



Fosterville Solar Farm Planning Application Report

For FRV Services Australia Pty Ltd

April 2022

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Prepared for FRV Services Australia Pty Ltd

Version	Author	Date	Description of changes
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EXECUTIVE SUMMARY

This report is provided in support of a planning permit application for Fosterville Solar Farm, a proposed 100-megawatt (MW) AC solar energy facility, including ancillary infrastructure and battery energy storage system (BESS) located at the corner of Brownes Lane and Russells Bridge Road, Axedale, approximately 20 kilometres east of Bendigo, Victoria. The proponent for the project is FRV Services Australia (FRV), a global renewable energy solutions provider and leading solar developer.

The proposal development will make an important contribution to Victoria's renewable energy and climate change targets and objectives set out under the Renewable Energy (Jobs and Investment) Act 2017 (Vic) and Climate Change Act 2017 (Vic).

This application has been assessed against the relevant policies and guidelines of the Greater Bendigo Planning Scheme, including the provisions of Clause 53.13 Renewable Energy Facility and the Solar Energy Facilities Design and Development Guideline DELWP 2019 (Solar Farm Guidelines) and the CFA Guidelines for Renewable Energy Facilities. The proposal is strongly supported by the range of policies and guidelines that apply, particularly those which seek to facilitate renewable energy facilities in locations that will have minimal amenity impacts and protect important agricultural land.

A brief summary of the key relevant thematic issues is provided below for consideration. This summary includes reference to technical expert reports that accompany the application.

Noise

A Noise Impact Assessment prepared by ARUP is included at Appendix A.

The assessment concludes that the facility will comply with the relevant Australian and New Zealand standards including the new EPA regulations which supersede the previous 'NIRV' standard.

Relevant guidance for noise includes the *Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues* (EPA publication 1826.4) and the *Technical Guide: Measuring and Analysing Industry Noise and Music* (EPA Publication 1997).

Cumulative impacts of the approved Axedale Solar Farm were included in the assessment.

Operational noise limits were determined for the night-time period at the most critical identified residential properties. Compliance was demonstrated at these properties demonstrating compliance at all other sensitive receivers. A noise level of less than or equal to 33dB(A) was predicted at the nearest receiver, complying with the limit of 36dB(A).

Operational noise from either the proposal or Axedale Solar Farm is not predicted to impact compliance of sensitive receivers for either project.

Aviation and Glint and Glare

A Solar Glint and Glare Assessment prepared by Landrum and Brown is included at Appendix B.

In terms of aviation impacts, the assessment concludes that there are no glint and glare issues associated with aviation. The nearest aviation facilities are Bendigo Airport (19 kilometres), Mangalore Airport (60 kilometres), Echuca Airport (67 kilometres), and Shepparton Airport (83 kilometres).

The report concludes that there will be no glint and glare issues on residential properties within 1 kilometre of the site.

With respect to local road users, it is concluded there will be potential for some moderate glare

impacts on road users however these impacts can reasonably be assumed to be mitigated to an acceptable level by existing trees along the road, the transient nature of any receivers, the unsealed and hence dusty nature of the road, and finally, the fact that the assessment takes no account of cloud cover / adverse weather conditions.

Visual Amenity and Landscape

A Landscape and Visual Impact Assessment prepared by Landform Architects is included at Appendix C, including photomontages from representative locations.

The assessment concludes that visual impacts from the proposal, including cumulative impacts from the neighbouring Axedale Solar Farm, will be either Nil-Negligible or Low-Negligible for the majority of receivers, including private and public representative locations.

The assessment notes the project would barely be discernible from the nearest residential dwelling is approximately 600 m to the west. All other dwellings are at a distance of 1 kilometre or greater, with the project being less visually noticeable.

The report concludes that the overall level of visual impact does not appear to warrant landscape screening or mitigation.

Impacts are acceptable within the context of the site and broader landscape and existing and approved development.

Agriculture

An Agricultural Assessment Report prepared by Meridian Agriculture is included at Appendix D.

The assessment concludes that the land has no direct strategic agricultural importance, is not in an irrigation district, and would likely continue to be used for cropping/grazing (existing use) in the absence of a solar farm. Removal of the site from production would have an insignificant impact on regional agricultural productivity. In addition to the findings of this report it is noted the site may continue to be grazed with sheep. The report findings considered the cumulative impact of both the subject proposal and neighbouring Axedale Solar Farm in concluding that impacts were acceptable.

Flora and Fauna

A Flora and Fauna Assessment has been prepared by Biosis and is included at Appendix E.

Forty-seven (47) flora species and 16 fauna species comprised of 28 native and 35 introduced species were recorded within the study area. Habitat for threatened fauna exists on the site. No threatened ecological communities were found to occur within the study area and no further or targeted surveys were recommended.

No referral to the Commonwealth Department of Environment for any Matters of National Environmental Significance under the Environment Protection and Biodiversity Conservation Act 1999 was considered necessary.

An initial assessment of the project against the potential effects criteria suggests that an Environmental Effects Statement under the Environment Effect Act 1978 is unlikely to be required.

The design of the solar facility has been through a number of iterations in order to minimise impacts on native vegetation and biodiversity, resulting in proposed removal of 0.760 ha of native vegetation including 10 large trees. Removal falls under the detailed assessment pathway and must be referred to DELWP Environment as a recommending referral authority. 0.157 general habitat offset units are required (no specific offsets). The proposal has minimised impacts in accordance with Clause 52.17 and the host of policies under the scheme which seek to minimise impacts of development on biodiversity.

Traffic

A Traffic Impact Assessment prepared by Impact Traffic Engineering is included at Appendix F.

The site is bound by Russells Bridge Road to the north and Brownes Lane to the west which are both classified as local roads.

The assessment concludes that the proposal will not have an unreasonable impact on the local road network and access arrangements are appropriate.

A Traffic Management Plan (TMP) is expected to be required as part of the conditions of any planning permit approval.

Heritage

The site is affected by three small areas of Aboriginal cultural heritage sensitivity along its boundary in the south-west of the site, however the project will not impact on these areas and further precautionary setbacks are proposed. An Aboriginal Cultural Heritage Desktop Due Diligence Assessment has been prepared by Landscape and is included at Appendix G.

The assessment concludes that there is low potential for Aboriginal cultural heritage to be harmed by the activity, with the three small areas of Aboriginal cultural heritage sensitivity relating to three scarred trees in the road reserve of Brownes Lane. The assessment concludes the proposal does not trigger the requirement for a mandatory Cultural Heritage Management Plan (CHMP).

No non-Aboriginal historic heritage is present on site.

Conclusion

The site is a high-quality location for a solar farm. It is flat, largely cleared of native vegetation and has few sensitive receivers in proximity. Impacts will be generally low.

The balance of policies under the Greater Bendigo Planning Scheme strongly support the proposal, with particular reference to key provisions of Clause 35.07 (Farming Zone), Clause 53.13 (Renewable Energy Facility) and the Solar Energy Facilities Design and Development Guideline.

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1 INTRODUCTION

This report has been prepared for FRV Services Australia Pty Ltd (FRV) and accompanies a planning application to use and develop a solar energy facility at the corner of Brownes Lane and Russells Bridge Road, Axedale. The facility will comprise up to 100MW(AC) solar array and approximately 120MW/240MWh Battery Energy Storage System (BESS) and ancillary infrastructure on a 183 hectare site.

The subject site is a large flat, highly modified and largely cleared piece of agricultural land with sparsely scattered trees. The land has historically been used for cropping and grazing purposes. There are no significant waterways on site. A 220kV transmission line runs east/west through the northern section of the site allowing for on-site grid connection. The site has frontage to Brownes Lane along its western boundary and Russells Bridge Road along its northern boundary.

The site is entirely within the Farming Zone where a permit is required for the use and development of a solar energy facility and utility installation. No overlays apply.

This report outlines the proposal, permit triggers and how the proposal complies with the relevant provisions of the Greater Bendigo Planning Scheme including the Solar Farm Guidelines at Clause 53.13 and the CFA Guidelines for Renewable Energy Facilities.

Table 1 Site summary

PROJECT TITLE:	Fosterville Solar Farm
ADDRESS	Brownes Lane, Axedale
PROPONENT	FRV Services Australia Pty Ltd
REAL PROPERTY DESCRIPTION	See Table 2 Parcel descriptions and title restrictions
TENURE	Agriculture
REGIONAL GROWTH PLAN	Loddon Mallee South Regional Growth Plan
LOCAL GOVERNMENT	Greater Bendigo Council
PLANNING SCHEME	Greater Bendigo Planning Scheme
ZONING	Farming Zone
OVERLAYS	None

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2 THE PROPONENT

FRV Services Australia Pty Ltd (FRV) is an Australian-based developer of large-scale solar farms and a subsidiary of Fotowatio Renewable Ventures who is a leading global developer of renewable energy projects. FRV has developed 1.6 gigawatts (GW) of renewable energy projects globally and has a trusted reputation in development, construction and operation of large-scale solar energy facilities in Australia.

FRV has a current Australian portfolio that includes:

- Royalla Solar Farm – 24MWp – Operational since 2015
- Moree Solar Farm – 70 MWp – Operational since 2016
- Clare Solar Farm – 125MWp – Operational since 2017
- Lilyvale Solar Farm – 125MWp – Operational since 2019
- Goonumbla Solar Farm – 83.7MWp – Operational since 2020
- Winton Solar Farm – 106MWp – Construction complete
- Sebastopol Solar Farm – 90MWp – Construction complete
- Metz Solar Farm - 115 MWp – Under Construction
- Chaff Mill Solar Farm – 125MWp – Development Approval Received
- Bluewater Solar Farm – 80MWp – Development Approval Received
- Walla Walla Solar Farm – 300MWac – Construction Early Works
- Ravenswood Solar Farm – 63MWac - Development Approval Received
- Viewbank Solar Farm – 75MWac – Under Development

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3 THE PROPOSAL

3.1 DEVELOPMENT SUMMARY

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SOLAR ARRAY

A solar energy facility and ancillary battery energy storage system (BESS) and on site-grid connection is proposed with a capacity of up to 100MWAC. The BESS is expected to have a storage capacity of approximately 120MW/240MWh.

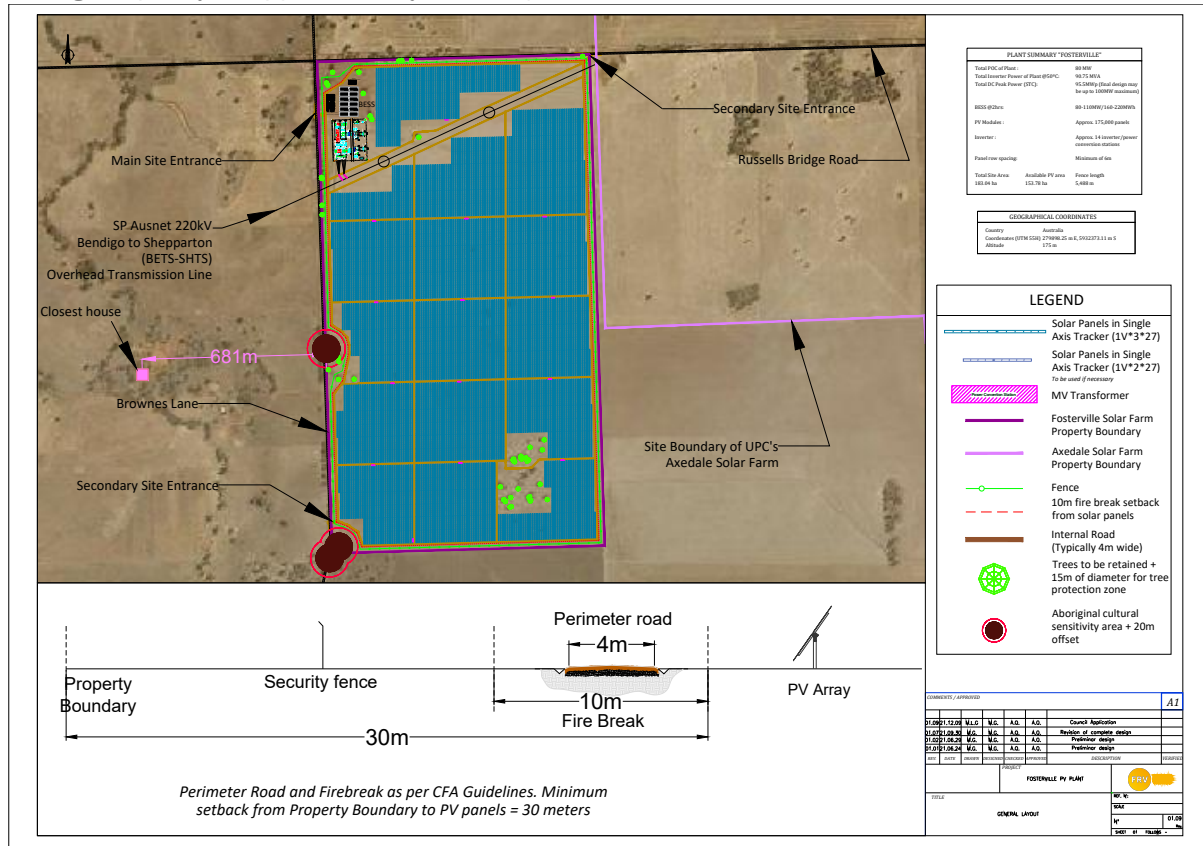


Figure 1 Extract of General Layout Plan of the proposed Fosterville solar farm

Details of the solar energy facility include:

- Approximately 175,440 low reflectivity single axis tracking photovoltaics panels (single or double portrait) rotating through 120 degrees from east to west
- Minimum panel row spacing of 6-14 metres
- Panel height up to 5.5 metres
- 14 power conversion stations/MV transformers, associated with solar banks
- Chain mesh perimeter fence around the entire facility (approximately 5.5 kilometres) to minimum height of 2 metres
- Access tracks throughout the site and around the perimeter of the facility, including minimum 10m fire break setback from solar panels
- One main access point in the north-west and two secondary access points
- Main site facilities area in the north-west of the site, including
 - High voltage substation and switching station
 - Offices/permanent control room
- Parking and temporary set down area for during construction
- Approximately 120MW/240MWh BESS

**Fosterville Solar Farm
Application for planning permit**

An extract of the general layout plan and indicative images of the proposed infrastructure are provided in the figures above and below. A full set of plans showing the proposed solar energy facility, associated infrastructure and BESS is included at Appendix I.



Figure 2 FRV Sebastopol Solar Farm



Figure 3 Illustration of a type of BESS coupled with a solar farm (source: www.energyaustralia.com.au/about-us/energy-generation/gannawarra-battery-storage)

BATTERY ENERGY STORAGE SYSTEM

The BESS will occupy an area within the main facility section of the site in the northwest, and will be comprised of individual modules as shown on the BESS Details plan at Appendix I. The Tesla Megapack lithium-ion battery is the indicative model proposed with a total of 90 Megapacks at a weight of approximately 23.1 tonnes each. It is acknowledged that this weight of lithium-ion batteries which will exceed the 20 tonne threshold for referral to Victorian WorkCover. Further details are contained at Section 5.2.

GRID CONNECTION

The facility will connect on site to SP Ausnet's 220kV Bendigo to Shepparton transmission line which transects the site. Grid connection will be achieved via a high voltage switching station and co-located substation connecting directly to the overhead line as shown on the Interconnection Plan at Appendix I. The substation will not exceed the height of the existing overhead line.

ACCESS AND PARKING

Parking required through the life of the facility will be minimal and limited to maintenance and operations staff. Ample parking for these activities will be able to be provided alongside relevant site facilities on site as shown on the General Layout Plan at Appendix I.

Main site access will be provided from an existing accessway in the north-western corner of the site on Brownes Lane, while two new secondary accessways for emergency purposes will be provided from Russells Bridge Road and the southern end of the site's frontage to Brownes Lane. New accessways have been located in breaks in the road side vegetation.

Internal access roads measuring 4m wide will be constructed of aggregated material and will be built between panel banks and also around the perimeter of the facility, for functional access to operations and maintenance facilities and for bushfire safety purposes, as shown on the Road Section plan at Appendix I.

SIGNAGE

Permanent business identification signage will be affixed to the project exterior fence at the main site entrance measuring a maximum of 3sqm.

SETBACK/BUFFER AREAS

All solar infrastructure will be set back a minimum of 30 metres from the site boundary, as shown in the illustrative sectional diagram on the General Layout Plan at Appendix I.

There are no dwellings or intensive horticultural uses within close proximity to the site. There are no dwellings with direct views to the site and the nearest dwelling is located approximately 680 metres to the west of the site boundary.

VEGETATION REMOVAL

Removal of 0.760 ha of native vegetation including 10 large trees and 3 small trees is proposed to facilitate the construction of the above outlined infrastructure. Grassland removal is proposed at the main site entrance. No tree removal is proposed within the road reserve. Further details of vegetation removal is included under the Flora and Fauna Assessment at Appendix E. A plan showing the vegetation removal in the context of the proposed layout is provided at Appendix I for reference.

3.2 CONSTRUCTION PROCESS AND COMMISSIONING

Construction of the project would be overseen by FRV who would then own and operate the solar farm.

CONSTRUCTION TIMELINE

It is expected that the construction of the solar farm will commence within approximately 12 months of securing a planning permit and grid connection approval from PowerCor, with the construction expected to take approximately 14 months to complete and peak construction activities running for approximately 4 months.

Local workers will be supported by team leaders who will manage the construction process. The teams involved will be made up of:

- mechanical assembly team (unskilled labour)
- electrical team (qualified electricians as well as unskilled labour)
- civil team for balance of plant foundations and construction of cable trenches
- high voltage team for connection of plant

Construction will generate approximately 150 jobs.

The construction stages are:

- Mobilisation
- Site establishment
- Construction
- Pre-commissioning
- Commissioning/grid connection
- Demobilisation

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NUMBER OF OPERATIONS STAFF

The project will require 3 - 5 full time positions ongoing. Routine operations and maintenance on-site will be conducted monthly or quarterly, or as required. Service providers will be contracted for operations and maintenance of the energy facility. The solar farm will be managed by an on-site manager, based locally, with service crews regularly attending the site.

OPERATION AND MAINTENANCE

The solar farm will be monitored remotely 24 hours per day by FRV's Asset Management team, in addition to monitoring by the onsite team during working hours. Under a long-term maintenance agreement, routine scheduled maintenance will be undertaken every three - six months in addition to maintaining the site grounds.

The condition of the grassland underneath the solar panels will change in response to high and low rainfall years, drought and other climate drivers. Keeping grass and vegetation low around panels (100mm) is a necessity to avoid a potential bushfire risk.

Predominant vegetation control measures are likely to be both grazing and mowing. Options for grazing are discussed in further detail in the Agricultural Assessment at Appendix D.

3.3 DECOMMISSIONING

After 30 years of operation, FRV may decide to:

- continue maintaining and operating of the solar facility/BESS to produce and store renewable energy

- upgrade the solar facility and/or BESS to more current technology and generate higher levels of renewable energy into the future
- remove the solar facility and/or BESS in accordance with a Decommissioning Management Plan

It is expected a continuation or upgrade of the solar farm and/or BESS at the end of the lease period will require additional approvals with updated conditions.

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Fosterville Solar Farm

Application for planning permit

4.1 SUBJECT SITE ANALYSIS

Table 2 Parcel descriptions and title restrictions

Property address	Parcel Description	Standard Parcel Identifier (SPI)	Easements	Restrictive instruments	Summary
Brownes Lane Axedale	Allot 5 Sec A Parish of Weston	5~A\PP3801	Electricity easement through centre of parcel.	None relevant	No building over easement. No other relevant restrictions.
	Allot 4 Sec A Parish of Weston	4~A\PP3801	None	None relevant	No relevant restrictions.
	Allot 3 Sec A Parish of Weston	3~A\PP3801	None	None relevant.	No relevant restrictions.

The site is topographically flat and has been largely cleared for agriculture. There are small stands of remnant vegetation in areas around the site and at the site edges. Further details of the locations of remnant native vegetation is included at Appendix E. A plan showing existing conditions of the site is included at Appendix I and an extract is provided below at Figure 4 below.

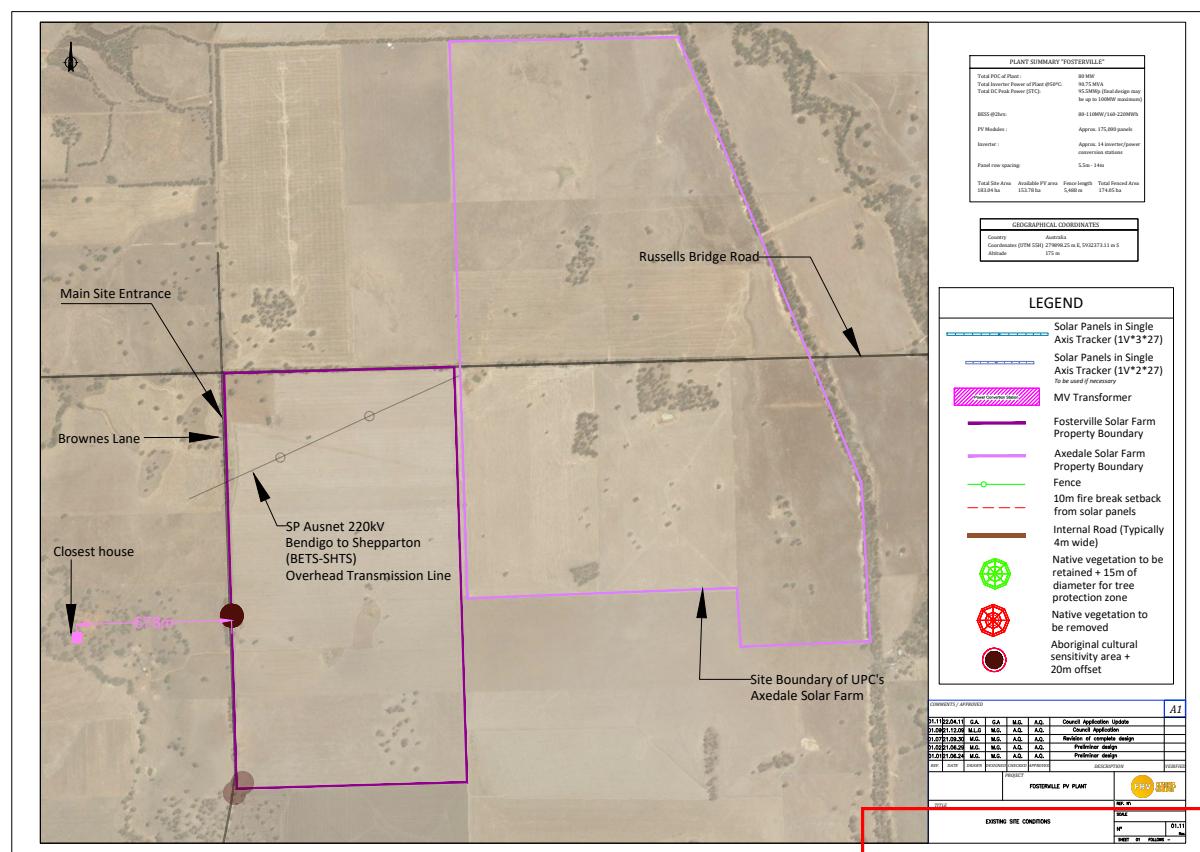


Figure 4 Fosterville Solar Farm Existing Conditions Plan

The site is currently under agricultural use for canola cropping but has been used for both cropping and grazing in the past. Four dams are present with two minor drainage lines traversing the lower half of the property draining to the north-east.



Figure 5 Photo of northern part of site from western boundary



Figure 6 View from northeast corner of site looking southwest

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Figure 7 Scattered trees in southern part of site (to be retained)

Soils are clay loam and of average quality for the area. There is no irrigation infrastructure on or associated with the land and the site is not in an irrigation district.

There are mapped cultural heritage sites associated with scar trees within the road reserve along the western boundary of the project site. The areas of cultural heritage sensitivity for these sites extend onto the subject site. Further details of these sites are provided in the Aboriginal Cultural Heritage Desktop Due Diligence Assessment attached at Appendix G.

4.2 TITLE RESTRICTIONS

There are no title restrictions that would prohibit the development of a solar farm on the land. Recently searched copies of title are included with the application, with an assessment of restrictions on title include in the table above. Setbacks will be provided from the electricity easement as shown on the General Layout Plan, with connection to this transmission line being the only solar/utility infrastructure within the easement area.

4.3 SURROUNDING AREA

The surrounding area is generally characterised by large farms, with dwellings, farm buildings and dams scattered across the landscape. To the west of the site there are a number of smaller hobby farms which abut the Campaspe River. The landscape has been mostly cleared for agricultural use, with small areas of remnant vegetation scattered across farms and concentrated along the more significant waterways. Given the flat topography there are no sweeping views across the landscape. Distant views are commonly restricted or filtered by vegetation and general features.

Major waterways in the vicinity include Campaspe River 1.1 kilometres to the west and Forest Creek 2 kilometres to the east. The two roads that bound the site and are both low order local roads. Brownes Lane runs along the western boundary and Russells Bridge Road runs along the northern boundary.

The nearest population centre is Axedale 5.6 kilometres to the south-west, with Bendigo being approximately 20 kilometres to the west. The wider area being sparsely populated with 18 dwellings within 2 kilometres of the site boundary. The nearest dwelling to the site is the dwelling at 581 Brownes Lane located approximately 680 metres west of the site boundary.

The nearest aviation facilities are Bendigo Airport (19 kilometres), Mangalore Airport (60 kilometres), Echuca Airport (67 kilometres), and Shepparton Airport (83 kilometres).

Nature reserves in the area include Mount Sugarloaf Nature Conservation Reserve 3.5 kilometres west and Knowsley State Forest 5.6 kilometres south. Fosterville gold mine is 2.4 kilometres to the west and quarries lie 3 kilometres to the south. The context of the subject site in its immediate surrounds is shown in Figure 8 below and full copy of the plan is provided at Appendix I for reference.

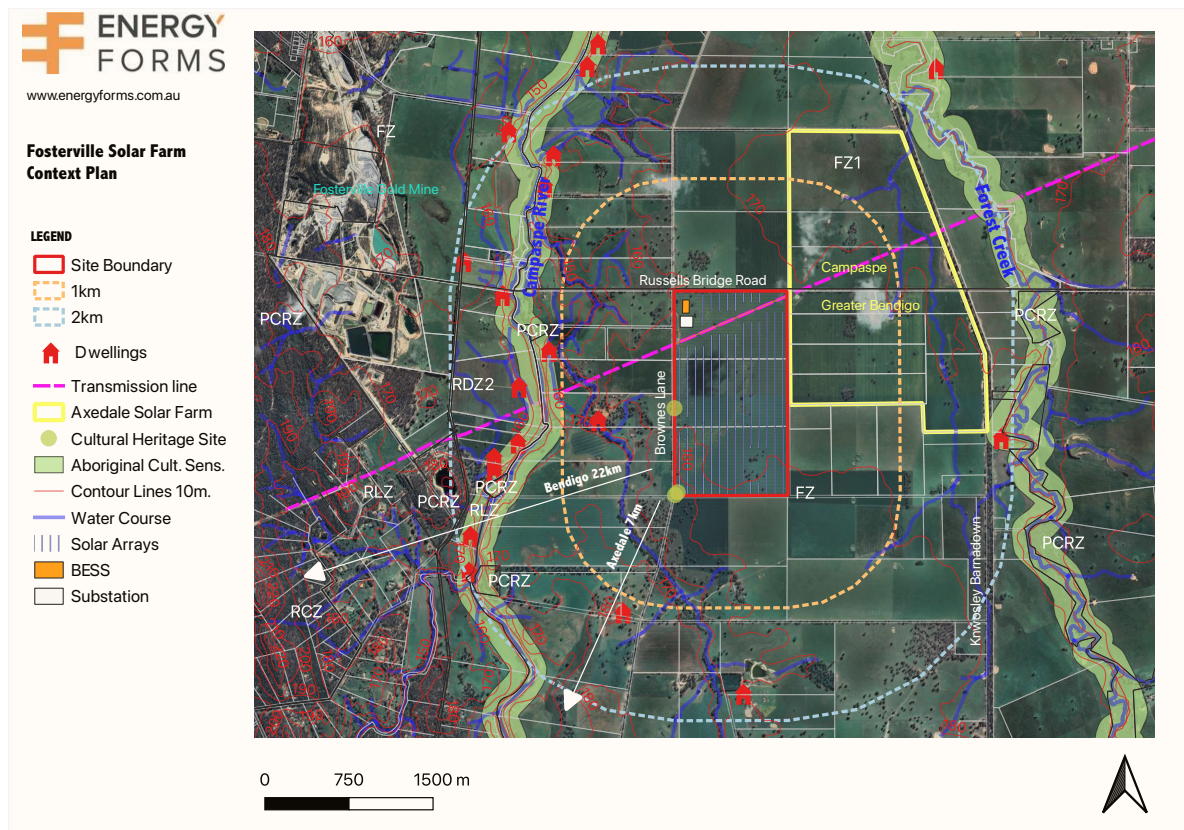


Figure 8 Context plan showing the context of the site in its surrounding area

4.4 UPC AXEDALE SOLAR FARM

As shown on the context plan extract in Figure 9 above and also at appendix I, directly to the east of the subject site hosts the approved but not constructed Axedale Solar Farm project. The proposal is a 160 MW solar farm straddling the border of Greater Bendigo and Campaspe Council areas. Planning permission was granted by Greater Bendigo and Campaspe Councils in March 2020 prior to responsibility for solar farm proposals falling to the Minister for Planning.

A preliminary layout of the proposal dated October 2019 is shown in Figure 9 below for information purposes only. The general site envelope of Axedale Solar Farm in relation to the subject proposal is shown in Figure 8.

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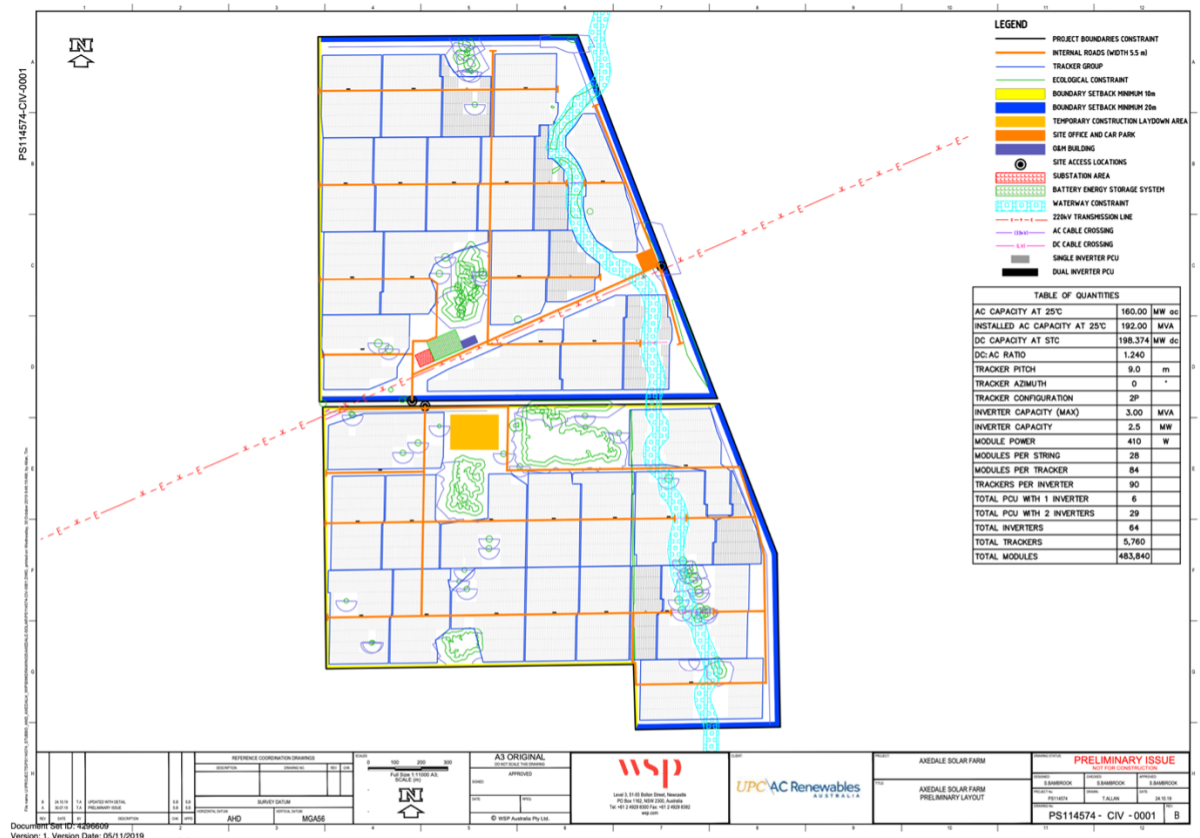


Figure 9 UPC Axedale Solar Farm preliminary layout October 2019

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5 PLANNING PROVISIONS

5.1 PERMIT TRIGGERS

A permit is required under the following provisions of the Greater Bendigo Planning Scheme:

- Clause 35.07 Farming Zone (FZ)
 - Use and development of a solar energy facility, and associated earthworks
 - Use and development of a utility installation
- Clause 52.05 Signs
 - Business identification signage
- Clause 52.17 Native vegetation
 - Removal of native vegetation

This application seeks to provide car parking spaces to the satisfaction of the responsible authority under Clause 52.06-6.

5.2 REFERRALS

The following referral provisions apply:

- Clause 66.02-2 Native vegetation – Applications to remove vegetation under the Detailed Assessment Pathway must be referred to the Secretary to the DELWP as a recommending referral authority.
- Clause 66.02-4 Major electricity line or easement – Applications 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, must be referred to the relevant electricity transmission authority as a determining referral authority.
- Clause 66.02-7 Industry, utility installation or warehouse – Applications for a utility installation where a fire protection quantity is exceeded under the Dangerous Goods (Storage and Handling) Regulations 2012 (VDGR) must be referred to the Victorian WorkCover Authority as a determining referral authority. The fire protection quantity for lithium-ion batteries is 20 tonnes under the VDGR. The weight of lithium-ion batteries that is proposed will exceed this quantity therefore referral is required.

5.3 ZONING

CLAUSE 35.07 FARMING ZONE (FZ)

Under the provisions of the Farming Zone at Clause 35.07 a permit is required to use and develop the land for the purposes of a solar energy facility and utility installation.

A solar energy facility is a non-specified Section 2 permit required use. Utility installation is a Section 2 use. A permit is triggered for buildings and works associated with a Section 2 use.

The relevant objectives of the Farming Zone are:

- *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.*

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- 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.

The relevant decision guidelines for the responsible authority to consider are:

General issues

The Municipal Planning Strategy and the Planning Policy Framework.

Any Regional Catchment Strategy and associated plan applying to the land.

The capability of the land to accommodate the proposed use or development, including the disposal of effluent.

How the use or development relates to sustainable land management.

Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.

How the use and development makes use of existing infrastructure and services.

Agricultural issues and the impacts from non-agricultural uses

Whether the use or development will support and enhance agricultural production.

Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production.

The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.

The capacity of the site to sustain the agricultural use.

The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure.

Any integrated land management plan prepared for the site.

Environmental issues

The impact of the proposal on the natural physical features and resources of the area, in particular on soil and water quality.

The impact of the use or development on the flora and fauna on the site and its surrounds.

The need to protect and enhance the biodiversity of the area, including the retention of vegetation and faunal habitat and the need to revegetate land including riparian buffers along waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area.

The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation.

Design and siting issues

The need to locate buildings in one area to avoid any adverse impacts on surrounding agricultural uses and to minimise the loss of productive agricultural land.

The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts.

The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.

The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.

Whether the use and development will require traffic management measures.

5.4 OVERLAYS

There are no relevant planning overlays that affect the site.

5.5 PARTICULAR PROVISIONS

CLAUSE 52.05 SIGNS

A permit is required for business identification signage within the Farming Zone, pursuant to Clause 52.05-14 (Category 4 – Sensitive Areas). Total display area for each premises must not exceed 3sqm.

CLAUSE 52.06 CAR PARKING

Table 1 at Clause 52.06 of the Greater Bendigo Planning Scheme outlines the car parking requirements associated with various uses. A solar energy facility is not listed in Table 1.

Clause 52.06-6 states that:

Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority.

Therefore, no permit is required under Clause 52.06 for the application, however parking for the new use of a solar energy facility must be provided to the satisfaction of the responsible authority and this application seeks that approval.

CLAUSE 52.17 NATIVE VEGETATION

A permit is required for the removal of native vegetation under this clause. The comprises 0.760 ha of native vegetation including 10 large trees and 3 small trees.

The purpose of this clause 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 for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017) (the Guidelines):

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.

The purpose of this clause is also to manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.

The Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines)

(DELWP 2017) is an Incorporated Document under the Victorian Planning Provisions. The purpose of the Guidelines is to set out and describe the application of Victoria's statewide policy in relation to assessing and compensating for the removal of native vegetation.

Three possible assessment pathways exist for applications to remove native vegetation: Basic, Intermediate or Detailed. The application falls under the Detailed assessment pathway as outlined in the Flora and Fauna Assessment at Appendix E and therefore requires referral to the Secretary to the DELWP (DELWP Environment) as a recommending referral authority.

CLAUSE 53.13 RENEWABLE ENERGY FACILITY

This clause applies to the assessment of any renewable energy facility application (other than wind energy facility) under the Greater Bendigo Planning Scheme.

The 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. The following decision guidelines are relevant to the application and must be considered in deciding on the application:

The Municipal Planning Strategy and the Planning Policy Framework.

The effect of the proposal on the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference.

The impact of the proposal on significant views including visual corridors and sightlines.

The impact of the proposal on strategically important agricultural land, particularly within declared irrigation districts.

The impact of the proposal on the natural environment and natural systems.

The impact of the proposal on the road network.

Solar Energy Facilities Design and Development Guideline (Department of Environment, Land, Water and Planning, August 2019)

Further guidance on each of these decision guidelines is contained within the *Solar Energy Facilities Design and Development Guideline* which is discussed in following sections of this report.

GENERAL PROVISIONS

The responsible authority must decide whether the proposal will produce acceptable outcomes in terms of the decision guidelines contained at Clause 65.01 Approval of an application or plan.

This includes:

The matters set out in section 60 of the P&E Act

The Municipal Planning Strategy and the Planning Policy Framework

The purpose of the zone, overlay or other provision and any matter required to be considered in the zone, overlay or other provision

The orderly planning of the area

The effect on the amenity of the area

The proximity of the land to any public land

Factors likely to cause or contribute to land degradation or salinity or to reduce water quality

Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site

The extent and character of native vegetation and the likelihood of its destruction; and whether native vegetation is to be or can be protected, planted or allowed to regenerate

The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land to minimise any such hazard

The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.

5.6 PLANNING POLICY FRAMEWORK

This section outlines the policies of the Greater Bendigo Planning Scheme that are of particular relevance to this application.

This includes the Municipal Strategic Statement and Local Planning Policies that are to be integrated into the Planning Policy Framework. The policies are grouped thematically.

MUNICIPAL STRATEGIC STATEMENT

Clause 21.01 outlines the municipal profile of Greater Bendigo Shire, including an overview of main employment sectors and environmental challenges for the municipality. Among other goals, the key issues and influences at Clause 21.02 seek to diversify industry, protect biodiversity and manage natural resources.

CLAUSE 11 SETTLEMENT

This clause is an overarching policy for settlement in Victoria. Of particular note are the following policies:

Planning is to prevent environmental and amenity problems created by siting incompatible land uses close together.

Planning is to facilitate sustainable development that takes full advantage of existing settlement patterns and investment in transport, utility, social, community and commercial infrastructure and services.

Clause 11.02-1S Supply of urban land

Objective

To ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses.

Strategies

Maintain access to productive natural resources and an adequate supply of well-located land for energy generation, infrastructure and industry.

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CLAUSE 12 ENVIRONMENTAL AND LANDSCAPE VALUES

This clause focuses on protecting ecological systems, biodiversity, and identified environments or landscapes.

Clause 12.01-1S Protection of biodiversity

Objective

To assist the protection and conservation of Victoria's biodiversity.

Strategies

Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites.

Strategically plan for the protection and conservation of Victoria's important areas of biodiversity.

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 designated under the Convention on Wetlands of International Importance (the Ramsar Convention) and sites utilised by species listed under the Japan-Australia Migratory Birds Agreement (JAMBA), the China-Australia Migratory Birds Agreement (CAMBA), or the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Assist in the identification, protection and management of important areas of biodiversity.

Clause 12.01-2S Native vegetation management

Objective

To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.

Strategies

Ensure decisions that involve, or will lead to, the removal, destruction or lopping of native vegetation, apply the three-step approach in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 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 from the removal, destruction or lopping of native vegetation.

Clause 21.08 Environment

This clause focuses on protecting natural resources which includes native vegetation that contributes to an important framework of remnant habitat and wildlife corridors.

CLAUSE 13 ENVIRONMENTAL RISKS AND AMENITY

This clause addresses environmental risks and amenity. The head provision outlines the following policies:

Planning should strengthen the resilience and safety of communities by adopting a best practice environmental management and risk management approach.

Planning should aim to avoid or minimise natural and human-made environmental hazards, environmental degradation and amenity conflicts.

Planning should identify and manage the potential for the environment and environmental changes to impact on the economic, environmental or social wellbeing of society.

Planning should ensure development and risk mitigation does not detrimentally interfere with important natural processes.

Planning should prepare for and respond to the impacts of climate change.

Clause 13.01-1S Natural hazards and climate change

Objective

To minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.

Strategies

Consider the risks associated with climate change in planning and management decision making processes.

Identify at risk areas using the best available data and climate change science.

Integrate strategic land use planning with emergency management decision making.

Direct population growth and development to low-risk locations.

Develop adaptation response strategies for existing settlements in risk areas to accommodate change over time.

Ensure planning controls allow for risk mitigation or risk adaptation strategies to be implemented.

Site and design development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards.

Clause 13.02-1S Bushfire planning

This clause applies to all land within a designated Bushfire Prone Area, therefore applies to the subject site. Bushfire risk is a consideration for any solar project.

Objective

To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.

Strategies

Bushfire hazard identification and assessment

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Identify bushfire hazard and undertake appropriate risk assessment by:

Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.

Considering the best available information about bushfire hazard including the map of designated bushfire prone areas prepared under the Building Act 1993 or regulations made under that Act.

Considering and assessing the bushfire hazard on the basis of:

Landscape conditions - meaning conditions in the landscape within 20 kilometres (and potentially up to 75 kilometres) of a site;

Local conditions - meaning conditions in the area within approximately 1 kilometre of a site;

Neighbourhood conditions - meaning conditions in the area within 400 metres of a site; and

The site for the development.

Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.

Clause 13.05-1S Noise abatement

Objective

To assist the control of noise effects on sensitive land uses.

Strategy

Ensure that development is not prejudiced and community amenity is not reduced by noise emissions, using a range of building design, urban design and land use separation techniques as appropriate to the land use functions and character of the area.

Clause 13.07-1S Land use compatibility

Objective

To protect community amenity, human health and safety while facilitating appropriate commercial, industrial, infrastructure or other uses with potential adverse off-site impacts.

Strategies

Ensure that use or development of land is compatible with adjoining and nearby land uses.

Avoid locating incompatible uses in areas that may be impacted by adverse off-site impacts from commercial, industrial and other uses.

Avoid or otherwise minimise adverse off-site impacts from commercial, industrial and other uses through land use separation, siting, building design and operational measures.

Clause 12.05-2S Landscapes

Objective

To protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments.

Strategies

Recognise the natural landscape for its aesthetic value and as a fully functioning system.

Ensure important natural features are protected and enhanced.

CLAUSE 14 AGRICULTURE

Clause 14.01-1S Protection of agricultural land

Objective

To protect the state's agricultural base by preserving productive farmland.

Strategies

Identify areas of productive agricultural land, including land for primary production and intensive agriculture.

Consider state, regional and local, issues and characteristics when assessing agricultural quality and productivity.

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.

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

Objective

To encourage sustainable agricultural land use.

Strategies

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

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production and processing, rural industry and farm-related retailing.

Assist genuine farming enterprises to embrace opportunities and adjust flexibly to market changes.

Support agricultural investment through the protection and enhancement of appropriate infrastructure.

Facilitate ongoing productivity and investment in high value agriculture.

Facilitate the establishment and expansion of cattle feedlots, pig farms, poultry farms and other intensive animal industries in a manner consistent with orderly and proper planning and protection of the environment.

Ensure that the use and development of land for animal keeping or training is appropriately located and does not detrimentally impact the environment, the operation of surrounding land uses and the amenity of the surrounding area.

Clause 21.07-8 Agriculture

This clause provides an overview of the agricultural context of the municipality. The provisions seek to minimise fragmentation and land use and development which will undermine the productivity of irrigated areas.

Objectives include:

To identify and protect productive agricultural land from competing inappropriate land uses.

To maintain potential for agricultural production.

To minimise the fragmentation of productive agricultural land units

Clause 14.02-1S Catchment planning and management

Objective

To assist the protection and restoration of catchments, water bodies, groundwater, and the marine environment.

Strategies

Ensure that development at or near waterways provide for the protection and enhancement of the environmental qualities of waterways and their instream uses.

Require appropriate measures to restrict sediment discharges from construction sites.

Ensure planning is coordinated with the activities of catchment management authorities.

Clause 22.04 Salinity and erosion risk policy

This Clause applies to all land within the municipality and states:

Environmental hazards such as the removal of native vegetation, salinity, erosion and the proliferation of pest plants and animals also need to be managed and minimised.

Objectives include:

To ensure development is compatible with site capability and the retention of native vegetation.

To protect areas prone to soil erosion by minimising soil erosion and vegetation loss.

CLAUSE 15 BUILT ENVIRONMENT AND HERITAGE

This head clause seeks to ensure the recognition of the importance of energy and resource efficiency in the built environment.

Clause 15.02-1S Energy resource efficiency

Objective

To encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions.

Strategies

Improve efficiency in energy use through greater use of renewable energy technologies and other energy efficiency upgrades.

CLAUSE 17 ECONOMIC DEVELOPMENT

This clause seeks to provide for economic well-being.

Clause 17.01-1S Diversified economy

Objective

To strengthen and diversify the economy.

Strategies

Protect and strengthen existing and planned employment areas and plan for new employment areas.

Facilitate regional, cross-border and inter-regional relationships to harness emerging economic opportunities.

Facilitate growth in a range of employment sectors, including health, education, retail, tourism, knowledge industries and professional and technical services based on the emerging and existing strengths of each region.

Improve access to jobs closer to where people live.

Support rural economies to grow and diversify.

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Clause 17.01-1R Diversified Economy – Loddon Mallee South

Strategies

Support and develop emerging and potential growth sectors such as tourism, renewable energy, resource recovery and other green industries.

Facilitate access to natural resources where appropriate, including sand and stone, minerals, timber and renewable energy potential.

Clause 21.07-1 Economic growth

This clause provides an overview of the Greater Bendigo economy. Renewable energy is identified as an emerging and potential growth sector.

CLAUSE 18 TRANSPORT

Clause 18.02-3S Road System

Objective

To manage the road system to achieve integration, choice and balance by developing an

efficient and safe network and making the most of existing infrastructure.

Strategies

Plan and regulate the design of transport routes and nearby areas to achieve visual standards appropriate to the importance of the route with particular reference to landscaping, the control of outdoor advertising and, where appropriate, the provision of buffer zones and resting places.

Clause 18.02-4S Car Parking

Objective

To ensure an adequate supply of car parking that is appropriately designed and located.

Strategies

Allocate or require land to be set aside for car parking subject to the existing and potential modes of access including public transport, the demand for off-street car parking, road capacity and the potential for demand management of car parking.

Encourage the efficient provision of car parking by consolidating car parking facilities.

Design and locate local car parking to:

Protect the role and function of nearby roads.

Enable easy and efficient use.

Enable the movement and delivery of goods.

Clause 21.09 Integrated Transport and Infrastructure

This clause provides an overview of the transport priorities for the municipality, including infrastructure provision and reference to the *Connecting Greater Bendigo Integrated Transport and Land Use Strategy*.

CLAUSE 19 INFRASTRUCTURE

Clause 19.01-1S Energy Supply

Objective

To facilitate appropriate development of energy supply infrastructure.

Strategies

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

Objective

To promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.

Strategies

Facilitate renewable energy development in appropriate locations.

Protect energy infrastructure against competing and incompatible uses.

Develop appropriate infrastructure to meet community demand for energy services.

Set aside suitable land for future energy infrastructure.

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.

CLAUSE 22.29 ADVERTISING AND SIGNAGE POLICY

This local policy seeks to protect public amenity from inappropriate signage.

5.7 OTHER POLICIES AND GUIDELINES

SOLAR ENERGY FACILITIES – DESIGN AND DEVELOPMENT GUIDELINE (DELWP 2019)

The Victorian Government has developed the *Solar Energy Facilities - Design and Development Guideline* (DELWP 2019) aiming to help outline the assessment and development process for large-scale solar energy facilities in Victoria.

This guideline provides:

- information for solar farm developers (proponents), the community, regulators and decision-makers (responsible authorities) relating to the Planning and Environment Act 1987 (the P&E Act) and the Victoria Planning Provisions (VPPs)
- information and direction about the policy, legislative and statutory planning requirements
- relating to the siting and design of solar energy facilities
- an overview of best-practice advice relating to each stage of the site selection, design, construction, operation and decommissioning continuum.



The document outlines what solar facilities are, how to identify suitable locations, best practice for proponents, and information and considerations for applying for a planning permit.

The Guidelines require a site analysis and design response to be prepared. There are detailed matters that are required as part of the design response as follows:

- 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
- 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
- accurate visual simulations illustrating the development in the context of the surrounding area and from key public viewpoints
- the extent and assessment of any vegetation removal
- a rehabilitation plan for the site.

The design response should also include one or more written reports and assessments including:

- a description of the proposal including the types of process to be utilised, materials to be stored and the treatment of waste
- 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
- an explanation of agricultural values and production including irrigation infrastructure impacts and whether any land is productive farmland of strategic significance
- whether a works approval or licence is required from EPA Victoria or another authority administering the regulatory requirements of the Dangerous Goods Act 1985
- a description of how the proposal responds to any significant landscape features for the area identified in the planning scheme.
- An assessment of:
 - 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
 - the effects of traffic to be generated on roads
 - the visual impact of the proposal on the surrounding landscape
 - the visual impact on abutting land that is described in a schedule to the National Parks Act 1975 and Ramsar wetlands and coastal areas
 - 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
 - the impacts on Aboriginal or non-Aboriginal cultural heritage

The Guideline also gives further detail around the decision guidelines of Clause 53.13 Renewable Energy Facility as follows:

The effect of the proposal on the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference.

whether the impact is acceptable or can be managed in accordance with relevant Australian and New Zealand standards or other regulatory requirements.

if the assessment was undertaken by a suitably qualified person

the spatial extent, length and duration of the impact and whether it is for a limited or extended period

whether the impact can be mitigated via an appropriate built form, landscaping or other management response.

The impact on significant views including visual corridors and sightlines

the amount of change proposed by works including earthworks, and the sensitivity of the landscape features to that change

the visibility of the solar energy facility from vantage points accessible to the public and the ability to screen areas of development from view

the locations and distances from which a solar energy facility can be viewed from a sensitive land use

the significance of the landscape as described in the planning scheme including in an overlay, a relevant strategic study or by landscape features referenced in the planning scheme

landscape values associated with nearby land such as specified areas of landscape and environmental significance, specified coastal locations and areas identified to accommodate future population growth of regional cities and centres.

The impact of the proposal on strategically important agricultural land, particularly within a declared irrigation district

the impact on (including numbers of) irrigators downstream of the proposed site that depend on the ongoing operation of irrigation assets traversing the site

the usage level of water compared to the actual capacity of the irrigation infrastructure servicing the site, based on rural water corporation mapping

whether or not the irrigation infrastructure servicing the site has benefitted from Commonwealth or state government investment in infrastructure modernisation

whether the proposed site is connected to the modernised irrigation infrastructure and is integral to the rural water corporation's current and/or future planning for the viability of the irrigation district

whether or not the overall change in land use at the site aligns with a rural water corporation's asset management planning strategy for the viability of the irrigation district

whether the change in land use closes off any future opportunities for a rural water corporation to make irrigation footprint adjustments identified under a plan or strategy.

The impact of the proposal on the natural environment and natural systems

how any onsite earthworks, buildings or other works will alter the natural processes occurring on land

whether the removal, lopping or destroying of any vegetation can be avoided or minimised through alternative design arrangements

proximity to natural and man-made water courses and the establishment of appropriate setbacks from these to maintain habitat and natural processes

impacts on landscape values associated with nearby public land described in a schedule to the National Parks Act 1975 or with Ramsar wetlands

how bushfire and flood management measures will be dealt with to the satisfaction of the relevant referral authorities.

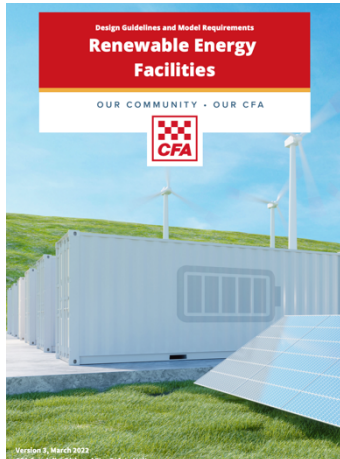
The impact of a proposal on the local road network.

whether access to and from the site meets requirements established by the relevant road management authority

the impact of traffic movements to and from the site with the road network operating normally

the impact of traffic movements causing wear and tear on the road network.

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CFA GUIDELINES FOR RENEWABLE ENERGY INSTALLATIONS v3 (MARCH 2022)

The purpose of the CFA guideline is to provide standard considerations and measures in relation to fire safety, risk and emergency management to be considered when designing, constructing and operating new renewable energy facilities, and upgrading existing facilities.

Renewable energy facilities that support the generation of electricity in Victoria include wind farms, solar farms, and battery storage facilities, which are the focus of this guideline.

CFA requires that facility operators develop an emergency management plan consistent with the requirements of Australian Standard 3745: *Planning for emergencies in facilities*. It is expected

this to be a condition of any planning permit that may issue.

Section 6 of the CFA guideline outlines facility location and design guidelines.

Key design requirements for a solar facility include:

A fire break must be established and maintained around the perimeter of the facility, commencing from the boundary of the facility or from the vegetation screening inside the properties boundary (minimum 10m width).

Construction of a four (4) metre perimeter road within the perimeter fire break.

Roads must be of all-weather construction and capable of accommodating a vehicle of fifteen (15) tonnes.

Constructed roads should be a minimum of four (4) metres in trafficable width with a four (4) metre vertical clearance for the width of the formed road surface.

The provision of at least two (2) but preferably more access points to the facility, to ensure safe and efficient access to and egress from areas that may be impacted or involved in fire.

Solar energy facilities are to have a minimum six (6) metre separation between solar panel banks.

Key design requirements for a BESS include:

A fire break around the battery energy storage system and related infrastructure, of a width of no less than 10m, or greater where determined in the Risk Management Plan.

Whilst the subject site is not within a Bushfire Management Overlay (BMO) the recommendations for fuel management will be considered and contained in any Fire Management Plan that may be required.

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GUIDELINES FOR THE REMOVAL, DESTRUCTION OR LOPPING OF NATIVE VEGETATION (DEC 2017)

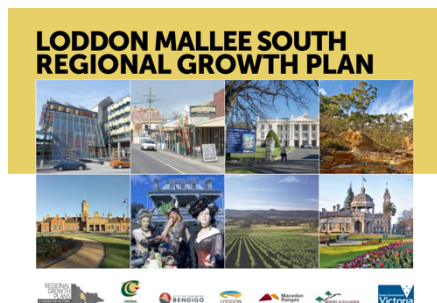
The purpose of these guidelines is to set out and describe the application of Victoria's statewide policy in relation to assessing and compensating for the removal of native vegetation. This includes:

- The assessment of impacts from removing native vegetation on biodiversity and other values; and
- How offsets are calculated and established to compensate for the loss in biodiversity value from the removal of native vegetation.

The Guidelines is an incorporated document at Clause 81.01 of all planning schemes in Victoria. This means it:

- Must be considered by planning authorities when preparing a planning scheme amendment, as relevant.
- Must be considered by responsible authorities when making decisions in relation to development plans, as appropriate.
- Must be applied when a permit is required under Clauses 52.16 or 52.17 of planning schemes;
- Must be applied when developing a Native Vegetation Precinct Plan (NVPP); and
- May be considered in other planning decisions to meet statewide objectives for native vegetation protection and management.

Native vegetation removal is proposed under the detailed assessment pathway.



LODDON MALLEE SOUTH REGIONAL GROWTH PLAN

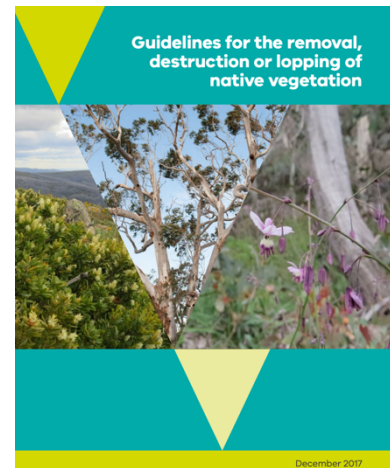
The Loddon Mallee South Regional Growth Plan provides a regional context for planning decisions and covers the municipalities of Central Goldfields, Greater Bendigo, Loddon, Macedon Ranges and Mount Alexander. The plan has been endorsed by each of these Councils following consultation with the community.

The regional growth plan aims to provide broad direction for regional land use and development in the region and more

detailed planning frameworks for key regional centres.

Future Directions are provided within the document to guide growth. Future Directions relevant to this application include:

- encourage and facilitate development in renewable energy, other new energy opportunities and in carbon sequestration activities
- support and develop emerging and potential growth sectors such as tourism, renewable energy, resource recovery and other green industries



5.8 LEGISLATION

PLANNING AND ENVIRONMENT ACT 1987 (VIC)

The purpose of the Planning and Environment Act 1987 (P&E Act) is to establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians.

The P&E Act objectives are:

- 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 historical 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)
- g) to balance the present and future interests of all Victorians.

ENVIRONMENT PROTECTION ACT 2018 (VIC)

The *Environment Protection Act 2017* and the *Environment Protection Amendment Act 2018* (which replaced the *Environment Protection Act 1970* on 1 July 2021) establish the legislative framework for protecting the environment in Victoria from pollution and waste. The project is being developed under the provisions of the new *Environment Protection Amendment Act 2018*.

In contrast to the *Environment Protection Act 1970*, which focused on managing pollution and waste impacts after they occurred, the new *Environment Protection Amendment Act 2018* seeks to prevent these impacts from occurring. At the centre of this act is the 'general environmental duty', which requires any person in Victoria (businesses, industry and the community) engaging in an activity that may risk harming human health and the environment from pollution and waste to minimise those risks, so far as reasonably practicable (see info box). This can be achieved by implementing appropriate controls that are proportionate to the risk (i.e., the greater the risk of potential harm, the greater the management expectation).

ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (AUS)

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) came into force on 16 July 2000. The EPBC Act protects matters of National Environmental Significance. The objectives of the EPBC Act are as follows:

- To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- To promote the conservation of biodiversity;
- To provide for the protection and conservation of heritage;
- To promote a cooperative approach to the protection and management of the environment involving governments, the community, landholders and Indigenous peoples;

- To assist in the cooperative implementation of Australia's international environmental responsibilities;
- To recognise the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- To promote the use of Indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.

An assessment against the EPBC Act policy statements published by the Australian Government which provide guidance on the practical application of EPBC Act is included in the Flora and Fauna Assessment at Appendix E. Referral to the Commonwealth Department of Environment under the EPBC Act is not recommended.

FLORA AND FAUNA GUARANTEE ACT 1988 (Vic)

Victoria's Flora and Fauna Guarantee Act 1988 (FFG Act) provides a framework for biodiversity conservation in Victoria. The FFG Act provides for the listing of threatened species, communities of flora and fauna and potentially threatening processes. A number of non-threatened flora species are also protected under the Act.

A permit is required to remove species protected under the Act from public land and may also be required to remove protected species from private land in certain circumstances. The Flora and Fauna Assessment at Appendix E outlines that a protected flora permit may be required. Two protected flora species were identified in road reserves and a protected flora permit from DELWP would be required if any of these species will be affected by proposed works.

CLIMATE CHANGE ACT 2017 (Vic)

The Climate Change Act 2017 commenced operation on 1 November 2017 and seeks, among other purposes, to set a long-term greenhouse gas emissions reduction target and to provide the setting for five-yearly interim reduction targets to reach the long-term target. Section 6 states that for the purposes of the Act, "the long-term emissions reduction target for the State is an amount of net zero greenhouse gas emissions by the year 2050".

Section 20 states:

The Government of Victoria will endeavour to ensure that any decision made by the Government and any policy, program or process developed or implemented by the Government appropriately takes account of climate change if it is relevant by having regard to the policy objectives and the guiding principles.

RENEWABLE ENERGY TARGET (RET) LEGISLATION

Australia has a large-scale generation target of 33,000 GWh by 2020 which equates to 23.5% of the country's energy generation from renewable sources in 2020. The Clean Energy Regulator oversees the operation of the RET scheme in accordance with the RET legislation. The RET includes legislated annual targets which will require significant investment in new renewable energy generation capacity in coming years.

On 30 October 2019, the Renewable Energy (Jobs and Investment) Amendment Bill 2019 (Vic) passed the Victorian Parliament, bringing the VRET 2030 target into legislation. The increased target of 50% by 2030 will now be embedded in the Renewable Energy (Jobs and Investment) Act 2017 (Vic), building on the existing, legislated renewable energy generation targets of 25% by 2020 and 40% by 2025.

ABORIGINAL HERITAGE ACT 2006 AND ABORIGINAL HERITAGE REGULATIONS 2018 (VIC)

In Victoria, Aboriginal cultural heritage is primarily protected by the Aboriginal Heritage Act 2006 and the Aboriginal Heritage Regulations 2018. Under this legislation Aboriginal cultural heritage is protected by requiring planning permit applicants to prepare Cultural Heritage Management Plans (CHMP) if and when their proposed actions pose a risk to Aboriginal cultural heritage. Under the Aboriginal Heritage Act, actions are considered to pose a risk to Aboriginal cultural heritage, and therefore require the preparation of a mandatory CHMP, when they are both a “high impact activity” and occur in an “area of cultural heritage sensitivity”.

The site is affected by three small areas of Aboriginal cultural heritage sensitivity along its boundary in the south-west of the site, therefore an Aboriginal Cultural Heritage Desktop Due Diligence Assessment has been prepared by Landscape and is included at Appendix G.

The assessment concludes that there is low potential for Aboriginal cultural heritage to be harmed by the activity, with the three small areas of Aboriginal cultural heritage sensitivity relating to three scarred trees in the road reserve of Brownes Lane. The assessment concludes the proposal does not trigger the requirement for a mandatory Cultural Heritage Management Plan (CHMP). No part of the activity area is proposed within an area of cultural heritage sensitivity.

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6 CONSULTATION

A Community Engagement Plan has been prepared for the project and is included at Appendix H.

The plan details the engagement activities that were undertaken for the project prior to lodging the planning permit application with DELWP, and also those activities that will be undertaken, ongoing, as part of the life of the project.

Engagement activities as set out in the document are underpinned by:

- 2004 International Association of Public Participation
- Solar Farm Guidelines DELWP August 2019
- Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria: A guide for renewable energy developers DELWP July 2021

The Community Engagement Plan is a living document and designed to be updated based on outcomes from ongoing engagement and consultation activities.

6.1 PRE-APPLICATION CONSULTATION

A number of consultation activities, as set out in the Community Engagement Plan, have been completed to date including the following:

Engagement Activity	Summary of outcomes
Preapplication meeting facilitated by DELWP Planning team	Cross-departmental attendance, including from DELWP Environment/Loddon-Mallee Region and preliminary feedback on the project including discussion regarding traffic and biodiversity issues.
Follow up discussions with VicRoads regional office	No immediate concerns subject to seeing detailed application. No major road upgrades expected to be required.
Energy Safe	Attended the preapplication meeting facilitated by DELWP – no concerns raised.
Briefings with Bendigo and Campaspe Councils planning teams	No immediate concerns subject to seeing detailed application. Impacts on local roads to be carefully considered.
Mail out on 26 October 2021 to all residents (18) within 2 kilometres of the site advising of proposed project and seeking preliminary comment	Two landowners made contact in response to the mail out and both had concerns in relation to the project. Both landowners raised concerns about visual impacts from their property and one raised concern about loss of agricultural land, traffic impacts and impacts on local land values. These concerns were fed into the detailed assessments undertaken by the specialist consultants. These key impacts are addressed in detail in this application.
North Central CMA (email)	No immediate concerns subject to seeing detailed application. CMA response letter is attached Appendix J.
Country Fire Authority (email)	No concerns were raised after sending application to CFA on 2 November 2021 via

	email. Email correspondence to CFA is included at Appendix J.
Establishment of a project website	Website provides an additional project information source for key stakeholders and will be updated throughout the life of the project.
WorkCover	Details of the project have been forwarded to WorkCover for their reference ahead of receiving the formal referral from DELWP.
Project 1300 Number	One of the residents who held concerns in relation to the project contacted us via the 1300 number.

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7 PLANNING ASSESSMENT

This section assesses how the proposal responds to the provisions and guidelines of the Greater Bendigo Planning Scheme. Matters are addressed thematically with Clause 53.13 Renewable Energy Facility providing a framework for assessing amenity and design themes relevant to a solar renewable energy facility.

The *Solar Energy Facilities Design and Development Guideline* as directed by Clause 53.13 forms an integral framework for assessment.

7.1 SITE ANALYSIS AND DESIGN RESPONSE

A description of the site is contained at Section 4 of this report and further detailed in the plans and expert reports that accompany the application.

The proposal has been designed to reflect the site context and as a result of discussions with neighbours. The key strengths of the subject site are:

- Direct proximity to the electricity grid for convenient and lower cost connection to the national electricity market.
- Largely cleared site that does not contain significant waterways, minimising biodiversity impacts. No significant waterways means the site is not subject to any inundation or flood risks which minimises environmental impacts and allows for an efficient project layout and footprint.
- Selecting a site with generally north south boundary orientation adding to a highly efficient design and further reducing the total site footprint.
- Generally flat site minimising the need for significant site leveling or bulk earth works.
- Agricultural land that has not been designated strategic agricultural land, is not irrigated and not within an irrigation district.
- Limited sensitive receivers near to the site, with the nearest dwelling greater than 600m from the site boundary.
- Not located on elevated land or within an area with formal landscape protection in place.
- No uses on adjoining land that could result in a land use conflict
- Direct access to major road for construction, operations and maintenance.
- Close proximity to major population centres for efficient electricity consumption and support for project construction and operation.

The design responds to the site by:

- Designing around remnant native vegetation that is scattered throughout the site and avoiding and minimising removal where possible. A large area of scattered remnant native trees were retained in the southwest corner of the site which significantly impacted on total capacity of the project.
- Providing additional setbacks from areas of Aboriginal cultural heritage sensitivity.
- Having regard to the CFA guidelines for renewable energy facilities, including the provision of a 10-metre fire break around the perimeter of the facility and appropriate spacing between rows and banks of panels.
- Choosing to locate main site facilities (substation, BESS etc) in the north-western corner of the site. This was done in order to retain as much native vegetation as possible. The alternative was to site panel infrastructure at this location to minimise visual impacts at

the intersection of Russells Bridge Road and Brownes Lane. Given the sparsely populated and trafficked location, it was decided that biodiversity outcomes should be maximised in lieu of visual impact outcomes.

The proposed solar energy facility on the agricultural land will implement a range of techniques to reduce soil degradation and improve water quality in the catchment by:

- Maintaining soil permeability
- Avoiding fertilisers or herbicides where practical
- Avoid bringing 'alien' soil to the site
- Monitoring activities across the year.
- Maintain grass across the site throughout operation.

7.2 NOISE

An assessment of the noise impacts of the proposal is included under the Noise Impact Assessment prepared by ARUP at Appendix A.

The purpose of the report was to assess the impact of the proposal against the relevant Australian and New Zealand standards or other regulatory instruments, and determine whether amenity impacts in relation to noise would be acceptable under the relevant guidance of the planning scheme.

Noise levels were assessed for all noise sources from the solar farm which include:

- Noise from the combined transformer and inverter units
- Battery storage system
- Tracking solar panel motors
- Substation/switching station

Cumulative impacts of the approved Axedale Solar Farm were included in the assessment. The assessment concludes there will be no unreasonable cumulative impacts.

The assessment concludes that the facility will comply with the relevant Australian and New Zealand standards including the new EPA regulations which supersede the previous 'NIRV' standard.

Relevant guidance for noise includes the *Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues (EPA publication 1826.4)* and the *Technical Guide: Measuring and Analysing Industry Noise and Music (EPA Publication 1997)*.

Operational noise limits were determined for the night-time period at the two nearest residential properties. Predicted noise levels at these properties complied with the night-time noise limit of 36dB(A), with both properties receiving a predicted noise level of less than 34dB(a). A noise level of less than or equal to 33dB(A) was predicted at the nearest receiver.

The Axedale Solar Farm is not predicted to contribute noise to the subject proposal's most sensitive noise receiver. The subject proposal is also not expected to contribute noise to the Axedale Solar Farm's most sensitive receiver.

The proposal therefore complies with the relevant noise requirements of the planning scheme, including the requirements of the DELWP Solar Guidelines at Clause 53.13. Noise from the facility will not unreasonably affect sensitive land uses in accordance with Clause 1305-1S.

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7.3 ELECTROMAGNETIC INTERFERENCE

The risk of EMI from PV systems is typically very low. This is validated by advice from the Australian Radiation Protection and Nuclear Safety Agency contained within the Victorian Solar Energy Facilities – Design and Development Guidelines July 2019:

“Electrical equipment produces electromagnetic radiation. Radiation produced by transformers and inverters is reduced through performance standards that apply to standard components.

The Australian Radiation Protection and Nuclear Safety Agency advises that the strength of this radiation will decrease with distance from the source, and it will become indistinguishable from background radiation within 50m of a high-voltage power line and within 5 to 10m of a substation. The design and layout of the facility should account for this information.”

This is further validated by the statement from American Federal Aviation Administration.

“Due to their low profiles, solar PV systems typically represent little risk of interfering with radar transmissions. In addition, solar panels do not emit electromagnetic waves over distances that could interfere with radar signal transmissions, and any electrical facilities that do carry concentrated current are buried beneath the ground and away from any signal transmission.”

We understand batteries themselves do not emit electromagnetic fields (EMFs) however EMF emissions are comparable to the substation upon charge/discharge of the BESS (5-10m setback before source radiation is indistinguishable from background radiation).

In light of the above, the risk posed by the facility is low-negligible. There are no sensitive receivers within close proximity to proposed major electrical infrastructure. The proposal complies with the relevant policy directives at Clause 53.13 and under the Victorian Solar Farm Guidelines in relation to EMI and no further assessment is required.

7.4 AVIATION AND GLINT AND GLARE

A Solar Glint and Glare Assessment has been prepared by Landrum and Brown and is included at Appendix B.

The report utilised the Forge Solar Glare Hazard Analysis Tool and notes that the Australian Civil Aviation Safety Authority (CASA) accepts these results. The analysis considers impacts on aviation, road users and residential dwellings and recreational areas.

The purpose of the report is to demonstrate whether the facility will cause any unreasonable adverse impacts on surrounding aviation facilities, surrounding residences or roads in terms of glare and glint.

The criteria for glint and glare effects are:

- No Impact (no mitigation required)
- Low Impact
- Moderate Impact
- Major Impact

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The nearest aviation facilities are Bendigo Airport (19 kilometres), Mangalore Airport (60 kilometres), Echuca Airport (67 kilometres), and Shepparton Airport (83 kilometres). The proposed development is 28 kilometres from Elmore and 19 kilometres from Avonmore aircraft landing areas.

In relation to aviation impacts, the glint and glare assessment concludes that the proposal is outside the circuit area used by aircraft conducting take-off and landing operations of relevant aviation facilities. The physical distance makes it unlikely that Fosterville Solar Farm will cause any significant glare issued for pilots on approach or on departure from airstrips. Accordingly, it

was not deemed necessary to perform a specific assessment of aircraft flight paths in the study.

Ground based impacts included assessment of road users and residential receivers. With respect to residential receivers the analysis determined, on the basis of the ForgeSolar assessment on the properties within 1 kilometre of the proposed development, there are no glint and glare issues on residential properties within 1 kilometre of the site.

With respect to road users, the assessment indicates that both “green” (low impact) and “yellow” (moderate impact) glare has the potential to occur, in the terms defined by ForgeSolar.

The report concludes that green glare should be considered acceptable as the impact is to minor roads being used in a transient manner. 60mins (0.01% per year) of green glare (low potential to cause after-image) are found on Russel-Bridge Rd.

The yellow glare found on Browne Ln and Russel-Bridge Rd should be considered as moderate impact. There are 1330mins (0.25%) on Browne Ln and 1983mins (0.38%) on Russel-Bridge Rd. The moderate impact can reasonably be assumed to be mitigated by existing trees along the road, the transient nature of any receivers, the unsealed and hence dusty nature of the road, and finally, the fact that the assessment takes no account of cloud cover / adverse weather conditions. All of these factors can reasonably be considered to mitigate the potential impact to an acceptable level.

On the basis of the above, we consider that the proposed solar development has no significant impact glint and glare impacts on local roads.

Given the flat topography, common occurrence of tree vegetation within road corridors, and sparsely populated dwellings in the area, the impact is considered low. The impacts are acceptable within the context of the balance of policies which seek to minimise amenity impacts while facilitating renewable energy development in appropriate locations. The subject site is an excellent location generally for a solar energy facility and predicted glint impacts are low and acceptable within this context.

7.5 VISUAL AND LANDSCAPE IMPACTS

A Landscape and Visual Impact Assessment prepared by Landform Architects is included at Appendix C. The assessment includes photomontages of the proposal from two representative maximum impact locations.

The assessment defines the viewshed/study area for the visual assessment, with further details of the methodology outlined at Section 3 of the Landscape and Visual Impact Assessment. Public and private domain viewpoints were assessed and graded for level of impacts.

Scale of effects range from Nil to High, where Nil equates to no perceptible visual change and High is extensive adverse effects that cannot be avoided.

Cumulative impacts were assessed, taking into account sequential views across multiple projects, with the only additional project in the area being Axedale Solar Farm as previously discussed throughout this planning report.

Nine viewpoints were assessed (VP1-VP9), these being representative viewing locations from publicly accessible locations. Photomontages demonstrating the impact of the solar farm ‘as built’ have been prepared for VP2 and VP6, being chosen based on the understanding of these locations having highest potential for impacts.

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A summary of the results of the viewpoint impact assessment is provided below.

- VP1 Negligible-Low
- VP2 Negligible-Nil
- VP3 Nil
- VP4 Negligible-Low
- VP5 Low
- VP6 Low
- VP7 Low
- VP8 Nil
- VP9 Nil

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The assessment concludes that visual impacts from the proposal, including any cumulative impacts from the neighbouring Axedale Solar Farm, will be within the realm of Nil-Low.

The assessment notes the highest-level visual impact was assessed as low. This would be from nearby locations along Browne's Lane immediately west of the Project. Browne's Lane is a local gravel road, with few users, where views of the Project would be limited in duration. The assessment notes the project would barely be discernible from the nearest residential dwelling which is approximately 600 metres to the west. All other dwellings are at a distance of 1 kilometre or greater.

The assessment notes that for the majority of locations, the project would be screened by the approved Axedale Solar Farm, partially screened, or filtered by existing vegetation or topography or be at such as the distance the visual impact would be negligible. There were no nearby residential dwellings that are in close proximity to the Project that would have views to the proposed solar panels, sub-station or BESS that would require screening.

For these reasons, the report concludes overall level of visual impact does not appear to warrant landscape screening or mitigation.

Impacts are acceptable within the context of the site and broader landscape, and satisfy the intent of the scheme with reference to minimising visual impacts while facilitating the development of renewable energy facilities in appropriate locations.

7.6 AGRICULTURAL IMPACT

Impacts of the proposal on agricultural land and productivity have been assessed by the Agricultural Assessment report prepared by Meridian Agriculture which is attached at Appendix D.

The assessment discusses the context of the site, physically and within the regional agricultural economy.

The general area is made up of large farms used for grazing and cropping.

The report seeks to address the following guidance from the Solar Farm Guidelines:

Whether agricultural land is strategically important or high-value at local and regional levels due to features such as high-quality soils, good rainfall, access to water, resilience to climate change, infrastructure investment and integration with industry – and including whether it is highly productive, highly versatile, or located in an irrigation district.

Assessment of the agricultural productivity/carrying capacity of the land.

Impacts of the proposal on the agricultural use of a site and whether or not continued agricultural use (or 'agrophotovoltaics') can be achieved.

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Fosterville Solar Farm Application for planning permit

Impacts on the agricultural values of adjacent and surrounding land (such as their ability to operate efficiently or their productivity) and impacts on the agricultural sector in a wider region (such as supply or market competition).

The existing farm is 183 ha in area, which as outlined in the agricultural assessment, comprises approximately 0.068% of the cropping area in the Bendigo statistical district and 0.029% of the total agricultural land in the district. The solar farm will occupy land which is not in an irrigation district and on soils that are regarded as average quality for the area. The neighbouring proposed Axedale Solar Farm to the east is situated on land similar to the subject site and covers approximately 150 ha in area. Together with the subject proposal this constitutes less than 0.13% of the cropping area in the Bendigo district.

The report concludes that removal of the subject site from agricultural production will have an insignificant impact on the agricultural productivity of the region, including when considered together with removal of the Axedale Solar Farm land from productivity. The proposal will have no significant impact on the agricultural capability of the property or surrounding properties longer term and may be returned to agricultural use in the future. It is noted that grazing of the land between panels will be a maintenance option along with mowing, and that removal of 183ha from production is a 'worst case' scenario.

Protection of productive agricultural land is a strong policy directive under the scheme, with multiple mentions including at Clause 14.01-1S (Protection of agricultural land), 14.01-2S (Sustainable use of agricultural land) and 21.07-8 (Agriculture). As outlined above and in Appendix D, the proposal will not have an unreasonable adverse impact on agricultural productivity or the sustainable use of agricultural land. When considered against the balance of policies that strongly support renewable energy generation facilities at appropriate locations, the subject site remains an excellent location for a solar facility that supports protection of valuable agricultural land by utilising a lower order agricultural site.

7.7 ENVIRONMENTAL VALUES AND FLORA AND FAUNA

Impacts of the proposal on flora and fauna have been assessed under the Flora and Fauna Assessment prepared by Biosis which is included at Appendix E.

Forty-seven (47) flora species and 16 fauna species comprised of 28 native and 35 introduced species were recorded within the study area. Habitat for threatened fauna exists on the site. No threatened ecological communities were found to occur within the study area and no further or targeted surveys were recommended.

No referral to the Commonwealth Department of Environment for any Matters of National Environmental Significance under the Environment Protection and Biodiversity Conservation Act 1999 was considered necessary.

An initial assessment of the project against the potential effects criteria suggests that an Environmental Effects Statement under the Environment Effect Act 1978 is unlikely to be required.

The design of the solar facility has been through several iterations in order to minimise impacts on native vegetation and biodiversity. Design responses included:

- Locating the project within modified cropland that is primarily cleared of native patch vegetation.
- Providing additional setbacks of panel infrastructure from remnant vegetation in the south-eastern corner and along the central western boundary of the site to avoid concentrated stands of remnant vegetation
- Siting main facilities (substation, BESS etc) in the north-western corner of the site

maximise vegetation retention

- Providing adequate setbacks from all perimeter vegetation
- Using existing gateways for main site access and positioning of two new secondary site access points away from identified areas of native vegetation. The southernmost accessway was chosen as a secondary access point to maximise roadside grassland retention at that location.

The preliminary results of the Flora and Fauna Assessment were employed in carrying out these design responses to minimise impacts.

The final design results in the proposed removal of 0.760 ha of native vegetation including 10 large trees and 3 small trees. A total of 26 large trees occur within patches of native vegetation within the study area plus 43 scattered large trees.

It is proposed to remove greater than 0.5 hectares of native vegetation predominantly from within location category 2. Removal therefore falls under the detailed assessment pathway and must be referred to DELWP Environment as a recommending referral authority. The assessment determined that 0.157 general habitat offset units are required (no specific offsets). A search of the native vegetation credit register confirms that multiple offset sites are currently available that meet the offset requirements.

The proposal has minimised impacts in accordance with Clause 52.17 and has been considered against the host of policies under the scheme which seek to minimise impacts of development on biodiversity including those at Clause 12.01-1S (Protection of biodiversity), 12.01-2S (Native vegetation management) and 21.08 (Environment).

This outcome is considered acceptable in order to facilitate renewable energy generation on an excellent site that will have generally low impacts as outlined within the Flora and Fauna Assessment. As recommended by the Flora and Fauna Assessment, the primary measure to reduce impacts to biodiversity of avoiding and minimising removal of native vegetation has been employed.

Detailed recommendations are identified under Table 9 of the Flora and Fauna Assessment. The design of the facility has responded to these measures by restricting primary access to the existing entry in the north-west, ensuring offsets are available, and refining the impact envelope to ensure retention of the maximum number of trees for the given design. All other recommendations may be integrated into the relevant management plans under the conditions of any permit that may issue.

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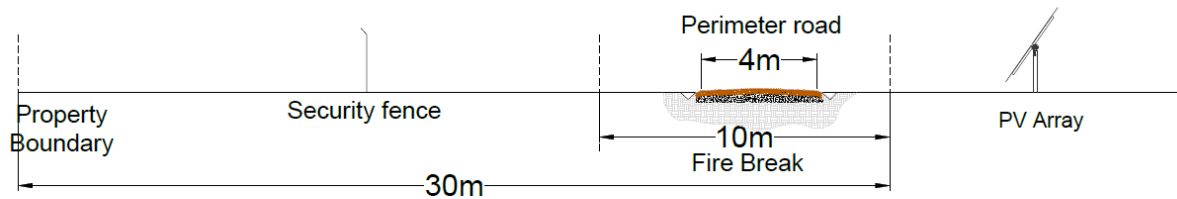
7.8 NATURAL HAZARD MANAGEMENT

Bushfire

The proposal accords with the relevant sections of the scheme, in particular, Clause 13.02-1S (Bushfire planning) in relation to managing fire risks. The CFA Guidelines for Renewable Energy Installations have also been considered and applied to the design. The site is within a Designated Bushfire Area under the Building Act 1993 however is not affected by any bushfire specific overlays.

The proposal provides the following response to bushfire safety:

- A 10m fire break will be maintained around the entire facility, including 4m perimeter road, allowing emergency access around the entire facility.



Perimeter Road and Firebreak as per CFA Guidelines. Minimum setback from Property Boundary to PV panels = 30 meters

- At least 2 access points will be provided, with one main access point at the north-western entrance and two secondary access points at the south-west and north-east of the site respectively.
- Minimum 6m metre separation is provided between panel banks in accordance with the CFA Guidelines. Additionally, internal roadways provide spacing between blocks (or banks of panels).
- Grass no longer than 100m will be maintained beneath the panels in accordance with the CFA Guidelines. This may be through mechanical means or via grazing of the property in conjunction with operation of the facility.
- A firebreak of at least 10 metres will be provided around the perimeter of the BESS as notated on the Dimensions plan.

Appropriate fire management, including emergency information, will be included in a Fire Management Plan for the project which would be expected to be a condition on any permit that may issue. This would include maintenance of grass beneath the panels and any other ongoing obligations that are necessary to ensure appropriate fire safety.

At an approximate 2000 tonnes, the proposed BESS will exceed the fire protection quantity of 20 tonnes under the VDGR.

The BESS will not pose an unacceptable fire risk for the following reasons:

- The facility is located in a sparsely populated area on a largely cleared site that does not pose an elevated fire risk when compared with the general area.
- There are no significant population centres within proximity to the site that would be put at an elevated risk from siting of the facility at this location.
- All relevant safety regulations and legislation will be adhered to in construction and operation of the facility, including integrating current best practice fire management based on precedent examples of similar facilities in Victoria.

- It is understood this planning permit application will be referred to Victorian WorkCover as a s55 referral authority and CFA will also be notified. Advice and recommendations will be integrated into the proposal and into management plans as necessary to ensure fire risk is mitigated to an acceptable level.
- Where applicable, the requirements of the relevant Australian Standards will be complied with, for example AS/NZS 5139-2019: Electrical installations – Safety of battery systems for use with power conversion equipment and AS 3780-2008: The storage and handling of corrosive substances; and AS 1940-2017: The storage and handling of flammable and combustible liquids.
- The separation distance within the BESS is to be determined in accordance with Codes and Standards and manufacturer's recommendations to allow safe escape from the BESS in case of a fire.
- The BESS will also adhere to requirements in international Standards applicable to major BESS, for example, to the US NFPA 855 (2020).
- Detailed firefighting response and need for fire water containment should be assessed and reported (e.g. in the format of a Fire Safety Study) post development approval, for review by the CFA.
- The specific risk associated with the potential for dust storms and ingress of dust causing damage to infrastructure will be integrated into the design and the BESS manufacturers, project contractors and staff will be made aware of this threat during BESS design, construction and operation.
- Signage and labelling compliant with the Dangerous Goods (Storage and Handling) Regulations 2012 and the relevant Australian Standards will be provided.

Flood

The relevant planning controls demonstrate that flooding is not a known significant risk for the development. No flooding overlays apply and there are no significant watercourse on or near to the site. The North Central Regional Floodplain Management Strategy (North Central Catchment Management Authority) shows the site does not fall within the modelled 1%AEP flood extent.

There is no significant impact on overland flows due to the open nature of the solar panel structures themselves and the minimum of site infrastructure and buildings required for the facility, which allow for ongoing on-site infiltration and runoff from the panels to be absorbed on site. Notwithstanding it is anticipated that a Drainage and Stormwater Plan will form part of the Environmental Management Plan required as condition of any planning permit approval.

7.9 TRAFFIC AND TRANSPORT

A Traffic Impact Assessment prepared by Impact Traffic Engineering is included at Appendix F.

The site is bound by Russells Bridge Road to the north and Brownes Lane to the west which are both classified as local roads.

The assessment concludes that the proposal will not have an unreasonable impact on the local road network and access arrangements are appropriate.

The conclusions of the Traffic Impact Assessment are summarised below:

- The proposal is projected to generate up to 147 additional inbound movements per day during peak construction activities. This traffic can be entirely accommodated along Brownes Lane and Russells Bridge Road.
- The main site access at Brownes Lane is considered satisfactory to the site.

construction of the project.

- Operations and routine maintenance will generate up to 10 daily vehicle movements.
- Due to a curve in the road south of the site, sight lines are limited to approximately 150 metres to/from the south-western access point. This is considered acceptable given this is a secondary access point with main site access provided at the northern end of the site's boundary to Brownes Lane. Physical sight distance assessment is recommended to be undertaken prior to construction. All other sight lines for accessways were considered sufficient in both directions.
- Parts of Brownes Lane and Russells Bridge Road are not pre-approved for the haulage of B-double vehicles, therefore a permit will be required from City of Greater Bendigo via NHVR for any B-double sized vehicle to utilise parts these haulage routes.

The traffic and transport impacts of the operation and construction of the proposal will be comfortably accommodated by the existing road network and will not cause any unreasonable impacts to road infrastructure or to road safety, in accordance with Clause 18.02-3S Road System, Clause 21.09 Integrated Transport and Infrastructure and the DELWP Solar Guidelines at Clause 53.13 Renewable Energy Facility.

A Traffic Management Plan (TMP) is expected to be required as part of the conditions of any planning permit approval. The Traffic Impact Assessment lists recommended measures for inclusion in the TMP on page 21.

Car Parking

The proposal will provide ample areas for on-site parking through the operation of the facility. Facilities are provided in the north-western corner of the site co-located with main site infrastructure, including BESS, substation and control room. It is expected that staff will be present on the site regularly for maintenance and operational activities, as is typically the case with utility scale solar facilities. Parking impacts on the area will be essentially nil.

The proposal provides an acceptable amount of car parking in accordance with Clause 52.06.

7.10 HERITAGE

The site is affected by three small areas of Aboriginal cultural heritage sensitivity along its boundary in the south-west of the site, therefore an Aboriginal Cultural Heritage Desktop Due Diligence Assessment has been prepared by Landskape and is included at Appendix G.

The assessment concludes that there is low potential for Aboriginal cultural heritage to be harmed by the activity, with the three small areas of Aboriginal cultural heritage sensitivity relating to three scarred trees in the road reserve of Brownes Lane. The assessment concludes the proposal does not trigger the requirement for a mandatory Cultural Heritage Management Plan (CHMP).

No non-Aboriginal historic heritage is present on site.

The proposal complies with the relevant policies which seek to protect Aboriginal and non-Aboriginal cultural heritage.

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7.11 CUMULATIVE AND OTHER IMPACTS

Axedale Solar Farm has been considered under all relevant technical assessment and in general assessment under this planning report. There will be no discernible adverse impacts resulting from the cumulative effect of both the subject proposal and the approved Axedale Solar Farm should they both ultimately reach construction and operation.

There are no other notable amenity impacts. There will not be any unreasonable impacts with regard to light spill, vibration or smell. The facility will be operated and maintained during the day with minimal security lighting at night. There are no significant sources of vibration or smell that would impact the vicinity. The locality is a sparsely populated rural area with the nearest residential interface 680 metres to the west.

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8 CONCLUSION

The proposed solar energy facility has been assessed against the relevant sections of the Greater Bendigo Planning Scheme, with particular reference to key provisions of Clause 35.07 (Farming Zone), Clause 53.13 (Renewable Energy Facility) and the *Solar Energy Facilities Design and Development Guideline*.

The balance of policies strongly supports the solar energy facility at the proposed location.

The land is of low-agricultural significance and is not within an irrigation district.

Ecological impacts are minimal and acceptable.

Bushfire risk will be managed to an acceptably low level in accordance with CFA guidelines.

The proposed facility will have minimal impact on the amenity of the surrounding area in terms of noise, glint, light spill, vibration, smell and electromagnetic interference. Significant views including visual corridors and sightlines will not be impacted by the proposed solar farm.

There will be no significant impact on aircraft safety.

The impact to local roads will be minimal with ongoing impacts from operation of the facility being negligible.

It is respectfully submitted that the proposed solar energy facility is in accordance with the relevant policies and warrants the issue of a planning permit subject to conditions.

It is also submitted that the proposal provides an appropriate level of parking spaces in accordance with Clause 52.06 and warrants the approval of the responsible authority.

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