to the Guideline as discussed in Section 3.0. |
| *Landscape Screening* | Landscape screening and design is discussed in Section 3.6 and 7.5. A Landscape Plan has been prepared (Appendix H) and provides full details of the landscape design. |
| *Glint and Glare Management* | Glint and glare has been assessed within the Glint and Glare Assessment (Appendix I) and is addressed at Section 7.6. |
| *Designing Security Measures* | Security measures such as fencing, CCTV and lighting are addressed at Section 3.8 and 3.9. |
| *Traffic Impacts* | Traffic impacts are addressed at Section 4.4 and Section 7.4. A Traffic Impact Assessment (Appendix F) provides a full assessment and response to any traffic impacts imposed on and by the Project. It is anticipated that a Traffic Management Plan (TMP) will be required as a condition of Permit. |
| *Noise* | Noise impacts are addressed at Section 7.12 and in the Acoustic Assessment (Appendix N). |
| *Earthworks and Dust Management* | Earthworks and dust will be managed through a PEMP (Appendix J) to ensure changes to the topography and natural overland flows of the site are minimised. Dust suppression measures will also be implemented within the CEMP that is to be prepared, as discussed in the PEMP. Environmental Management is further discussed in Section 7.8. Whilst a PEMP has been prepared, it is anticipated that an Environmental Management Plan (EMP) will be required as a condition of Permit. |
| *Natural Hazard Risk Management* | The site is within a bushfire prone area and bushfire risk has been addressed in Section 6.2.11, 6.5 and 6.7.3. It is anticipated that a Bushfire Management Plan (BMP) will be required as condition of Permit. Risks associated with flooding have been addressed within the Surface Water Assessment (Appendix D) and the Geotechnical Assessment (Appendix K) and are discussed at Section 7.2 and 7.9 respectively. |
| **Other Matters** | |
| *Dangerous Goods and Building Fire Safety* | Fire and Dangerous Goods are discussed at Section 7.14. A Preliminary Hazard Assessment has been prepared (Appendix T) and addresses any potential risks relating to dangerous goods and building fire safety. |
| *Electromagnetic Radiation and Interference* | Electromagnetic Radiation and Interference are discussed at Section 7.13. |
| *Heat Island Effect* | Heat Island Effect is addressed at Section 6.2.10.1. |
| **Construction and Operation Stage** | |
| *Environmental Management Plan* | A PEMP (Appendix J) has been prepared for the Project and Environmental Management is discussed at Section 7.8. It is anticipated that an EMP will be required to be provided as a condition of Permit. |
| *Risk and Emergency Management Planning* | A number of consideration relating to bushfire risk, as well as mitigation measures have been implemented as addressed at |

| Best Practice Standard | Response |
|---|---|
| | Section 6.2.11, 6.5 and 6.7.3. It is anticipated that a BMP may be required to be provided as a condition of Permit. A BMP would incorporate the requirements of *AS 3745-2010 Planning for Emergencies in Facilities.* |
| *Site Access and Traffic Management* | Traffic impacts are addressed at Section 4.4 and Section 7.4. A Traffic Impact Assessment (Appendix F) provides a full assessment and response to any traffic impacts imposed on and by the Project. It is anticipated that a TMP will be required as a condition of Permit. |
| *Construction Noise and Dust Management* | Earthworks and Dust will be managed through a PEMP (Appendix J) to ensure changes to the topography and natural overland flows of the site are minimised. Dust suppression measures will also be implemented within the CEMP that is to be prepared, as discussed in the PEMP. Environmental Management is further discussed in Section 7.8. Whilst a PEMP has been prepared, it is anticipated that an Environmental Management Plan (EMP) will be required as a condition of Permit. |

| Decommissioning | |
|---|---|
| *Decommissioning* | Decommissioning will be carried out appropriately to ensure the land is able to be returned to its original condition. Decommissioning is addressed at Section 4.3 and in the PEMP (Appendix J). |

**Table 7 Design Response**

| Documentation | Response |
|---|---|
| *Detailed plans and elevations of the proposed development including the layout and height of the facility and associated building and works, and their materials, reflectivity, colour, lighting and landscaping.* | Application Plans (Appendix B) have been prepared for the Project and include details of the design such as the layout, materials, colours and lighting. A separate Landscape Plan (Appendix H) has been prepared to show specific details of plant species and locations. |
| *Detailed plans and elevations of the proposed transmission infrastructure and electricity utility works required to connect the facility to the electricity network, access roads and parking areas* | The Application Plans (Appendix B) include detailed plans and elevations showing all details of the Project including transmission infrastructure and access roads. |
| *Accurate visual simulations illustrating the development in the context of the surrounding area and from key public viewpoints.* | Photo montages have been prepared (Appendix G) and show various views to the proposed solar energy facility. |
| *The extent and assessment of any vegetation removal.* | A Native Vegetation Removal (NVR) Report has been prepared and is included within the Flora and Fauna Assessment (Appendix C). The NVR report indicates that 1.891 hectares of vegetation is proposed to be removed. |
| *A rehabilitation plan for the site.* | A PEMP has been prepared (Appendix J) and indicates that a Decommissioning and Rehabilitation Plan will be developed through the EMP which is anticipated to be required as a condition of Permit. |

| Documentation | Response |
|---|---|
| *A description of the proposal including the types of process to be utilised, materials to be stored and the treatment of waste.* | A detailed description of the proposal is at Section 3.0 of this report. |
| *An explanation of how the proposed design derives from and responds to the site analysis including cumulative impacts with any other existing and proposed renewable energy facilities in the surrounding area* | The Project has been designed in response to a detailed site analysis as discussed at Section 2.0. Whilst there has been a substantial increase in renewable energy developments recently in Regional Victoria, there are limited solar energy facilities in the immediate area of the proposed solar farm in the Benalla / Goorambat area. There are seven known (planned and approved) solar farms surrounding the site around Goorambat, Winton and Glenrowan (refer to section 2.2.4). It is considered that the proposed solar farm will not contribute to a cumulative effective of solar energy facilities in the area given the distance between the proposed solar farm and others in the area as well as the efforts to minimise any impacts. |
| *An explanation of agricultural values and production including irrigation infrastructure impacts and whether any land is productive farmland of strategic significance.* | An Agricultural Impact Assessment has been prepared (Appendix L) and is discussed at Section 7.10. |
| *Whether a works approval or licence is required from EPA Victoria or another authority administering the regulatory requirements of the Dangerous Goods Act 1985.* | During the construction phase of the project, should the handling, storage and use of dangerous goods be required, the requirements of the relevant Australian Standards will be complied with. It is anticipated that there will be no storage of hazardous or dangerous goods or materials on site during the operation of the Project. |
| *A description of how the proposal responds to any significant landscape features for the area identified in the planning scheme.* | A Landscape and Visual Impact Assessment (LVIA) (Appendix G) has been prepared and is discussed at Section 7.5. |
| *An assessment of:*<br>• *the potential amenity impacts (such as noise; glint or glare; light spill; emissions to air, land or water; vibration; smell and electromagnetic interference): an assessment of potential noise impacts should have regard to EPA Victoria's Noise from industry in regional Victoria guidelines.* | A number of specialist reports have been prepared to accompany this Planning Application and are attached. The following reports have been prepared:<br>• Flora and Fauna Assessment (Appendix C)<br>• Surface Water Assessment (Appendix D)<br>• Hydrology and Hydraulic Modelling Report (Appendix E)<br>• Traffic Impact Assessment (Appendix F)<br>• Landscape and Visual Impact Assessment including photomontages (Appendix G)<br>• Landscape Plans (Appendix H)<br>• Glint and Glare Assessment (Appendix I)<br>• PEMP (Appendix J)<br>• Geotechnical Assessment (Appendix K)<br>• Agricultural Impact Assessment (Appendix L)<br>• Cultural Heritage Management Plan (Appendix M)<br>• Operational Noise Assessment (Appendix N)<br>• Woodland Restoration Plan (Appendix P) |

| Documentation | Response |
|---|---|
| • *the effects of traffic to be generated on roads.*<br>• *the visual impact of the proposal on the surrounding landscape*<br>• *the visual impact on abutting land that is described in a schedule to the National Parks Act 1975 and Ramsar wetlands and coastal areas*<br>• *the impact of the proposal on any species (including birds and bats) listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999*<br>• *the impacts on Aboriginal or non-Aboriginal cultural heritage* | • Landscape Early Works Strategy (Appendix Q)<br>• Landscape Connectivity Literature Review (Appendix S)<br>• Preliminary Hazard Assessment (Appendix T) |
| *A statement of why the site is suitable for a Renewable energy facility including a calculation of the greenhouse benefits.* | The site is considered suitable for a renewable energy facility and is addressed at Section 2.3. The proposed solar farm will have a capacity of up to 233 megawatts and is expected to generate clean energy that would supply electricity to 68,000 homes. The Project is anticipated to minimise carbon emissions by 400,000 tonnes per year. |
| *An EMP including a construction management plan as well as any rehabilitation and monitoring requirements.* | A PEMP has been prepared (Appendix J). As discussed in the PEMP, it is anticipated that an EMP will be required as a condition of Permit. |
| *Any other matter required by the responsible authority.* | It is considered that all matters have been addressed and discussed as required by the Responsible Authority, through the implementation of an extensive pre-application phase. Any other matters are able to be addressed through a Request for Further Information. |

#### 6.2.10.1 Setback Analysis and Heat Island Effect

The Project has considered potential heat island effect. It is not anticipated that the Project will have an impact or be affected by the heat island effect. In the Greater Shepparton Solar Farm Panel Hearing that occurred in July 2018, expert evidence on the heat island effect was presented to the Panel. The Panel Report accepted the proponent's evidence that temperature increases will not occur beyond 30 metres from a photovoltaic array. It was also noted that the temperature increases within 30 metres would be negligible.

The Solar Guideline recommends that '*a proponent should consider… providing a minimum setback of 30m from any part of a component that makes up a solar pod or zone, or other building or structure, measured from the neighbouring property boundary*.'

The Panel supported 30 metre setbacks from property boundaries (road reserves, irrigation channels and existing vegetation could be included in this calculation). As identified in the Application Plans (Appendix B) each boundary to the subject site includes five to ten metres of landscape buffering (existing or proposed) and a ten metre firebreak. The proposed setbacks are considered appropriate due to nearby sensitive receptors being located a minimum of 130 metres from the site boundaries.

The proposed landscape buffering and the retention of grass within the solar farm will provide an extra heat removal mechanism through transpiration and since the solar panels will shade a portion of the ground at any given time during the day, heat absorption in surface soils should also be reduced.

The subject site is irregular in shape and comprises multiple boundaries. Most solar panels are setback 30 metres or more from the nearest neighbouring property boundary, however, there are some areas where a minimum of 15 metre setback is provided. A detailed description of setbacks and further justification for the proposed setbacks of less than 30 metres is outlined below:

**Northern Boundaries**

Land immediately to the north of the Project is vacant agricultural land used for both cropping and grazing and does not contain any sensitive receptors. The setback of solar panels to the northern boundary is 30 metres.

There are residential properties to the north east of the site located at 81 Lake Mokoan Road and 286 Farnley Road and a minimum 30 metre setback along the boundaries interfacing these properties is proposed. Within the minimum 30 metre setback, a 10 metre landscape buffer, comprising tall trees and bushy understory, as well as a 10 metre firebreak/access track is proposed. Furthermore, the dwelling located at 81 Lake Mokoan Road is located 142 metres from the nearest solar panel and the dwelling at 286 Farnley Road is located 395 metres from the nearest solar panel. It is considered that this landscape screening and the additional distance created from the firebreak, as well as the distance that the solar farm is setback from the dwellings, would be sufficient in minimising any possible visual impacts.

**Eastern Boundaries**

Most of the eastern boundaries of the subject site are provided with setbacks of at least 30 metres to the nearest solar panel. There are two locations where setbacks of less than 30 metres are provided. Justification for these setbacks along the eastern boundaries is outlined below:

- Immediately south of Lake Mokoan Road, a small portion of the eastern boundary currently comprises a setback to the nearest solar panel of 23 metres. This is considered acceptable as there are no dwellings towards the east where the site generally adjoins the dam wall for Winton Wetlands. The Chesney Vale Fire Station is located along Lake Mokoan Road, more than 360 metres east of the site boundary. The Fire Station is not considered a sensitive receptor and the Panel Report prepared for the Greater Shepparton Solar Farm Panel Hearing, which the Solar Guideline is based on, suggests that temperature increases within 30 metres would be negligible.
- Immediately south of Stockyard Creek, a small portion of the eastern boundary currently comprises a setback to the nearest solar panel of 21 metres. This is considered acceptable as this area is located opposite Boundary Road, the dam wall and Winton Wetlands (which is obscured by the height of the dam wall).
- The Project is also proposing a 5 metre landscape buffer as well as a 10 metre firebreak/access track along these areas of the eastern boundaries.

**Southern Boundaries**

The internal southern boundary (more specifically oriented generally south east) abutting Lake Mokoan Road is provided with setbacks of solar panels to the boundary of more than 30 metres.

The southern boundary of the site (more specifically oriented generally south east) has a minimum setback of solar panels from the property boundary of 25 metres. Justification for the setback is outlined below:

- The nearest dwelling at 524 Benalla-Yarrawonga Road is located 184 metres generally south of the subject site. The Panel Report prepared for the Greater Shepparton Solar Farm Panel Hearing, of which the Solar Guideline is based on, suggests that temperature increases within 30

metres would be negligible. Furthermore, the area surrounding the dwelling is only used for cattle grazing and is not used for cropping.

- The Project is proposing a 10 metre landscape buffer comprising tall trees and bushy understory, as well as a 10 metre firebreak/access track along the southern boundary. It is considered that this screening and the additional distance created from the firebreak would be sufficient in minimising visual impacts to the sensitive receptor located 184 metres away.

**Western Boundaries**

The western boundaries (more specifically oriented generally south west) of the site interface directly with Benalla-Yarrawonga Road and has a minimum setback of solar arrays from the property boundaries of 15 metres, with other setbacks along this boundary ranging from 20 metres to 30 metres. This is comprised of a landscaping buffer of 5-10 metres and a 10 metre firebreak/access track. It is acknowledged that some of these setbacks are less than the 30 metre setback requirement as outlined in the Solar Guideline. Justification for these setbacks is outlined below:

- Most areas along the south western boundaries include a 10 metre wide landscape buffer of proposed planting, or existing vegetation with incorporated infill planting, additional to a 10 metre wide firebreak. Where the landscape buffer is proposed to be 5 metres wide, there is existing roadside vegetation outside the subject site, on both sides of Benalla-Yarrawonga Road.
- The interface with Benalla-Yarrawonga Road is not considered a sensitive interface and provides an additional setback to the nearest sensitive receptor.
- The nearest sensitive receptor is a dwelling located opposite the southern land parcel at 623 Benalla-Yarrawonga Road which is more than 130 metres generally west. The Panel Report prepared for the Greater Shepparton Solar Farm Panel Hearing, of which the Solar Guideline is based on, suggests that temperature increases within 30 metres would be negligible.

### 6.2.11 Guidelines for Renewable Energy Installations, CFA (2019)

The proposed site layout has considered and responded to the Guideline as discussed in Section 3.0 and identified in the Application Plans at Appendix B. Further, a number of consideration relating to bushfire risk, as well as mitigation measures have been implemented as addressed at Section 6.5 and Section 6.7.3 It is anticipated that a BMP will be required to be provided as a condition of Permit. A BMP would incorporate the requirements of *AS 3745-2010 Planning for Emergencies in Facilities.*

## 6.3 Regional Policy

### 6.3.1 Hume Regional Growth Plan (2014)

The Project aligns with the objectives and strategic direction outlined in the *Hume Regional Growth Plan* by delivering a renewable energy facility that will generate clean energy for Benalla and the wider Region and therefore contributing to the reduction of the impact of climate change.

The Project will not utilise highly productive farmland, ensuring minimal losses for the agricultural sector within the Region. While the solar farm is in operation, some agricultural activities are still able to continue, as the subject site has the potential to support the grazing of livestock (sheep) alongside the operation of the solar farm. Long term losses to farmland are negligible, as the land can be rehabilitated for farming uses following the decommissioning of the solar farm.

The development of a renewable energy facility supports the economy of the Region by diversifying and strengthening economic sectors while contributing to reducing greenhouse gas emissions and the generation of sustainable energy.

### 6.3.2 Victoria's Regional Statement (2015)

The proposed West Mokoan Solar Farm is consistent with Victoria's Regional Statement whereby supporting a diverse regional economy. Further, the Project will provide a net community benefit and will support the reduction in carbon emissions, create jobs and support the reduction of energy prices by providing an additional energy source.

### 6.3.3 Goulburn Broken Regional Catchment Strategy (2013-2019)

The project has responded to the Goulburn Broken Regional Catchment Strategy (the RCS) by considering the aims and objectives of the RCS during the site selection and planning process and ensuring early consultation with the GBCMA. This process ensured that the project would align with the RCS and allowed any views or advice received from the GBCMA to be incorporated into the design of the project.

The project has undertaken the following actions to support strategies for biodiversity, land, water and people:

- Consultation was undertaken with the Winton Wetlands Committee, and the Regent Honeyeater Group (refer to Section 1.4.2) where support was provided from both groups.
- Floodplain advice was sought from the GBCMA and a site meeting was held with the GBCMA and GMW (refer to Section 1.4.2.7). The GBCMA and GMW were supportive of the project and written advice was received from both GBCMA and GMW confirming that they would not object to the proposed solar farm, subject to conditions (refer to Appendix D for full GBCMA advice and Appendix R for GMW letter).
- The layout of the solar farm was designed to ensure minimum setbacks of 15 metres from waterways were achieved in accordance with advice received from the GBCMA (refer to Section 1.4.2.7).
- Solar panels are proposed to be elevated in flood prone areas, as shown on the Concept Plan, in accordance with advice received from the GBCMA (refer to Appendix D for full GBCMA advice).
- Ecological assessments have been undertaken with the results incorporated into the project design to ensure that existing remnant vegetation (native vegetation patches) are retained and native vegetation losses are restricted to scattered trees only. A desktop assessment was originally undertaken to inform the suitability of the site before detailed ecology assessments proceeded. Through additional ecology surveys and input into the iterative design process, the avoid and minimise principles have been applied and demonstrated through strong commitment by the Project to avoid and minimise impacts to the ecological values identified on the site.
- A ‘habitat connectivity assessment’ was also undertaken to identify those trees on the site that are higher priority for retention based on their connectivity/proximity to native vegetation patches and scattered trees which contributes to regional landscape connectivity (refer to the Landscape Connectivity Assessment at Appendix S).
- Through the application of the spatial analysis and further refinements to tree retention discussed in the Flora and Fauna Assessment (refer to Appendix C), greater than 90% of the scattered trees on site were retained and native vegetation patches have been retained.
- A Woodland Management Plan (refer to Appendix P) has been prepared with the aim of contributing to regional landscape linkages by adding value to past revegetation efforts and connecting areas of remnant woodland through biodiversity enhancement activities. An area of modified Plains Grassy Woodland Ecological Vegetation Class (EVC) is proposed to be rehabilitated where trees and larger woody plants will be replanted to contribute to the landscape link between Winton Wetlands and the Broken River. In addition, a remnant woodland currently managed for biodiversity conservation and protected under a Trust for Nature conservation covenant will also be managed by the Project.

## 6.4 Local Policy

### 6.4.1 Council Plan 2017-2021

The Project is consistent with the Council Plan by presenting an opportunity to create new jobs in the renewable energy sector, further diversifying the economy of Benalla. Through the provision of clean energy, the Project offers a sustainable and proactive solution that will support the community into the future.

### 6.4.2 Benalla Rural City Environment Strategy 2016-2020

The Project aligns with the strategic directions outlined in the Strategy by contributing to the increase in renewable energy facilities within Benalla, aiding in the mitigation of climate change impacts. Further, the development and use of the land for a solar farm is considered as suitable both from a suitability perspective and its siting within the Farming Zone. A solar farm is considered to be compatible with surrounding agricultural activities.

### 6.4.3 Benalla Community Plan 2016-2036

The Project is consistent with the Community Plan by being located on farmland that is currently not being used intensively. The Project provides a locally will produced sustainable energy source while creating jobs for Rural City of Benalla residents, with knock-on benefits to the wider community, contributing to the diversification and strength of the local economy.

A community investment program will be set up by South Energy which will provide additional benefits to the community by allocating a portion of the Project's revenue to fund projects which will benefit the community.

## 6.5 Consistency with the Planning Policy Framework

The following provides an assessment of the merits of the planning permit application against the relevant planning policies of the Planning Scheme identified at Section 5.5 of this report. The following outlines how the proposed solar farm is consistent with the PPF.

- The project facilitates growth and development to be consistent with **Clause11** by responding to the needs of existing and future communities by providing an energy source that is clean and sustainable Further, the Project is deemed to be consistent with regional planning policies due to the following reasons:
  - The Project facilitates growth and development for Benalla and surrounding Regions by strengthening the economy through diversifying agricultural land uses as outlined in **Clause 11.01-1R**.
  - In accordance with **Clause 11.01-1S**, the Project strengthens Benalla's identity as an environmentally sustainable region that invests in sustainable policies and actively participates in mitigating greenhouse gas emissions.
  - As outlined in **Clause 11.03-6S**, the Project considers the distinctive needs of the region in planning for existing and future land use and development by being able to adapt in response to new and changing demographic and technological trends.
- The Project is consistent with **Clause 12** given:
  - The project has been designed in a way that protects ecological value and avoids environmental loss where possible as outlined in **Clause 12.01-1S.**
  - In accordance with **Clause 12.01-2S**, the Project ensures that there will be no net loss in the contribution made by native vegetation to Victoria's biodiversity.
  - The Project aligns with **Clause 12.05-2S** as the subject site is not located on significant landscape. Nevertheless, any visual impacts that may be caused by the Project will be mitigated by landscaping, providing natural screening that protects the landscape values of the surrounding Region, while also contributing to Victoria's biodiversity.

  For additional information, refer to the Flora and Fauna Assessment, Landscape and Visual Impact Assessment, Landscape Plans and visualisations, and Glint and Glare Assessment at Appendix C, Appendix G, Appendix H, Appendix I and Section 6.7.1 respectively.
- The Project is considered to be consistent with **Clause 13** by being located on a site that will not detrimentally interfere with natural environment processes, minimising environmental degradation and amenity conflicts. Further, the Project aligns with the following:
  - The subject site is within a Designated Bushfire Prone Area however it is not within the Bushfire Management Overlay. Under **Clause 13.02 (Bushfire)**, the use of a renewable

energy facility is not included and therefore is not required to be assessed. Nonetheless, in accordance with **Clause 13.02-1S**, the Project has been designed to be resilient and defendable in the case of a bushfire (with access tracks throughout) and does not increase bushfire risks to human life. Further, the design of the solar farm responds to the CFA Guidelines for Renewable Energy Installations.

- In accordance with **Clause 13.07**, the Project site is appropriately located in an area where the surrounding land is largely agricultural farmland so that risks to community amenity and safety are minimised. Various technical studies have been prepared to further support this position – including Glint and Glare Assessment and Landscape Visual Impact Assessment – detailed in Section 7.0 below.

To ensure environmental risks are mitigated, a PEMP for the Project has been prepared that sets out the overarching environmental management processes to ensure that it avoids environmental degradation and hazards. The PEMP can be found at Appendix J and is discussed at Section 7.8.

- The Project aligns with **Clause 14** given that:
  - In response to **Clause 14.01-1S**, the impacts to agricultural productivity are minimal given that the subject site is not used for intensive farming. Currently, the site has been largely cleared for broadacre farming. Further, a solar farm is not a high impact use as it has minimal noise impacts. Any visual impacts will be mitigated through landscaping as proposed by the Landscape Plans Appendix H.
  - The use of the subject site for a renewable energy facility is a sustainable use of farmland and will facilitate agricultural diversification, supporting the economy of the region, as outlined at **Clause 14.01-2S**. Further, it does not negate the future use of the site for agricultural purposes following decommissioning of the solar farm.
  - In response to **Clause 14.02-1S** and **Clause 14.02-2S**, the Project will be able to conserve the existing watercourse that traverses through the southern portion of the site by ensuring that solar panels are set back from the watercourse sufficiently. Boundary fencing is required to be installed within the watercourse; however, the fencing will be designed such that it does not obstruct flood flows. Furthermore, the project has been designed with consideration of the Goulburn Broken Regional Catchment Strategy (refer to Section 6.3.3).

  The Surface Water Assessment, Hydrology and Hydraulic Modelling Report, Landscape and Visual Impact Assessment, and Landscape Plans and visualisations, can be found at Appendix D, Appendix E, Appendix G, Appendix H and are discussed in Section 7.0.

- The Project is consistent with **Clause 15** for the following reasons:
  - In accordance with **Clause 15** and **Clause 15.01-6S**, the solar farm responds appropriately to its landscape and protects views by providing planting in strategic locations that will screen views of the solar farm from sensitive receptors, including from any nearby residential dwellings. In addition, screening will provide landscaping to mitigate visual impacts within the environment.
  - Where possible, native vegetation is proposed to be conserved, specifically along the unnamed waterway. Additional landscaping is proposed which will contribute to the biodiversity values of the area.
  - As outlined in **Clause 15.02-1S**, the Project provides renewable energy infrastructure to be used for the efficient and renewable production of energy.
  - The Project is considered to be consistent with **Clause 15.03-2S** (Aboriginal Cultural Heritage) given that the majority of works are not located within the Area of Aboriginal Cultural Heritage Sensitivity. Some works are located within the Area of Aboriginal Cultural Heritage Sensitivity and a Complex CHMP has been prepared to manage any potential risk of impact to Aboriginal heritage.

  The Flora and Fauna Assessment, Landscape and Visual Impact Assessment, Landscape Plan and visualisations, and Cultural Heritage Management Plan are provided at Appendix C, Appendix G, Appendix H, Appendix M Sections 7.1, 7.5 and 7.11 respectively.

- The Project is consistent with **Clause 17** as it will provide economic, environmental and social benefits to the local community, further strengthening the economic growth and wellbeing of the Region. Further, the Project is able to strengthen and diversify the economy as outlined in **Clause 17.01-1S** by:
  - Creating and supporting direct and indirect jobs on a full-time basis during the construction and operation of the Project.
  - Presenting a unique opportunity which could potentially stimulate small-scale tourism initiatives such as viewing and education opportunities for visitors to the Region.
  - Creating opportunities for local businesses to be engaged during the development, construction, delivery and operation of the Project, further increasing the local skilled workforce and economic output of the Region.
- The Project is consistent with **Clause 19** as it ensures the efficient provision of renewable energy infrastructure. Further, the Project aligns with the following:
  - In accordance with **Clause 19.01-1S**, the Project is appropriately located adjacent to existing transmission line infrastructure that has capacity for renewable energy.
  - In response to **Clause 19.01-2S** and **Clause 19.01-2R**, the Project is able to deliver economic and environmental benefits to the Region. The Project has the capacity to supply renewable and sustainable energy, further mitigating greenhouse gas emissions. Further, the addition of this Project among other solar farm proposals in the Region will contribute to a renewable energy hub within Benalla which will maximise resource efficiency.

  Refer to Section 2.3 and Section 7.0.

## 6.6 Consistency with the Local Planning Policy Framework

The following outlines how the proposed solar farm is consistent with the LPPF of the Planning Scheme:

- The Project is consistent with **Clause 21.01-3**, as it provides the opportunity for the development of a sustainable renewable energy facility that will connect to the national electricity network and support the Region, contributing to a thriving and sustainable future for the community. Further, the Project aligns with the municipal vision as:
  - The Project contributes to the mitigation of greenhouse gas emissions by providing a clean and sustainable renewable energy source.
  - The proposed location of the Project is approximately 10 kilometres north east of the Benalla township which will allow diversification of the local economy and also has the potential to stimulate small-scale tourism.
- With the Project being in close proximity to the Benalla Township, the Project is consistent with **Clause 21.02-1** as it supports the growth of Benalla through the provision of renewable energy infrastructure that brings economic growth and environmental benefits for the community and surrounding areas. The Project encourages growth of Goorambat / Benalla as it falls within both suburbs, which in turn contributes to the growth of Benalla Rural City as a whole.
- **Clause 21.03** supports **Clause 12** and **Clause 15**. The Project is consistent with **Clause 21.03** for the following reasons:
  - The Project has been designed such that areas with ecological value are avoided and protected where possible, as specified in **Clause 21.03-1**.
  - The Project responds to **Clause 21.03-2** by providing sufficient landscaping to ensure local aesthetic value and sensitive views are protected.
  - The Project is considered to be consistent with **Clause 21.03-3** (European and Aboriginal Heritage) given that the majority of works are not located within the Area of Aboriginal Cultural Heritage Sensitivity. Some works are located within the Area of Aboriginal Cultural

Heritage Sensitivity and a Complex CHMP has been prepared to manage any potential risk of impact to Aboriginal heritage.

The Flora and Fauna Assessment, Landscape and Visual Impact Assessment, Landscape Plans and visualisations and CHMP are provided at Appendix C, Appendix G, Appendix H and Appendix M and are discussed in Sections 7.1, 7.5, 7.11.

- **Clause 21.04** supports the objectives and policies contained at **Clause 13**. The Project is consistent with **Clause 21.04-4** as the use of the land for a solar farm will not result in land use conflict with adjacent uses, as a solar farm is not a high-impact activity and generally has limited noise impacts and minimal visual impacts.
- The Project is consistent with **Clause 21.05-1** as follows:
  - Impacts to agricultural productivity are considered to be minimal as the Project only represents a very small percentage of productive agricultural land within the region. Further, the Project site is able to be used for the grazing of livestock during operation of the solar farm for maintenance purposes, which retains the agricultural productivity of the site.
  - The Project enables agricultural diversification and allows for the sustainable use of farmland that will support the regional economy.
  - The proposed location of the Project is considered appropriate for the proposed use, enabling diversification in the area where sensitive receptors are minimal.
- In accordance with **Clause 21.08-5**, the use of the land as a renewable energy facility is appropriate given the following:
  - A renewable energy facility is contemplated in the Farming Zone as it is a Section 2 Use (Permit required).
  - The Project does not hinder residential development and would not prevent residential development occurring on land adjacent to or in the vicinity of the Project site. Further, the productive quality of the land is not diminished by the Project as the land could still be developed as appropriate for farming or residential purposes after decommissioning. Further, sheep grazing may occur on the site to maintain vegetation growth on the site.
  - The Project is in close proximity to the Benalla and Goorambat townships however the subject site is not specified on the Benalla or Goorambat Structure Plan, signifying that at present, there is no residential development proposed for land around the Project, further ensuring minimal land use conflict.

## 6.7 Zone and Overlays

### 6.7.1 Farming Zone

The Project is located within the Farming Zone. It is considered that the Project is consistent with the Purpose of **Clause 35.07** due to the following:

- Planning assessment of the Project against the PPF (including the MSS and LPPF) has been undertaken in Section 6.5 and 6.6 of this Report. It is considered that the proposed use and development of the land for the purposes of a solar farm are generally supported by the PPF, including the MSS and LPPF.
- During construction and operation, the Project will create jobs that support direct and indirect full time employees, therefore supporting the local community and diversifying employment opportunities.
- The subject site has been chosen for the Project based on sustainable land management practices that include an assessment of amenity, heritage, topography and ecological values, and the proximity to existing local infrastructure, such as the 220kV grid transmission line running through the subject site.
- The Project only takes up a small percentage of productive agricultural land, ensuring minimal impacts to agricultural productivity for the Region.

- The proposed use is not anticipated to impact upon agricultural activity nearby or adjacent to the Project.

It is considered that the Project appropriately responds to the Decision Guidelines outlined in **Clause 35.07-6** as follows:

- A response to the Municipal Planning Strategy and the Planning Policy Framework has been provided at Section 5.5 and 5.6.
- A response to the Goulburn Broken Regional Catchment Strategy has been provided at Section 6.3.3.
- The site has excellent access to the existing infrastructure and services, being appropriately located adjacent to the existing 220kV grid transmission line.
- The Project will not permanently remove land from agricultural production. Once the Project is decommissioned, the subject site will be able to be rehabilitated to ensure that it continues to be viable for agricultural activities.
- The proposed design layout ensures ground disturbance is kept to a minimum and allows the design of the Project to follow the existing topography of the land.
- Prominent natural features such as the watercourse will be retained and protected where sufficient setbacks and appropriate fencing design will limit impacts to water quality and water flows through the site (refer to Appendix D, Appendix E and Section 7.2).
- The proposed location of the Project has adequate separation from sensitive areas and uses. It is anticipated that adjacent and nearby land uses will retain acceptable levels of amenity for dwellings with the Farming Zone.
- A Flora and Fauna Assessment, a Landscape and Visual Impact Assessment, a Traffic Impact Assessment and a Surface Water Assessment have been undertaken. Refer to Section 7.0.

### 6.7.2 Public Use Zone

Stockyard Creek is located within the PUZ Schedule 1. It is considered that the Project is consistent with the Purpose of **Clause 36.01** due to the following:

- Planning assessment of the Project against the PPF (including the MSS and LPPF) has been undertaken in Section 6.5 and 6.6 of this Report. It is considered that the proposed use and development of the land for the purposes of a utility installation are generally supported by the PPF, including the MSS and LPPF.
- The proposed use of land for a medium voltage overhead powerline is not anticipated to impact upon Stockyard Creek or its values as a public utility.

It is considered that the Project appropriately responds to the Decision Guidelines outlined in **Clause 36.01-4** as follows:

- Written consent from Goulburn Murray Water as the public land manager has been obtained and is included at Appendix R.
- The project has been designed in accordance with the Solar Energy Facilities – Design and Development Guideline. The proposed overhead powerline does not impact any native vegetation.

### 6.7.3 Bushfire Prone Area

The site is located within a Designated Bushfire Prone Area. It is anticipated that the highest fire risk is likely to be due to grass fires. The proposed land use (solar farm) is not a listed land use at **Clause 13.02**. Nevertheless, it is anticipated that a BMP will be prepared prior to the development of the site as a condition of Permit. The BMP will be prepared in consultation with the CFA and would incorporate the requirements of *AS 3745-2010 Planning for Emergencies in Facilities,* to ensure that appropriate fire risk assessments are undertaken, and measures are implemented during development and operation, to minimise the risk to life and property from fire. It is noted that the proposed site layout

has considered and responded to the CFA Guideline for Renewable Energy Installations as discussed in Section 3.0 and identified in the Application Plans at Appendix B.

## 6.8 Particular Provisions

### 6.8.1 Clause 52.02 - Easements, Restrictions and Reserves

There are a number of easements on the subject site as described in detail in Section 2.1.3. The 22kV powerline easements and drainage easement as described respectively in Sections 3.12.1 and 3.12.2 are required to be removed and realigned. The dwelling located at 892 Benalla-Yarrawonga Road is proposed to be demolished to facilitate the Project and therefore no longer requires connection to power. In addition, realignment of the easements would maximise the most efficient use of land for development of infrastructure associated with the proposed West Mokoan Solar Farm.

In order to realign the easements, the easements are required to be removed, and new easements created. The proposed realignment of the easement is shown on the Application Plans included in Appendix B. Pursuant to **Clause 52.02**, the Project has considered the impact of varying the easements and has deemed it acceptable for removal and variation. The Plan of Subdivision can be found at Appendix O.

### 6.8.2 Clause 52.05 Signs

The signage will be limited to the display of South Energy's branding and will include the name of the site and site address. Three signs will be installed at the site entrance of each of the main properties comprising the solar farm (616 Benalla-Yarrawonga Road, 892 Benalla-Yarrawonga Road and Benalla-Yarrawonga Road) to identify the West Mokoan Solar Farm. This will result in one sign located along Benalla-Yarrawonga Road, and two signs located along Lake Mokoan Road. The signs will be one (1) square metre each will not exceed three (3) square metres in total display area, in accordance with **Clause 52.05-14**. The signs will be designed with due consideration to the decision guidelines of **Clause 52.05-8** and to the satisfaction of the responsible authority.

### 6.8.3 Clause 52.06 Car Parking

Car parking for the Project will be addressed through a CEMP and TMP during construction. During operation car parking will comply with relevant car parking design standards and ensure that there will be no demand generated for on-street parking as a result of the Project's operation. There is sufficient space to enable car parking on the site which will be provided within the proposed utility area to the satisfaction of the responsible authority, as there are no specific car parking requirements for a '*renewable energy facility'.*

### 6.8.4 Clause 52.17 - Native Vegetation

Solar arrays are comprised of panels that are connected to form strings, which are then grouped into rows and connected to a PCU. Shadowing has a greater effect than simply reducing the output of any single shaded panel, as it will reduce the output of the entire string to which it forms a part, meaning that the output of the lowest generating panel determines the output of the whole string.

Consequently, 28 trees within the site are required to be removed as they impeded the efficient layout of the Project and overshadow surrounding panels. The Flora and Fauna Assessment (Appendix C and Section 7.1) contains a Native Vegetation Removal Report which confirms 1.891 hectares of proposed removal (28 scattered trees, 26 large, 2 small) and as a result 0.394 general habitat units of offset will be required within a minimum strategic biodiversity score of 0.312.

### 6.8.5 Clause 52.29 – Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road

The West Mokoan Solar Farm is proposed to comprise five site access points, with two of these being from Benalla-Yarrawonga Road which is within the RDZ1. The Project will utilise the existing southern-most access point along Benalla-Yarrawonga Road which allows access into the southern portion of the site. The other access point will be created to allow for construction vehicles to access the site. As Benalla-Yarrawonga Road is straight, there are no restricted sight distances from the two proposed access points onto the road. The Project will also create three access points on Lake Mokoan Road to provide access to the site as well as direct access to the proposed substation and O&M facility. The

site access points will be developed with due consideration to the decision guidelines of **Clause 52.29-6** and to the satisfaction of the responsible authority.

### 6.8.6 Clause 53.13 - Renewable Energy Facility (other than Wind Energy Facility and Geothermal Energy Extraction)

**Clause 53.13-2** (Application Requirements) provides an overview of all information that must accompany applications (as appropriate) for a renewable energy facility. The application requirements set out in Clause 53.13-2 are addressed in Table 8.

**Table 8 Application Requirements of Clause 53.13-2**

| Policy Requirement | Section of Report |
|---|---|
| A site and context analysis, including:<br>• A site plan, photographs or other techniques to accurately describe the site and the surrounding area.<br>• A location plan showing the full site area, local electricity grid, access roads to the site and direction and distance to nearby accommodation, hospital or education centre. | Refer to:<br>• Section 2.0 of this report.<br>• Appendix B for the Application Plans. |
| A design response, including:<br>• Detailed plans of the proposed development including, the layout and height of the facility and associated building and works, materials, reflectivity, colour, lighting, landscaping, the electricity distribution starting point (where the electricity will enter the distribution system), access roads and parking areas.<br>• Accurate visual simulations illustrating the development in the context of the surrounding area and from key public viewpoints.<br>• The extent of vegetation removal and a rehabilitation plan for the site. | Refer to:<br>• Appendix B for the Application Plans.<br>• Subject site layout details and proposed works (Section 3.0).<br>• Landscape Character and Visual Impact, Landscape Plan and Photomontages Assessment (Appendix G, Appendix H and Section 7.5).<br>• Flora and Fauna Assessment (Appendix C and Section 7.1). |
| Written report and assessment, including:<br>• An explanation of how the proposed design derives from and responds to the site analysis.<br>• A description of the proposal, including the types of process to be utilised, materials to be stored and the treatment of waste.<br>• Whether a Works Approval or Licence is required from the Environment Protection Authority.<br>• The potential amenity impacts such as noise, glint, light spill, emissions to air, land or water, vibration, smell and electromagnetic interference.<br>• The effect of traffic to be generated on roads.<br>• The impact upon Aboriginal or non-Aboriginal cultural heritage.<br>• The impact of the proposal on any species listed under the Flora and Fauna Guarantee Act 1988 or Environment | Refer to:<br>• The description of the Project and how it responds to site analysis (Sections 2.0 - 6.0).<br>• Certificate of Titles (attached to the planning application).<br>• Application Plans (Appendix B).<br>• Flora and Fauna Assessment (Appendix C and Section 7.1).<br>• Glint and Glare Assessment (Appendix I and Section 7.6).<br>• Landscape Character and Visual Impact, Landscape Plan and Photomontages Assessment (Appendix G, Appendix H and Section 7.5).<br>• Woodland Restoration Plan (Appendix P)<br>• Landscape Early Works Strategy (Appendix Q)<br>• Preliminary Environmental Management Plan (Appendix J and Section 7.8).<br>• Geotechnical Investigation (Section 7.9). |

| Policy Requirement | Section of Report |
|---|---|
| Protection and Biodiversity Conservation Act 1999.<br>• A statement of why the site is suitable for a renewable energy facility including, a calculation of the greenhouse benefits.<br>• An environmental management plan including, a construction management plan, any rehabilitation and monitoring. | • Surface Water Assessment (Appendix D and Section 7.2).<br>• Hydrology and Hydraulic Modelling Report (Section 7.3 and Appendix E)<br>• Traffic Impact Assessment (Appendix F and Section 7.3).<br>• Areas of Aboriginal Cultural Heritage Sensitivity within or surrounding the subject site in Section 7.11 and Appendix M.<br>• Section 2.3 for site suitability. |

## 6.9 General Provisions

### 6.9.1 Clause 66.02 Use and Development Referrals

The following referrals are required for the use and development of areas specific to the development of the West Mokoan Solar Farm:

- The Secretary to the Department of Environment. Land, Water and Planning to remove, destroy or lop native vegetation, this will be needed
- The relevant electricity transmission authority to construction of the building or construct carry out works on land within 60m of a major electricity transmission line (220 Kilovolts or more) or an electricity transmission easement.
- The relevant Roads Corporation to create or alter access to a road declared as a freeway or arterial road under the *Road Management Act 2004*.
- A potential referral is required to the Victorian WorkCover Authority to use land for a utility installation or to construct a building or construct or carry out works on land for a utility installation, if certain conditions apply. A Preliminary Hazard Assessment in support of this potential referral has been prepared and is included at Appendix T.

# 7.0 Impact Assessment

This section provides a summary of the various specialist assessments that were undertaken in support of the Project.

## 7.1 Ecology

A detailed Flora and Fauna Assessment has been undertaken by AECOM to identify species and vegetation communities of conservation significance within proximity of the subject site. The assessment investigated the presence of Commonwealth and State listed flora and fauna species and ecological communities within the subject site and characterised the existing ecological condition of the subject site. The following flora and fauna values were identified with the study area:

- 27.94 hectares (8.22 habitat hectares) of native vegetation was recorded, comprised of 26 'Habitat Zones' of EVC 55_62 Plains Grassy Woodland, EVC 175_61 Grassy Woodland, EVC 235 Plains Woodland/Herb-rich Gilgai Wetland Mosaic and EVC 803 Plains Woodland.
- 112 large trees were recorded within patches
- 209 scattered trees including Grey Box, Yellow Box, White Box, Red Box, River Red-gum and stags within the study area. Of the 209 scattered trees within the study area, there were a total of 191 large trees and 18 small trees.
- An FFG Act listed ecological community was considered present - Victorian Temperate Woodland Bird Community on the basis of the presence of woodland EVCs which are considered synonymous with the Victorian Temperate Woodland Bird Community.
- There is potential for Swift Parrot to utilise the study area as part of foraging habitat and for the Striped Legless Lizard to occur within the study area.
- Of the 44 trees to be removed for Revision G, 17 trees had high habitat value and were identified as high priority trees for retention. A further 22 trees had medium and five trees had low habitat values. Such loss may exacerbate the potentially threatening process '*loss of hollow-bearing trees from Victorian native forests and woodlands'* listed under the FFG Act.
- The design footprint of the West Mokoan Solar Farm has avoided and minimised loss of native vegetation where possible and will result in impact to 1.891 ha of native vegetation including 28 scattered trees (26 large and 2 small).

The following recommendations are made and should be considered for the project:

- Implement appropriate mitigation measures prior to construction to avoid adverse impact to environmental features within or adjacent to the study area, particularly scattered trees and patches.
- Implement appropriate measures to avoid the spread of high threat environmental weeds including those identified in this report. Measures can be captured in an Environmental Management Plan.
- Implement measures to reduce impacts on wildlife during construction. These measures should be outlined in a Wildlife Management Plan.

An assessment was undertaken for proposed site accessways from Benalla-Yarrawonga Road and Lake Mokoan Road. No impacts to remnant vegetation are anticipated as the accessways can be sited in appropriate locations where adequate setbacks are provided such that works occur where there is no native vegetation present, and which are outside of any Tree Protection Zones (TPZ). Refer to Attachment F of the Flora and Fauna Assessment for the Assessment of Access locations.

Refer to Appendix C for the full Flora and Fauna Assessment.

### 7.1.1 Woodland Management

The area identified in the Application Plans (Appendix B) described as 'Native Vegetation Enhancement Area', north of Stockyard Creek (Lot 1 TP104377 and Lot 98B PP2704) is proposed to be restored to contribute to regional landscape linkages by adding value to past revegetation efforts and connecting areas of remnant woodland through biodiversity enhancement activities. This will be achieved through managing issues such as grazing, weeds, pest animals, biomass levels, and through tree and shrub enhancement planting. In addition, a remnant woodland currently managed for biodiversity conservation and protected under a Trust for Nature (TFN) conservation covenant will be managed by the Project. Along with adjacent areas of Crown land, these areas will be managed and restored to reconnected woodland values.

Most of the land is under control of the Solar Developer (892 Yarrawonga Development Pty Ltd). A portion of the land is Crown Land and landowner Consent to use Crown Land has been sought (refer to Section 7.15).

A Woodland Management Plan has been prepared (Appendix P) and incorporates standard biodiversity enhancement techniques whilst drawing on local experience and methods adopted by the Regent Honeyeater Group which have high planting success rates in the region.

## 7.2 Surface Water

A Surface Water Assessment was prepared by AECOM to highlight the likely changes in water quality, water quantity and stream stability as a result of the Project. Further, it outlines strategies to minimise and manage the potential impacts associated with changes in surface water quality. The Assessment found that the construction activities and some of the proposed infrastructure may change the local drainage and flood characteristics, recommendations regarding how such impacts can be managed include:

- The solar panels in the northern land parcel (north of the Stockyard Creek) will be set back at least 15m from the centreline of the designated waterway that traverses the centre of the site. This is in line with the guidance provided by the GBCMA in an email (dated 12 June 2019).
- Solar panels will be elevated such that they will be 300mm above the predicted 1% AEP flood level when stowed in the horizontal position.
- Local drainage may be required to convey flows captured in swale drains associated with the access tracks and at low points. All existing access tracks and local roads will be maintained at the current elevation.
- A works on waterways permit will be sought where the access roads cross the designated waterway. All other waterway crossings will be designed in accordance with the guidance of the relevant authorities.
- The finished floor levels of the substation area will be constructed 300mm above the 1% AEP flood level as conditioned by the GBCMA.
- The inverter blocks will be distributed throughout the site, adjacent to the access tracks. Recognising the requirements of the GBCMA, the base for these structures will be set 300mm above the predicted 1% AEP flood event.
- Impervious areas of the site could concentrate runoff or displace surface water storage. However, the impacts of these structures are expected to be minor with runoff flowing onto impervious areas where infiltration will occur. For these areas, design considerations will include level spreaders to convert channelised flow back to sheet flow or discharge into infiltration drainage channels or soak pits.
- Poorly designed fencing can collect debris and exacerbate local flood impacts. Site fencing will be designed so that it does not obstruct flood flows across the land. This likely to include farm type fencing that features a large open mesh construction or vertical farm style fencing as conditioned by the GBCMA.

- To manage impacts from changes in soil characteristics due to construction and removal of vegetation, disturbed ground will be quickly stabilised and reinstated. Similarly, any land drains or ditches will be reinstated or replaced to maintain existing drainage characteristics.
- Reestablishment of surface treatments are critical to erosion and sediment control. consideration of rock lining drainage channels where reestablishment cannot be achieved should be made.
- The proposed infrastructure will be designed to shed water as well as withstand regular and extended periods of inundation.
- Upstream and downstream boundaries of the site will be suitably graded with the site surfaces to retain the existing flood flow pathways across the site.
- It is not anticipated that runoff from the solar arrays will cause erosion. However, local drainage controls will be implemented where concentrated flows have been identified.

The Assessment also finds that while the conversion of the subject site from the farming use to a solar farm may ultimately reduce the risk of surface water contamination, during construction, the Project presents a risk to surface water quality for the Stockyard Creek and Broken River. The Assessment makes the following recommendations to reduce this risk:

- Construction activities will be effectively managed by best practice pollution prevention strategies in accordance with EPA publications *480 Environmental Guidelines for Major Construction Sites and 275, Construction Techniques for Sediment Pollution Control and International Erosion and Sediment Control Association (IECA) Australasia guidelines.*
- Construction activities will also adhere to a site-specific erosion and sediment control plan.
- Works on and around waterways will only occur when they are dry.
- Areas of disturbed ground will be quickly reinstated following completion. Optimum surface treatments will be selected to fast track stabilisation of surfaces and prevention of erosion during establishment.
- Sediment control fences will be employed downstream of work areas.
- Sedimentation ponds will be constructed to collect silty runoff (the use of flocculants will also be considered where appropriate).
- Diversion bunds will be used to direct water to sedimentation ponds for treatment. The height and alignment of bunds will be considered so as not to increase the risk of flooding.
- Works with a high risk of causing erosion will be scheduled during the driest periods.
- Soils will be quickly remediated with topsoil (where compacted or leached), seeded and over-seeded during the correct season.
- Mulches and soil binders (e.g. hydromulch) will be considered for newly exposed embankments, slopes and longer-term stockpiles.
- Any man-made impoundment or conveyance structures (e.g. irrigation storage ponds and channels) will be assessed for their necessity, environmental impact and ongoing safety.
- Surface treatments for drainage infrastructure will be designed to resist scour and erosion. drainage will be designed to limit flow velocities to prevent scour.
- Discharge of channelised flow shall be via the use of level spreaders or direct outfall into Stockyard Creek with suitable erosion protection.

The Surface Water Assessment is enclosed at Appendix D.

## 7.3 Hydrology and Hydraulic Modelling

A Hydrology and Hydraulic Modelling Assessment was undertaken by AECOM as a result of the Surface Water Assessment and discussions with GBCMA which recommended a detailed assessment be undertaken. The Hydrology and Hydraulic Modelling Assessment provides an analysis of existing

data associated with surface water near the site and provides detailed hydrological and hydraulic modelling used to determine the extent of flood impacts related to the Project.

The hydrological and hydraulic assessment indicated that areas within the northern land parcel are inundated under 300mm for a 1% AEP flood event and are therefore categorised as having a low flood risk, except for land adjacent to the designated waterway impacted by the backwater from the Broken River.

The southern land parcel is inundated with 1% AEP flood based on GBCMA flood contours and measurement points extrapolations. Areas adjacent to the designated waterway and low-lying land on the north east are inundated with more than 1.5 metres flood depth. The topography of the site is less steep compared to the northern land parcel which decreases the hazard rating for this site as a result of lower velocity. The estimated flood depth and 300mm freeboard are to be considered in the solar arrays' height in this area.

The results of this flood investigation have been incorporated into the solar farm layout to avoid adverse impacts to the existing flow regime as well as conveyance impacts to pre-existing flood storage, flood levels, and flood velocities. The proposed infrastructure including single axis trackers, a single line of poles spaced between 6m and 8m apart, and the inverter and transformer blocks would be constructed with 300 mm freeboard above 1% AEP flood level.

The assessment showed that solar farm developments including solar panels and associated structures cause insignificant changes to the existing flows and flood storage. Subsequently, the project does not increase water levels to any neighbouring buildings outside of the site boundary.

The Hydrology and Hydraulic Modelling Report is enclosed at Appendix E.

## 7.4 Traffic

A Traffic Impact Assessment was undertaken by AECOM to assess the operational capability of the local road network to cope with the additional traffic associated with the construction and operation of the West Mokoan Solar Farm. The Assessment provides an overview of the traffic conditions and patterns for the significant sections of road and intersections surrounding the Project including Sydney Road, Benalla-Yarrawonga Road and Lake Mokoan Road.

The assessment concluded that given the negligible existing traffic volumes owing to the rural nature of the local road network, there will be no traffic impacts from the construction of the West Mokoan Solar Farm. The Traffic Impact Assessment identifies that:

- Three access points are proposed via Lake Mokoan Road and two access points are proposed via Benalla-Yarrawonga Road to access the southern section of the West Mokoan Solar Farm.
- Proposed construction traffic routes are yet to be determined and will be confirmed within the TMP produced for the project. Construction vehicles are anticipated to mainly access the site from the south via the Hume Freeway, Sydney Road, Benalla-Yarrawonga Road and Lake Mokoan Road.
- It is estimated that there will be 40 construction staff on site during the peak construction period, with peak site access traffic occurring between 6-7am and 6-7pm with typically 40 vehicle arrivals and departures in the morning and the evening on weekdays.
- During construction, 10-15 vehicle movements to and from the subject site per day are estimated in relation to construction activities and deliveries.
- During operation of the solar farm, it is anticipated that traffic movements would equate to approximately 1-3 vehicles per day pending required works.

It is anticipated that the preparation of a TMP will be required by a planning permit condition. The TMP will detail any required upgrades to nearby roads following the detailed design phase of the Project. The TMP will be would be developed in consultation with the Department of Transport (VicRoads) and Benalla Rural City Council. Further, the TMP will include details of the construction approach, methodology, and schedule.

Refer to Appendix F for the full Traffic Impact Assessment.

## 7.5 Landscape and Visual Assessment

A Landscape and Visual Impact Assessment has been undertaken by AECOM for the Project. The purpose of the assessment is to assess the potential visual and landscape impacts resulting from the construction and operation of the solar farm.

Overall, the assessment identified that the highest change to landscape character would occur mostly within waterway and wetland landscapes due to the high sensitivity of these areas, and secondly within rural agricultural landscapes which has moderate sensitivity due to the picturesque quality and cultural aspects of the landscape and the resulting change in the character of the site due to the proposal.

The highest overall ratings were recorded from the Dam Wall Hiking Trail and from two residences adjacent to the proposal. Although residential receptors are typically a highly sensitive receptor group, the proposal was either positioned at distances from the residences that reduced the visual impact, or the residences and proposal boundary were bordered by screening vegetation that either partially or fully screened views to the proposal.

Two houses are within close proximity to the proposal, within 200m of the proposal boundary. The impacts to these sensitive receptors would potentially be mitigated by a vegetation buffer which would screen views to the proposal.

The assessment considered the Project to be visually comparable to industrial elements scattered throughout the local rural landscape. The assessment also highlighted the subjective nature of visual impacts, whereby a solar farm would be of great interest to some and could be considered a landmark within the landscape.

A landscape strategy has been provided to respond to the landscape character and visual impacts. The response promotes preservation of existing vegetation and provision of additional planting to mitigates visual impacts from more sensitive receptor locations. The Landscape Plan prepared by AECOM demonstrates that a ten metre wide landscape buffer will be provided along property boundaries of the site at areas where the subject site has frontage towards sensitive receptors. A five metre wide landscape buffer will be provided along other property boundaries where it has been determined as required.

Within the landscape buffer area, a range of trees, shrubs, grasses and ground cover will be planted. The landscaping proposed will vary in height and Indigenous species to the area have been selected as appropriate. Planting within the transmission line easements will been provided in accordance with the power authority requirements and therefore no trees will be located within the easement to allow continued access to the easement and associated infrastructure. Where possible, existing vegetation will be retained. The existing vegetation, proposed landscaping, along with vegetation within the road reserves will contribute to the overall screening of the solar farm.

Photomontages have been prepared to identify the visual impact of the Project on the surrounding area. These visualisations demonstrate the anticipated changes to sensitive views as a result of the Project. The visualisations illustrate the likely views after the construction of the solar farm, including with the implementation of the proposed landscape treatments detailed in the proposed Landscape Plan.

Given the limited sensitive uses in the vicinity of the site, the landscape treatments proposed are considered to adequately mitigate any visual impact of the solar farm. With the implementation of the proposed landscape concept, the proposal is considered appropriate within its landscape setting.

The LVIA is enclosed at Appendix G and Landscape Plans and Photomontages at Appendix H.

## 7.6 Early Works Strategy

AECOM has prepared an Early Works Strategy which aims to assist in mitigating impacts to sensitive receptors, with plant installation preceding construction of internal solar farm works in order to fast track screening at targeted locations. The installation of these works will soften the visual impacts from sensitive receptors as well reduce glare from the solar farm during both construction and operation.

Areas for early works to occur are identified in Appendix Q and include all 10 metre wide dense planting zones, 5 metre wide planting zones (along the southern side of Lake Mokoan Road, and the eastern boundary of the site along Boundary Road), and 5 metre wide planting zones along Benalla-Yarrawonga Road. Remaining works as identified in the Landscape Plans (Appendix H) will be installed at a later date to align with construction of the solar farm.

The Early Works Plan identifies landscape works to occur pre-construction to accelerate screening of the development. This involves early planting of landscape zones that interface with sensitive receptors and zones that will be required to mitigate glare post infrastructure construction.

It may also include installing site screening (shade clothes to site boundary fence) prior to construction commencement to mitigate impacts of infrastructure (in particular glint and glare) to sensitive receptors until the landscape has established to a height suitable to perform as a screen. This is one of two potential temporary mitigation measures – the alternative being to limit the resting angle of panels during backtracking.

## 7.7 Glint and Glare and Heat Island Effect

AECOM has undertaken an analysis of glint and glare for the proposed West Mokoan Solar Farm based on a Single Axis Tracking System. Glint and glare are caused by a significant contrast between a light source and background illuminance. The purpose of the study is to conduct a glare potential analysis of the Project and identify potential glare impacts at nominated observation points in the vicinity of the subject site. The report also recommends improvements or mitigation options to reduce glare issues that may impact the public.

The Glint and Glare report indicated that the operation of the array configuration of the solar panels outlined in the report would potentially cause glare with moderate potential for after image. It is however noted that the software runs a simplified model of backtracking, indicating that the glare occurring during sunrise and sunset hours may be over predicted. The results may therefore be somewhat conservative.

The Glint and Glare report considers that the proposed vegetation screening has the potential to mitigate glare. The report outlines that once vegetation has reached a height of three and a half metres, any predicted glare impacts at surrounding dwellings and the adjacent roads would likely be removed. It is anticipated to take five years for the proposed vegetation screening to reach three and a half metres in height. During the period when the vegetation is growing to a sufficient height, either of the following options can be implemented:

A. Install manmade screening (shade cloth, glare screen or non-transparent security fence) on the site's security fence at three and a half metres high (noting that the existing security fence would need to increase in height to support this screening), OR

B. Limit the resting angle of the solar panels to a minimum of 14 degrees during backtracking operation.

The current preference is to restrict the resting angle to 14 degrees, however both options are able to mitigate the impacts of possible glint and glare until vegetation screening reaches the required height of three and a half metres.

The report considers that once the vegetation screening reaches a sufficient density and height, these mitigation measures would be able to be removed.

Refer to Appendix I for the full Glint and Glare Assessment.

## 7.8 Environmental Management

The PEMP prepared by AECOM provides details on the environmental management framework and the overarching environmental management processes to be implemented during the detailed design, construction, operation and decommissioning of the Project. The PEMP responds to the requirements of the Victoria Planning Provisions, and in particular **Clause 53.13-2** which requires that a planning permit application for a renewable energy facility must include '*an environmental management plan, including a construction management plan, any rehabilitation and monitoring'* as an element of the design response.

The PEMP presents an initial environmental management framework that the Applicant will utilise to formulate any detailed Environmental Management Plans and environmental sub-plans that may be required through conditions of the planning permit. The document is intended for further work pending details such as construction and operation phases that are yet to be finalised.

The proposed Environmental Management Framework for the Project includes:

- The overarching environmental management system and objectives of the Project.
- A summary of identified environmental aspects and associated objectives relevant to the development of the Project;
- Organisational structure, roles and responsibilities for environmental management;
- Procedures for staff environmental awareness training and communication;
- Processes for stakeholder consultation and communication;
- Procedures for environmental monitoring, auditing, record keeping and reporting;
- Procedures for receiving, documenting, investigating and responding to complaints and incidents and implementing corrective actions;
- Measures for emergency preparedness and response;
- An outline of the potential structure for the detailed Environmental Management Plan(s) that will be developed prior to the commencement of construction;
- A summary of key management strategies to avoid and minimise the environmental and amenity impacts of the construction, operation and decommissioning of the facility; and
- Processes for periodic review of environmental performance and continual improvement.

The PEMP is enclosed at Appendix J.

## 7.9 Geotechnical

The Geotechnical assessment prepared by AECOM investigates the site conditions in order to identify any potential geotechnical hazards that may be constraints to the development of the proposed Renewable Energy Facility. The assessment involved a desktop assessment as well as a site walkover/drive-over and provided findings relevant to topography, drainage, geological setting, regional hydrogeology, previous geotechnical investigations, sodic soils, acid sulphate soils and easements and existing power infrastructure. The site inspection also revealed findings relating to surface conditions and site features.

Analysis of the findings generally indicated that the geological conditions on the subject site are relatively uniform and provide a suitable location for construction of a solar farm. Furthermore, the assessment indicated reduced potential for flooding or landslides, with possibility of the occurrence of small scale surface erosion.

Refer to Appendix K for the full Geotechnical Assessment.

## 7.10 Agricultural

The Agricultural Impact Assessment prepared by Ag-challenge consulting investigates the agricultural impacts of the proposed construction of a solar farm on the subject site, where land is currently used for broadacre farming. The investigation also covers the potential impacts to adjacent properties and determines whether the Project is likely to have any adverse impacts on surrounding land uses.

Land that is highly versatile and among the most agriculturally productive within a region are classified as prime agricultural land or high quality agricultural land. The subject site has not been described as such as it is limited to grazing and cropping uses. The soil types present are noted for low permeability and there is a regional problem in the area with impeded drainage.

The installation of the solar panels will have an impact on the current agricultural use and will alter the nature of the farm. Where the solar panels are installed, a reduction of light will be available to the

plants growing underneath and therefore the site will no longer be able to be used for cropping purposes. The concentration of runoff from the panels onto the soil surface may initiate soil erosion and streambank erosion. Consideration needs to be given to minimizing this risk in the design stage.

There is opportunity to accommodate grazing animals (sheep) beneath and in between the solar panels, however the appropriate design of the panels and introduction of stock water will need to be developed. The number of grazing stock will have to be reduced as the carrying capacity of the farm will be lower due to the restriction of plant growth.

There are no perceived detrimental impacts of the development of the solar farm to the surrounding farm businesses. The impacts to the agricultural amenity of the Region are not significant. There is however a heightened wildfire risk if there is not attention given to how fuel loads on the farm are managed, therefore the need for a Fuel Load management plan should be considered as part of the project design.

The Agricultural Impact Assessment is enclosed at Appendix L.

## 7.11 Cultural Heritage

The Cultural Heritage Management Plan (CHMP) prepared by AECOM revealed that no registered Aboriginal cultural heritage sites are within the subject site; however, two areas of Aboriginal Cultural Heritage Sensitivity are partially located within the subject site. The areas of sensitivity are associated with Stockyard Creek and Koo-Wee-Rup Plain. As the Activity Area contains area of Aboriginal cultural heritage sensitivity and the proposed activity is considered a high impact activity, a mandatory CHMP has been prepared.

A desktop assessment was undertaken and reviewed the archaeological context; geographic region; registered Aboriginal places; previous reports; the ethnohistory and land use of the Activity Area. A review of the existing archaeological and environmental context of the Activity Area suggested that material evidence of past Aboriginal activity is likely to be restricted to flaked stone artefacts in surface and subsurface contexts. Culturally modified trees may also be present where remnant mature vegetation is extant.

Archaeological survey as part of the standard assessment was completed over four days from 3 – 6 March 2020. A total of 28 individual artefacts and three scarred trees were identified during the survey. These have been assigned to two Aboriginal places - one Low Density Artefact Distribution (LDAD) and one complex of scarred trees. Given the identification of surface artefacts, the presence of swamp resources and poor ground surface visibility across the Activity Area, it was assessed that much of the Activity Area had subsurface archaeological potential. Accordingly, it was determined a subsurface investigation was required to better understand Aboriginal use and occupation of the Activity Area. A complex assessment was therefore undertaken.

As part of the complex assessment, a 16 day program of archaeological test excavation was completed between 10 and 20 March 2020, 14 and 18 November 2020, and 3 and 4 February 2021. The overarching objective of the test excavation program was to collect information about the nature and extent of subsurface Aboriginal objects present within the Activity Area including previously identified areas of Aboriginal cultural heritage sensitivity associated with Stockyard Creek and Koo-Wee-Rup Plain. A total of 308 x 0.25 m² Shovel test Pits (STPs) were excavated across the Activity Area resulting in the recovery of 219 Aboriginal stone artefacts.

Aboriginal cultural heritage identified within the Activity Area consists 28 surface stone artefacts, 219 subsurface artefacts and three culturally modified trees. Combining both the results of the standard assessment archaeological survey and the complex assessment test excavation, two Aboriginal Places are recognised within the Activity Area. These consist of one Artefact Scatter incorporating all surface and subsurface artefacts (WMSF-AS1) and one complex of modified trees (WMSF-ST1)..

The draft CHMP (Appendix M) sets out the cultural heritage management conditions which must be complied with once the CHMP is approved. The CHMP will be submitted to Registered Aboriginal Party (Yorta Yorta Nation Aboriginal Corporation) for approval. The approved CHMP will be submitted to the Responsible Authority upon approval.

## 7.12 Noise

An Operation Noise Assessment was undertaken by AECOM to assess the potential environmental noise emissions from the operation of the proposed solar farm in relation to applicable environmental noise criteria and provides options and recommendations to enable compliance with the noise criteria, which is also detailed in the assessment.

The main sources of noise from the operation of the proposed solar farm will be the inverters associated with the Power Conversion Units (PCUs), and a substation. Computer noise modelling was performed to predict the solar farm operational noise levels at the nearest residential locations for the two inverter operating conditions. The noise levels were predicted for neutral weather conditions, and with a moderate breeze assisting noise propagation towards the sensitive receptor locations.

The computer modelling results indicate that the solar farm noise emissions during nominal power operation, under wind-assisted noise propagation conditions, will be in excess of the noise limits at the nearest residences.

To enable compliance at the nearest and potentially worst-affected receiver, alternative locations have been proposed for the two nearest PCUs to increase the distance between the PCUs and the receiver. In addition, some PCUs will require noise control to achieve a 10 to 15 decibel noise reduction. This is proposed to be achieved by using manufacturer-supplied noise control packages and acoustic screens (where required).

The assessment acknowledges that advancements in solar inverter technology may lead to the availability of quieter equipment items at the time of final plant selection for the project, such that the full extents of the noise control measures proposed may not be required at the time of construction. Therefore, the assessment recommends that acoustic modelling of the final plant selections and layout be undertaken to confirm required mitigations prior to commencement of works.

Refer to Appendix N for the full Operational Noise Assessment.

## 7.13 Electromagnetic Radiation

Electromagnetic interference (EMI) is a specific issue that is more generally associated with wind farms as radio interference may occur when a wind turbine is located in such a way as to disturb the radio waves between the transmitter and receiver. The Project will produce electromagnetic fields that are anticipated to be less than recommended limits. In the decision on the Lancaster Solar farm, the Campaspe Shire Council officers report stated that:

- *Electromagnetic fields are related to the strength of the source, duration of exposure and distance a person stands from the source, given that dissipation of the electromagnetic field is exponential over a distance. Powercor has numerous distribution and transmission lines already in the vicinity of the solar farm therefore* ***it is considered that no unreasonable impact will occur as a result of the use on the land***
- *No matter what the voltage of a transmission line manufacturers of electrical devices must demonstrate compliance with global and local standards to distribute a piece of equipment within Australia as specified in the report submitted by the applicant.*

## 7.14 Fire and Dangerous Goods

As outlined at Section 6.7.3, the site is located within a Designated Bushfire Prone Area. Whilst the proposal is not required to address the requirements of the Bushfire Management Overlay, it is anticipated that a BMP will be required as a condition of Permit. The proposal has sought to incorporate design measures to achieve appropriate compliance with the CFA Guidelines for Renewable Energy Installations. The proposal incorporates the following measures:

- A minimum 10 metre setback has been provided from the site boundary and all landscape screening for CFA emergency access.
- Internal access roads will facilitate safe and efficient internal circulation for emergency and personnel vehicles in the instance of a fire.

- The subject site's cleared expanses will provide natural offsets to act as fire breaks.
- Appropriate bushfire management approaches will be incorporated within all site management practices, with ongoing collaboration with the CFA viewed as a positive outcome to be achieved.

During the construction phase of the Project, should the handling, storage and use of dangerous goods be required, the requirements of the relevant Australian Standards will be complied with. It is anticipated that there will be no storage of hazardous or dangerous goods or materials on site during the operation of the Project. A Preliminary Hazard Assessment has been undertaken and is included at Appendix T.

## 7.15 Crown Land Occupation

The Applicant has obtained landowners consent for Crown Land use and occupation ancillary to this planning permit application. The subject Crown Land is formally described as lot 98B PP2704 and runs generally north west to south east from the north of Stockyard Creek, through the north eastern corner of the portion of the property at 616 Benalla-Yarrawonga Road (refer to Figure 21).

The purpose of the Crown Land is for a channel reserve. The channel reserve has not been in use for an extended period since Stockyard Creek has been formalised adjacent to the land at Benalla-Yarrawonga Road and runs along the northern boundary of the land.

A letter from DELWP dated 25 November 2020 confirms that the applicant has notified the landowner about the proposed development and that the letter serves as landowner's consent to undertake the development works subject to compliance with the planning permit and its conditions, and any other statutory approval.

Part of crown allotment 98B PP2704 is proposed to be managed as part of the woodland management plan (refer to Appendix P). Other parts of crown land including crown allotments 95C PP2704, 97B PP2704 and 97C PP2704 will also be managed by the Project for the purposes of biodiversity improvement.

Consultation was held with Simon Hollis and Ian Walton from DELWP on 15 December 2020 and 11 February 2021 in relation to obtaining the appropriate licence or lease agreements over the land. The Applicant will obtain the appropriate licence or lease agreements prior to commencement of managing these areas.

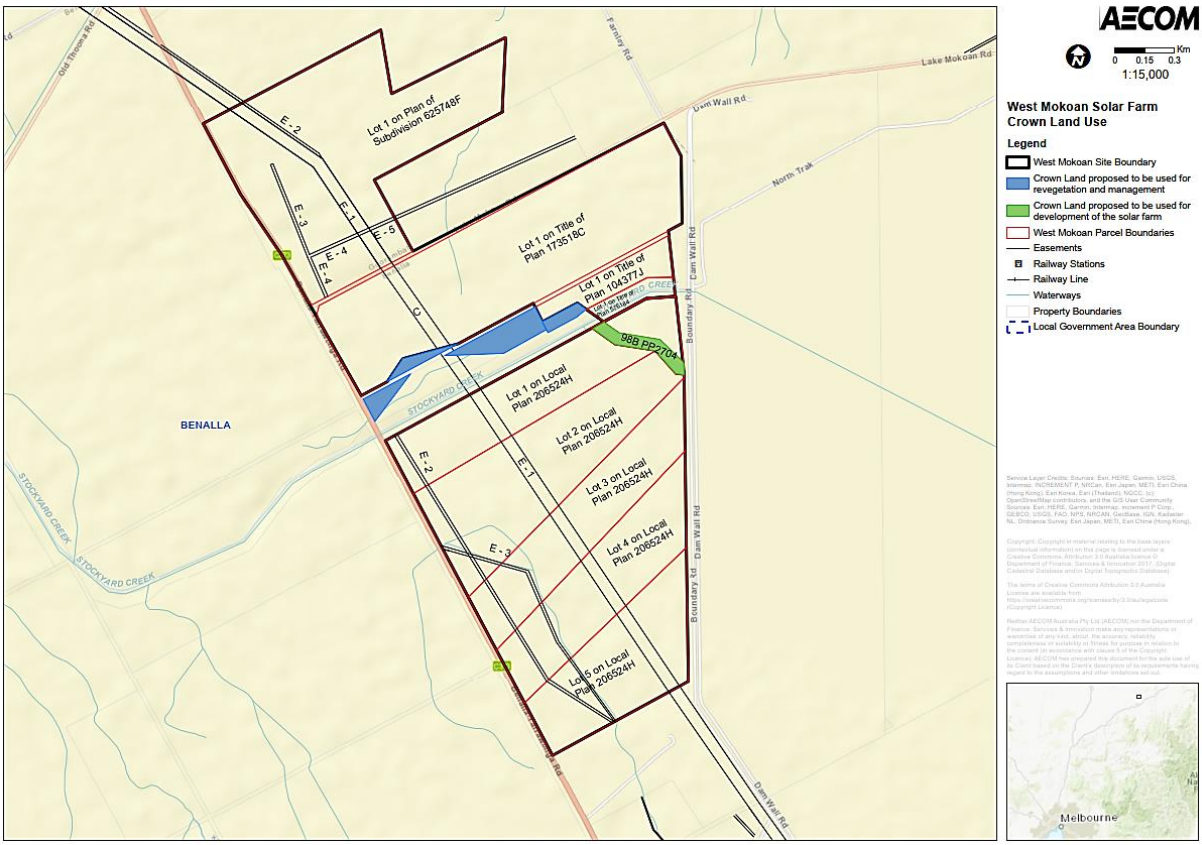


**Figure 21 Crown Land Occupation**

## 7.16 Cumulative Impacts

In October 2019, the *Renewable Energy (Jobs and Investment) Amendment Bill 2019* (Vic) passed the Victorian Parliament, bringing the VRET 2030 target into legislation, which reinforces to industry and the sector that Victoria is committed to a renewable energy transition. Victoria legislated renewable energy targets of 25 per cent by 2020, 40 per cent by 2025 and 50 per cent by 2030. Meeting these targets is expected to:

- *Bring forward significant new investment in renewable energy capacity, increasing total electricity generation in Victoria by 9 per cent in 2030, improving the reliability of Victoria's supply;*
- *Support additional economic activity of up to $5.8 billion in Victoria over the period to 2030;*
- *Increase employment by up to an average of 4,067 full time jobs a year, which equates to around a total of 24,400 two-year jobs in Victoria over the period to 2030; and*
- *Reduce Victoria's emissions from electricity generation in 2030 by 2.0 million tonnes of carbon dioxide equivalent (Mt of CO2e) to 33.9 Mt of CO2e, contributing to Victoria's long-term target of net zero emissions by 2050* (source: *Victorian Renewable Energy Target 2018-19 Progress Report, DELWP*)

This will result in an increase in solar and wind farms in suitable areas. The Benalla – Wangaratta region is an area of growth, especially in the solar industry. As outlined in Section 2.2.4 there are seven known solar farms within proximity of this Project. The following sections provide an assessment of specific cumulative impacts expected in relation to landscape and visual, ecology and agricultural land impacts.

As identified by the LVIA (refer to Section 7.5 and Appendix G), the cumulative impacts of several solar farms within a local area is likely to have an impact to visual receptors not viewing from static locations. Therefore, it is drivers on local and major roads and hikers and cyclists using trails in the area that are most likely to be affected. This is due to the receptors being more likely to see more than

one solar farm as they move throughout the landscape. The individual solar farms would be viewed in glimpses through the proposed landscape buffering to the infrastructure.

Given the push to increase renewable energy production within Victoria, it is considered that solar farms are expected in be a more frequent sight within rural landscapes such as the Benalla – Wangaratta region. Within the rural cities of Benalla and Wangaratta, solar farms are expected to occur more frequently, particularly on major roads, including the Hume Freeway and Benalla-Yarrawonga Road.

While the proposed West Mokoan Solar Farm does increase the number of solar farms seen in the area (particularly along Benalla-Yarrawonga Road), it is considered appropriate given the proposed mitigating boundary landscaping and considering that the surrounding landscape remains agricultural.

The proponent for this development has invested significant effort in ensuring that the ultimate design of the facility has avoided and minimised ecological impact to those areas of the site that have been revealed through detailed survey to be of higher biodiversity value, whilst also ensuring ecological impacts on the broader region are minimised.

As identified within the Flora and Fauna Assessment (Appendix C), an initial desktop assessment was undertaken which informed the early design of the proposed facility. A detailed ecology assessment of the study area further informed the design process, ensuring impacts to values identified were avoided where possible. The proponent also commissioned AECOM to undertake a 'habitat connectivity assessment' to determine those trees on the site that should be a higher priority for retention based on their regional habitat connectivity. The proposed design has considered broader landscape values and sought to retain as many of the valuable, connected scattered trees as possible where 80% of scattered trees on site were retained and all habitat zones have been retained. It is believed that tree removal from this project will not impact on the identified landscape value.

Furthermore, the Project has proposed to undertake a woodland management project as discussed in Appendix P which proposes to contribute to regional landscape linkages by adding value to past revegetation efforts and connecting areas of remnant woodland through biodiversity enhancement activities. This will be achieved through managing issues such as grazing, weeds, pest animals, biomass levels, and through tree and shrub enhancement planting. The Woodland Management Plan (Appendix P) incorporates standard biodiversity enhancement techniques whilst drawing on local experience and methods adopted by the Regent Honeyeater Group which have high planting success rates in the region.

As identified in the Agricultural Impact Assessment (refer to Section 7.10 and Appendix L), there are a number of solar farms approved within proximity of the West Mokoan Solar Farm. The assessment concludes that there are no perceived impacts of the development of the solar energy facility to the surrounding farm businesses. The impacts to the agricultural amenity of the Region are not significant.

# 8.0 Conclusion

This planning report and accompanying reports demonstrates that the Project is consistent with the PPF and complies with the local planning policy objectives and strategies set out in the Planning Scheme. Furthermore, it is considered that the proposed solar farm is appropriate at this location for the following reasons:

- The Project does not drastically alter the productive agricultural quality of the site and is not currently used for intensive agricultural purposes. The subject site is not considered to have high quality soils for agriculture and therefore the use of the land for non-agricultural use is considered to be appropriate. It is noted that there is the opportunity for sheep to continue to graze on the site for maintenance purposes. Further, the solar farm has a life span of 30 years and can be decommissioned so land can be reinstated to its pre-construction state.
- The Project is generally consistent with State Policy and the PPF of the Planning Scheme in relation to settlement and the region, the environment, economic development and infrastructure and specifically, renewable energy infrastructure.
- The Project is generally consistent with the purposes of the Farming Zone as it encourages the use and development of land for sustainable land management practices and infrastructure. There are no overlays affecting the site. Furthermore, the Project aligns with the decision guidelines of the Farming Zone.
- The Project is generally consistent with the purposes of the Public Use Zone and landowner consent has been obtained by Goulburn Murray Water for use and development of a Utility Installation (overhead powerline) on land at Stockyard Creek.
- The Project is consistent with local policies that aim to promote investment and diversification of local employment opportunities within the economy.
- The Project is respectful to the areas of Aboriginal Cultural Heritage Sensitivity by being appropriately sited and designed with required setbacks from Stockyard Creek and the Winton Wetlands.
- The Project will generate economic benefits to the region through direct and indirect jobs as a result of construction and operation of the Project. Benefits of diversifying and strengthening the economy will be created, increasing the skilled workforce and economic output of the broader region.
- The Project seeks to protect biodiversity and native vegetation where practicable, whilst further protecting the broader landscape through the design and layout of the solar farm.
- The Project maintains sustainable land management and may enable existing agricultural industries – in particular, the grazing of livestock – to operate whilst maximising the potential of the land to provide a source of renewable energy for Victoria.
- The Project will have minimal amenity impacts due to the low emittance of noise and absence of odour from the proposed renewable energy facility. Any potential visual impacts will be minimised through the implementation of appropriate landscape treatments to ensure visual buffers and screening are utilised to protect visually sensitive areas.
- The Project represents a long term investment within the area of Benalla and an ongoing commitment to co-exist with the local community, including provision of a community investment fun which will further contribute to the enhancement and vitality of the area.

It is therefore requested that the Project be supported by the Minister for Planning and the Planning Permit application approved.

# Appendix A

## Consultation Material

# Appendix A Consultation Material

# Appendix B

# Application Plans

# Appendix B Application Plans

# Appendix C

## Flora and Fauna Assessment

# Appendix C Flora and Fauna Assessment

# Appendix D

## Surface Water Assessment

# Appendix D Surface Water Assessment

# Appendix E

## Hydrology and Hydraulic Modelling Report

# Appendix E Hydrology and Hydraulic Modelling Report

# Appendix F

## Traffic Impact Assessment

# Appendix F Traffic Impact Assessment

# Appendix G

## Landscape and Visual Impact Assessment

# Appendix G Landscape and Visual Impact Assessment

# Appendix H

## Landscape Plans

# Appendix H Landscape Plans

# Appendix I

## Glint and Glare Assessment

# Appendix I Glint and Glare Assessment

# Appendix J

## Preliminary Environmental Management Plan

# Appendix J Preliminary Environmental Management Plan

# Appendix K

## Geotechnical Assessment

# Appendix K Geotechnical Assessment

# Appendix L

## Agricultural Impact Assessment

# Appendix L Agricultural Impact Assessment

# Appendix M

## Cultural Heritage Management Plan

# Appendix M Cultural Heritage Management Plan

# Appendix N

## Operational Noise Assessment

# Appendix N Operational Noise Assessment

# Appendix O

## Survey Plans

# Appendix O Survey Plans

# Appendix P

## Woodland Restoration Plan

# Appendix P Woodland Restoration Plan

# Appendix Q

## Landscape Early Works Strategy

# Appendix Q Landscape Early Works Strategy

# Appendix R

## Goulburn-Murray-Water Landowner's Consent

# Appendix R Goulburn-Murray-Water Landowner's Consent

# Appendix S

## Landscape Connectivity Literature Review

# Appendix S Landscape Connectivity Literature Review

# Appendix T

## Preliminary Hazard Assessment

# Appendix T Preliminary Hazard Assessment