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BARWON SOLAR FARM

Town Planning Report

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SUBMISSION DOCUMENTS

This report is to be read in conjunction with:

- Certificates of Title (*Appendix A*)
- Survey Plan (Veris, December 2021) (*Appendix B*)
- Site Plan (Urbis, October 2024) (*Appendix C*)
- Elevation Plan (Urbis, September 2022) (*Appendix D*)
- Maps (Urbis, December 2021) (*Appendix E*)
- Landscape Strategy (Urbis, October 2022) (*Appendix F*)
- Stakeholder Engagement Outcomes Report (Urbis, September 2022) (*Appendix G*)
- Flora and Fauna Assessment, Memo and Grassland Earless Dragon Habitat Species Assessment (Biosis, February 2023, March 2024 and January 2024) (*Appendix H*)
- Cultural Heritage Desktop, Standard and Complex Assessment (Ecological Australia, October 2022) (*Appendix I*)
- Agricultural Assessment (Ag Challenge Consulting, March 2022) (*Appendix J*)
- Hydrology Assessment (Ecological Australia, April 2023) (*Appendix K*)
- Preliminary Landscape and Visual Impact Assessment (Urbis, October 2024) (*Appendix L*)

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society. We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

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- Noise Assessment (Norman Disney & Young, October 2024) (*Appendix M*)
- Traffic Impact Assessment (Urbis, October 2024) (*Appendix N*)
- Fire Risk Assessment (Ecological Australia, April 2023) (*Appendix O*)
- Bushfire Report Peer Review (EHP, October 2023) (*Appendix P*)
- Residential Property Lease Agreement (Thomson Geer Lawyers, September 2021) (*Appendix Q*)
- Quote for Victorian offsets under Clause 52.17 (*Appendix R*)
- Photos of Habitat Zones and Tress (*Appendix S*)

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Clause 19.01-1S – Energy supply
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- Appendix U** **Assessment against Clause 53.13 Renewable Energy Facility**
- Appendix V** **Solar Energy Facilities Design and Development Guidelines**
- Appendix W** **Assessment against Farming Zone**
- Appendix X** **Assessment against Clause 52.05 Business identification signage**

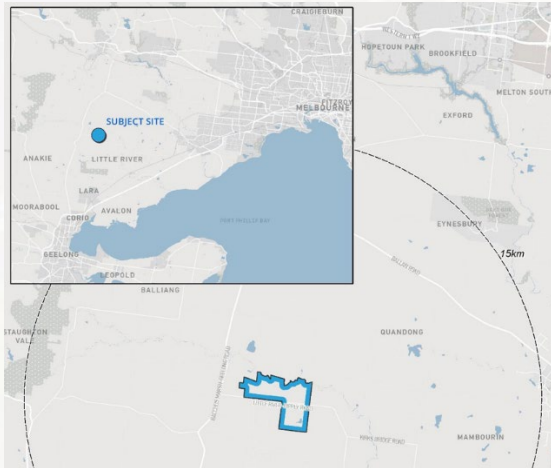
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EXECUTIVE SUMMARY

This report has been prepared by Urbis Ltd on behalf of Elgin Energy, in support of a planning permit application to use and develop land for a solar energy facility (renewable energy facility) and utility installation, at 1000-1320 Little River-Ripley Road, Little River. A detailed description of the subject land is provided in a following section of this report.

PROJECT OVERVIEW



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-  **Location:** 1000-1320 Little River-Ripley Road, Little River.
-  **Site area:** 735 ha | **Panel area:** approx.505 ha
-  **Energy contribution:** 330MWp solar array + 250MW /500 MWH BESS
-  **Planning Framework:** Geelong Planning Scheme
Zone: Farming Zone
Overlays: Bushfire Management Overlay (BMO)
-  **Victoria's emissions reductions target:** The proposal will contribute to Victoria's emissions reduction by providing 330MW of renewable energy to the grid.

STATUTORY AUTHORITIES



Hydrology
Notice to Glenelg Hopkins CMA



Native Vegetation Removal
Referral to DEECA



Land Adjacent to the Principal Road Network
Referral to Head, Transport for Victoria



Bushfire
Notice to the Country Fire Authority



Greater Geelong Council

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GREATER GEELONG PLANNING SCHEME

The site is affected by the following planning controls and permissions:

CONTROLS/PROVISIONS	PERMISSIONS
Farming Zone	<ul style="list-style-type: none"> 35.07-1: To use land for a Renewable energy facility (other than Wind energy facility) 35.07-4: To construct and carry out works for use in Section 2
Significant Landscape Overlay	<ul style="list-style-type: none"> 42.03-2: To construct a building or construct or carry out works to remove, destroy or lop any vegetation
Environmental Landscape Overlay, Schedule 1 and Schedule 4	<ul style="list-style-type: none"> 42.01-2: To construct a building or construct or carry out works and to remove, destroy or lop any vegetation
Clause 52.95	<ul style="list-style-type: none"> 52.05-2: Display of a business identification sign
Clause 52.17	<ul style="list-style-type: none"> 52.17-1: To remove native vegetation, including dead native vegetation

Table 1 – Applicable Controls and Permissions

PLANNING PATHWAY

On 4 April 2024 amendment VC261 was gazetted into the Greater Geelong Planning Scheme. This amended Clause 53.22 to introduce additional land uses to Table 2 of Clause 53.22-1, being:

1. Renewable energy facility with an installed capacity of 1 megawatt or greater

2. Utility installation used to transmit or distribute electricity or store electricity with an installed capacity of 1 megawatt or greater.

As the proposal is for a renewable energy facility and for a utility installation with a capacity of approximately 330MWp and 250MW /500 MWH respectively, the proposal qualifies for assessment under this Clause 53.22.

Pursuant to Clause 72.01-1, the Minister for Planning is the Responsibility Authority for the application

We note :

- ✓ No Environmental Effects Statement is required for the proposal.
- ✓ Because the Project (proposed action) will require the removal of 7.0671ha of (low quality) Plains Grassy Wetland Grassland it has been determined to be a 'controlled action' under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Assessment of the project under the EPBC Act is being undertaken by the State via an Environmental Report process. The Environment report was submitted by the proponent on 20th August 2024 and is currently under assessment for the controlled action.

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ASSESSMENT SUMMARY

This planning report supports a planning application for a renewable energy facility (solar farm) 1000-1320 Little River-Ripley Road, Little River. The report provides an analysis of the suitability and constraints of the selected site and an assessment of the proposal against the relevant provisions of the Greater Geelong Planning Scheme and relevant Commonwealth and state legislation.

Overall, this report demonstrates that the proposal is an acceptable and appropriate outcome for the site for the following reasons:

- ✓ The proposal complies with the Solar Energy Facilities Design and Development Guidelines and the Greater Geelong Planning Scheme (zones and overlays)

- ✔ The proposal will have positive economic impacts at a local and state level through the creation of construction and maintenance jobs and direct capital investment.
- ✔ Extensive community consultation and engagement has taken place providing opportunities for the community and stakeholders to provide formative feedback on the proposal's design and layout.
- ✔ Reasonable measures have been undertaken to protect environmental values by avoiding, minimising and offsetting impacts in order to achieve 'no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.

Based on the current design, the proposed development will require the removal of 9.926 hectares of native vegetation.

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3. SITE CONTEXT

3.1. SUBJECT SITE

The subject site is located in the Balliang/Little River region approximately 30 Kilometres north of the Geelong CBD and 45 kilometres west of the Melbourne CBD. The site is approximately 735ha in size and spans seven separate but contiguous lots (with 5 separate landowners). The site is made up of the following addresses (see Map 2 which shows titles for each):

- 1000 Little River - Ripley Road, Little River. Formally known as: Allot. 24 Parish of Wurdi-Youang
- 1050 Little River - Ripley Road, Little River. Formally known as: Lot 2 TP15944
- 1085 -1135 Ripley Road, Little River. Formally known as: Allot. 23 Parish of Wurdi-Youang
- 1145-1215 Ripley Road, Little River. Formally known as: Allot. 22 Parish of Wurdi-Youang
- 1150-1190 Little River - Ripley Road Little River, this property has 2 parcels formally known as: Lot 1 PS434520C and Lot 1 TP15944.
- 1240 Little River - Ripley Road, Balliang, formally known as: Por. 17 Parish of Wurdi-Youang
- 1320 Little River - Ripley Road, Balliang, formally known as: Lot 2 of LP140470

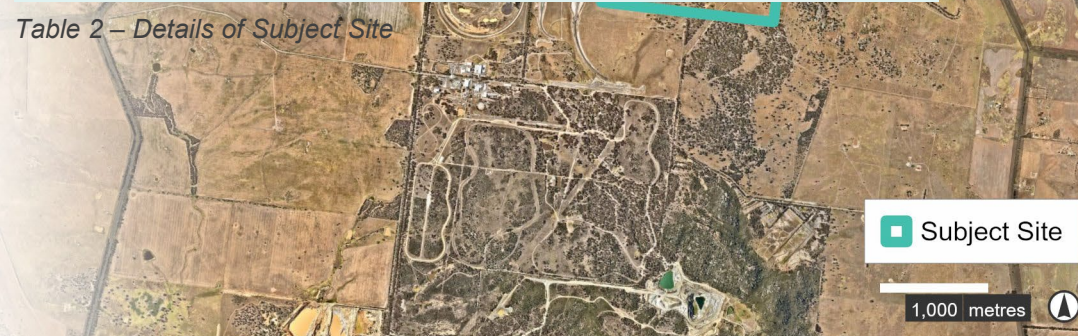
Key details of the site are as follows:

CATEGORY	DESCRIPTION
Existing Conditions	Currently utilised for farming and or agriculture, namely broadacre cropping for wheat, barley and oilseeds (canola). There is also a considerable area dedicated to grazing of sheep. These lots are not considered to be highly productive nor highly versatile agriculturally due to

	low and unreliable rainfall, soil quality and access to irrigation.
Location	The subject site is located in the Balliang/Little River region approximately 30 Kilometres north of the Geelong CBD and 45 kilometres west of the Melbourne CBD.
Area	Approx. 735 hectares
Frontages	Little River – Ripley Road Ripley Road
Title	There are several electricity easements that encumber the site. The site has existing 500 kV and 220 kV transmission lines crossing in the northwestern and southeastern sections respectively.
Vehicle Access	Provided off Little River – Ripley Road. There is also an access road located on Mt Rothwell Road to the north of 1000 Little River-Ripley Road, Little River.
Vegetation	The majority of the land is relatively flat, open plain grassland with scattered vegetation particularly to the southeast. Much of the original indigenous vegetation has been removed over the years. Some mature Eucalypts remain sporadically scattered through some the land parcels, along watercourses and along the southern extremity of the Project site. Areas of native vegetation located across the site, detailed in the vegetation section of this report.

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Table 2 – Details of Subject Site




Subject Site

1,000 metres

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3.2. EXISTING CONDITIONS - SITE PHOTOS

The proposed site is highly modified due to farming practices and is currently still being utilised predominantly for agricultural purposes, with majority of the land used for dryland cropping. The Agricultural Assessment produced by Ag-Challenge Consulting (March 2022) (detailed in Appendix J) identified crops of barley, canola and wheat upon an inspection of the site. Crops of vetch and dun peas have also been grown on the property in the past. Grazing of sheep are also currently being undertaken on two of the properties (1000 and 1050 Little River Ripley Road). Through an analysis of an aerial photo of the site dated August 2022 and a site inspection on 21st November 2021 and 20th January 2022 and 7th June 2022, the following pictorial analysis of the existing features has been compiled in Table 1:

Picture	Description
	<p>This image is looking south towards the You Yangs, which visually dominates the broader landscape in the region. This highlights that majority of the site is clear of vegetation along a flat plain.</p>



This image is on approach from the east towards the project. Undulating topography is evidenced, particularly around the road.



This view is west from Little River – Ripley Road with the Project visible on both sides of the road. On approach from the east, views to the project are possible from the roadway only once proximate to the project boundary.

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The elevated formation of the Ford Proving Ground test track to the southwest of the Project partially screens views to the You Yangs.



This image highlights views towards a residence at 1340 Little River-Ripley Road from the road verge. It can be noticed that existing vegetation on the property provides partial screening of views to the Project.



This image highlights the view from the residence referenced above to the project site. It can be seen from the image that the use of land is currently agriculture.



This image highlights the view from the road verge west of the site at Bacchus Marsh-Geelong Road. It can be seen from the image that the land is used for agricultural purposes.

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3.3. SURROUNDING CONTEXT

The predominant land uses surrounding the subject site include farming, agriculture, rural residential and reserves. The area is sparsely populated and is made-up of mainly large lots. The surrounding landscape is generally flat, with little variance in the topography. Other than the reserves, most lots are sparsely populated with trees, generally planted for agricultural purposes.

- 1 The Western Grassland Nature Conservation Reserve, a natural temperate grassland, is located east of the project site and spans 15,000- hectares of Urban Growth Boundary south-east of Melton and west of Werribee.
- 2 The You Yangs, dominant granite monolith, located approximately 3km of the subject site.
- 3 Mount Rothwell Conservation and Research Reserve, immediately neighbouring the south of the site.
- 4 Mt Rothwell Estate and Homestead, located east of the site's southern lots.
- 5 The Ford Proving Ground is located 1.3km southwest of the site.

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4. ELGIN ENERGY

Elgin Energy (**Elgin**) is an international renewable energy developer specialising in solar and battery development who were founded in Dublin, Ireland in 2009. Elgin Energy has over 11.5GW of projects in development across Australia, UK, and Ireland. Copenhagen Infrastructure Partners (CIP) has signed an agreement to acquire a majority share in Elgin Energy (Elgin) and will, together with Elgin's retained management team, invest £250 million into Elgin.

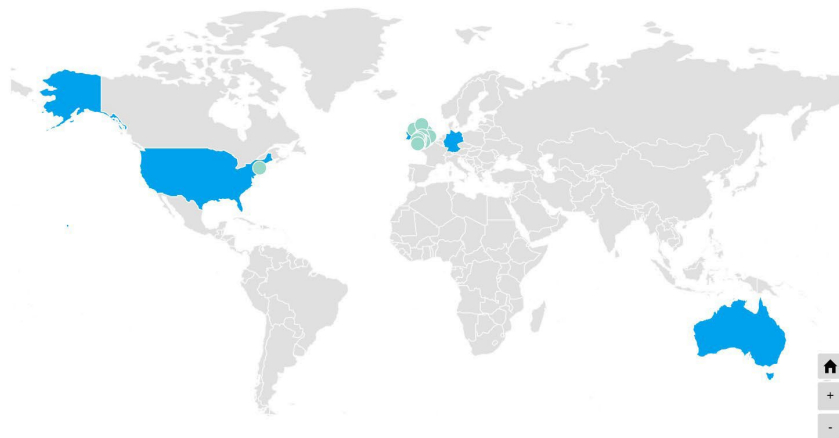
The company delivers utility-scale solar and storage projects from site origination through the development process to grid connection. With a 98% success rate in securing planning permission, Elgin Energy has secured consent on 70+ projects (totalling circa 800MW) with 26 projects (320MW) delivered to market to date across the UK & NI including the largest solar farms in Scotland and Northern Ireland.

Elgin Energy has been present in the Australian market since 2018 and is developing a pipeline of over 2 gigawatts of Solar and battery storage projects throughout NSW, QLD and VIC.

The company works with long-term strategic partners to deliver projects to the energization and provides asset management services through their operational life across three key markets of the UK, Australia, and Ireland.

Elgin have earmarked this project as a landmark project in their portfolio for Victoria. This will constitute the largest generator of renewable energy in proximity to both Geelong and Melbourne and represents a significant investment in the State of Victoria and helping the State achieve its renewable energy targets.

Elgin are committed to the construction of the project and pending planning approval it is shovel ready aiming to be in operation in 2026.



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5. PROPOSAL

5.1. OVERVIEW OF PROPOSAL

The proposed development by Elgin energy is to construct and operate a solar farm of up to approximately 330 MWp (Megawatt- peak) and battery energy storage system (BESS) of up to approximately 250MW/500 MWH at 1000-1320 Little River-Ripley Road, Victoria (known as Barwon Solar Farm). Barwon Solar Farm is a 735-hectare site located in the Greater Geelong City Council area.

Key details of the proposal are as follows.

ELEMENT	PROPOSAL
PV Generation capacity	Approx. 330 megawatt-peak (MWp)
Grid connection	The project will connect to the grid via the existing Geelong Terminal to Keilor Terminal 220 kV overhead transmission line. A substation constructed on the site will facilitate this connection.
Battery Storage capacity	Approx. 250 Megawatts or 500 Megawatt hours(MWH)
Panel area	505 hectares (65% of site area)

Table 3 – Details of Proposal

The Barwon Solar farm will be the largest generator of renewable energy in proximity to both Geelong and Melbourne and will play a significant role in achieving City of Greater Geelong’s and Victoria’s net zero and renewable energy generation targets.

Electricity generated from the Barwon Solar Farm renewable energy source, unless otherwise specified, will avoid emissions that would otherwise be

generated and supplied to the Victorian electricity grid from more carbon-intensive sources. Elgin are committed to the construction of the project and pending planning approval it is shovel ready aiming to be in operation in 2025. The project’s expected contribution to operational emissions reductions and renewable energy generation is as follows:

TARGET	CONTRIBUTION
Victoria’s emissions reductions target	Approximately 8.4% operational emissions reduction (3,791,000 tCO ₂ e 2021/22 municipal emissions) – Greater Geelong
	Approximately 21.3% operational emissions reduction from electricity as energy source (1,494,000 tCO ₂ e 2021/22 municipal electricity source emissions) – Greater Geelong
	Approximately 0.4% operational emissions reduction (80,064,500 tCO ₂ e 2021 state emissions) – Victoria
	Approximately 0.8% operational emissions reduction from electricity as energy source (41,400,000 tCO ₂ e 2021 state electricity source emissions) – Victoria
Victoria’s renewable energy storage target	Provide approximately 11.9% of 2030 target of 2.6GW Provide approximately 4.9% of 2035 target of 6.3GW

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5.2. DETAILED PROJECT DESCRIPTION

The subject site was considered suitable for a solar energy facility of this size and scope because of its location, flat topography, ease of access and minimal impacts to site conditions and planning constraints. The site also has direct proximity to grid capacity that can support a large scale project. This combined with the fact that the site receives an abundance of solar resource, makes it an ideal site for generating solar energy.

The Barwon Solar Farm represents one of the largest solar projects in Victoria to date. The facility alone will generate enough clean renewable energy to power the equivalent of approximately 98,000 homes annually, creating approximately 150 jobs during construction and investing over 500 million dollars into regional Victoria and the Greater Geelong region. This large-scale project will contribute significantly to Victoria's renewable energy generation targets (50% by 2030), aiding in the reduction of greenhouse gas emissions (net zero by 2050).

5.3. LAYOUT AND BUILT FORM

The solar facility and ancillary equipment will encompass a majority of the site spanning across seven separate but contiguous lots (with 5 separate landowners). As shown in Figure 1 (an indicative outline of the extent of the proposed development layout), solar panels will cover approximately 505 hectares of the total site area (65%). This coverage has been carefully designed and limited by native vegetation, cultural heritage constraints and to protect the amenity of surrounding properties.

The subject site will include the following properties, either side of Little River-Ripley Road: 1000, 1050, 1085-1135, 1145-1215, 1150-1190, 1240, 1320 Little River-Ripley Road, Little River/Balliang VIC 3211.

The facility will consist of the following:

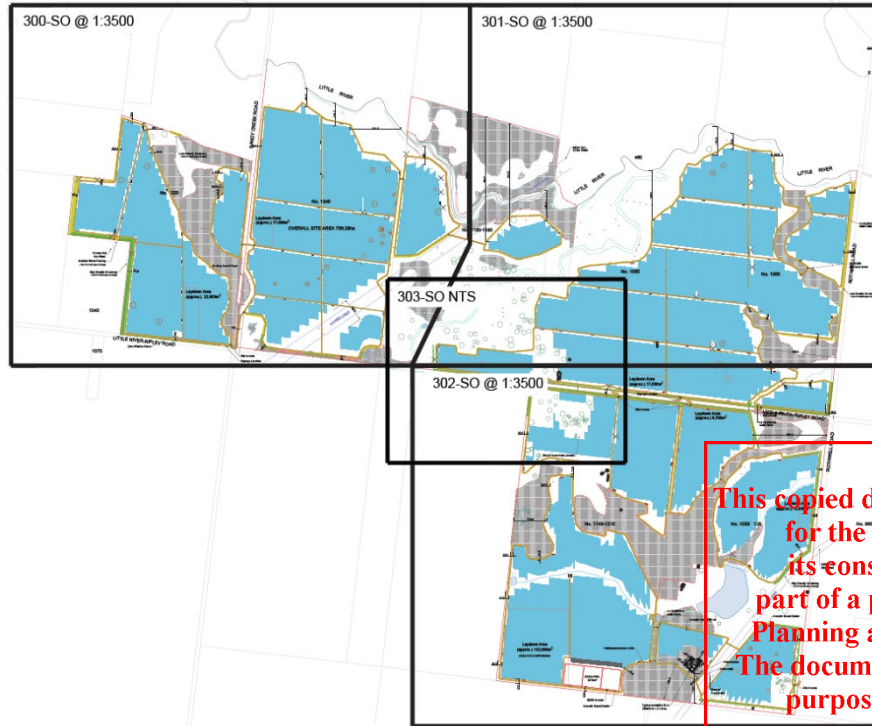
- The installation of ground mounted solar photovoltaic (PV) modules (panels), which use a single axis tracking solar technology with an approximate capacity of 330MWp. Each Panel will measure approximately 2.4m (length) x 1.303m (width). Once mounted on the frames and fully tilted, the panels will be capable of reaching an overall height of no more than 3.2 metres above ground level.

- Installation of a battery energy storage system with an approximate capacity of up to 250 MW/500MWH.
- Installation of PV array inverters/transformers housed in a cabin-like structure of approximately 6m (length) x 2m (width) x 3m (height). Inverters and transformers are combined and mounted on a concrete base. These units are evenly distributed around the solar array.
- Installation of a Battery energy system and housing structure. The BESS will be approximately 12 metres (length) x 2.4m (width) x 2.891m (height).
- Acoustic screening to select infrastructure including the BESS and select PV inverter skids.
- Internal road system and access points.
- Ancillary infrastructure, including:
 - A 2.3m high chain mesh fence installed around the solar farm asset . The purpose of the fence is to deter theft or vandalism and prevent unauthorised access to the solar farm.
 - Security cameras
 - Substation control room approximately 13.2m (length) x 5.8m (width) x 4.6m (height).
 - Water tanks approximately 4.5m (width) x 3.05m (height)
 - Compost toilet
 - Business identification signage (3 signs)

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Figure 1: Proposal Site Layout



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Source: Elgin Energy 2024

Layout of the Facility

The solar facility has been carefully designed over 30 months to respond to the site's context, opportunities and constraints and DELWP's Solar-Energy-Facilities-Design-and-Development-Guideline-August-2019. The design layout considers:

- Native Vegetation
- Cultural Heritage
- Visual Impact to neighbouring properties
- Bushfire Mitigation
- Impacts to waterways

- Noise
- Efficiency and economic viability of the solar facility

The development design process has balanced the above matters with the economic viability of the development. The high voltage (220KV) connection requires a minimum size for the project to be economically viable.

The design evolution is summarised in three key iterations below.

Design 1 (See Figure 2) Urbis and Elgin Energy mapped all the ecology constraints surveyed by Biosis, as well as the results of the standard Cultural Heritage Assessment using this information to inform project layout and design iterations between 2022 and 2024.

An initial design was produced that sought to develop over all areas of patch vegetation recorded as low quality and to avoid all areas of cultural heritage recorded. This design resulted in a development footprint of 580ha (providing for 350MW).

Once reviewed Design 1 would result in the loss of 70ha of patch vegetation (plain grassland). Although this vegetation was recorded as poor quality, potential impacts to Golden Sun Moth habitat was considered unacceptable. The avoidance was therefore required whilst maintaining yield.

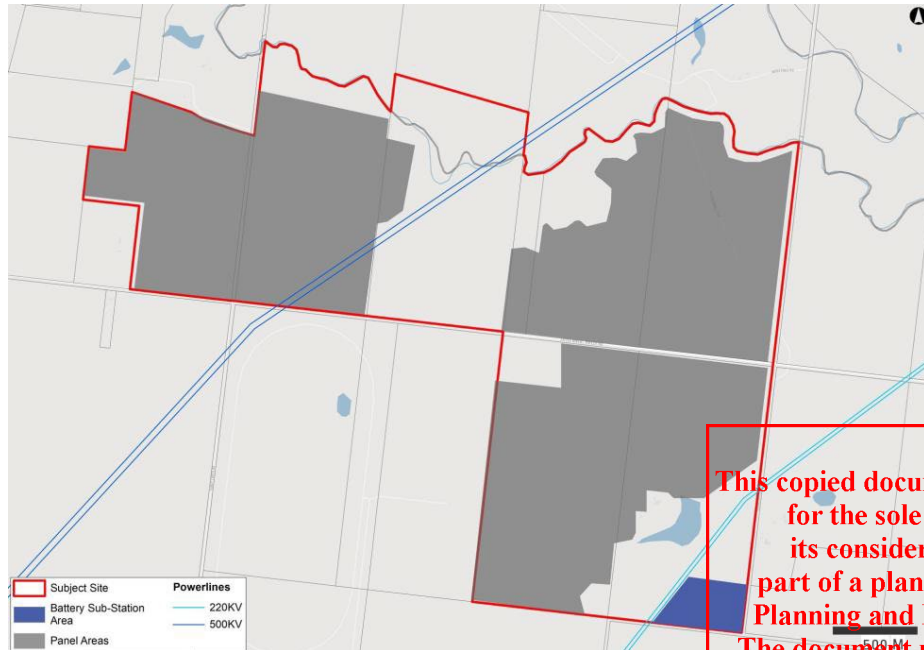
Design 2
The revised Design 2 sought to avoid all areas of patch native vegetation by increasing setbacks from waterways and expanding panel areas into some areas of potential cultural heritage sensitivity.

This design was constrained to a development footprint of 450ha. However, the resulting yield was below a threshold that would be considered justifiable of the 220kV powerline connection. Furthermore, the results of a Complex Cultural Heritage Assessment further reduced the developable areas of the subject site.

Finally, this design was heavily fragmented and lacked consolidated areas of panels. The design resembled two individual sites rather than a single development. This was considered unviable for construction and operation. Given these issues a revised design was required.

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Figure 2 - Design Iteration 1 (Superseded)



Source: Urbis 2022

Design 3

Design 3 sought to increase all setbacks from waterways to a minimum of 50m and maximum of 300m to avoid all river terrace areas as they have high sensitivity, as found during archaeological assessment, and supported by the Registered Aboriginal Party (RAP). This design sought to investigate potentially conserving up to 40ha of land either side of Sandy Creek for revegetation, relocation of trees for creation of habitat and the opportunity to potentially provide access for the Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC) for the life of the solar farm.

This design increased avoidance of patch vegetation by only removing poor quality vegetation impacted by farming practices (total 18.3ha including scattered trees). All other areas of patch vegetation were retained (all areas of high quality and majority of poor-quality vegetation).

Design 3 also avoided the removal of any patches of trees and observed the Black Falcon nest 22/PP3910

Design 3 sought to relocate the BESS and substation and adjust setbacks from western and eastern neighbouring properties to 30m to reduce visual impacts to neighbouring properties.

Design 4

Following feedback from Department of Environment, Energy and Climate Action (DEECA) further refinements were undertaken on the design to further minimise impacts on native vegetation. These include:

- Adjusting the locations of fences and access tracks, to avoid individual trees where possible.
- Protecting a number of scattered trees in the central portion of the site to increase the area of retained vegetation and improve connectivity.
- Review Sections of low quality VQA 16 and VQA 19 to provide additional panel area and connection through the site in order to minimise removal of scattered trees. Most remnant grasslands within these study areas were suitable for cultivation, including rocky areas, or low-lying seasonally wet areas and thus no additional vegetation was impacted upon by this review.

This design avoided the majority of native vegetation, protects amenity to neighbouring properties and also avoided impacts to cultural heritage recorded from the standard assessment, as well as avoiding anticipated areas of further heritage sites expected from the complex assessment. As outlined above, this design process has been adjusted and refined over 12 months using evidence gathered from field studies, taking into account feedback from the local community and other stakeholders in a considered design response. We believe the final design accounts for all constraints on the site whilst balancing constructability and the objectives for solar facility energy generation.

Design 5

Following engagement with DEECA and site investigations, a further design iteration was undertaken to further minimise impacts on native vegetation and fauna during the assessment process. These include:

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- Avoiding the removal of 18 trees, including 4 small trees and 14 large mature trees.
- Facilitate corridor between Black Falcon nest location and retained native vegetation around Sandy Creek. 22/PP3910

This design improves connectivity between the retained riparian vegetation corridor along Sandy Creek and the Black Falcon nest location patch. This ensures higher protection of the Critically Endangered species' habitat while keeping the design footprint economically viable.

Design 6

The design has been modified to further reduce native vegetation impacts, including the following changes:

- Impacts avoided on four patches of Plains Grassland (VQA 5, 16, 19 and 21), by reducing the area of solar panels.
- Further reduction (three additional large trees retained) in impacts to scattered trees in the central portion of the site, by reducing the area of solar panels.
- Total vegetation removal has been reduced to 9.926 hectares.

Proposed Design – Design 7

In addition to all the avoidance measures outlined above, the following design considerations have been incorporated into the site plan to avoid any indirect impacts into the retained natural values of the subject site:

- The establishment of 3m no-go zones buffer areas around retained native grassland areas. This is based on best-practice mitigation measures and management plans from other Australian solar farms and aims to avoid any indirect impacts on threatened ecological communities and species.
- The identification of required laydown areas outside any important biodiversity values, aiming to further avoid any indirect impact during construction.
- Proposed first party offsets utilising VQA 8, 2, 23, 24 and 25 which would qualify under the EPBC Act as 19ha of Plains Grassy Woodland and Heavier Plains Grassy Woodland.

Solar Panels

The proposal will mainly consist of the installation of PV solar modules. The glass surfaced panels are coated to maximise daylight absorption, and thus minimise glare potential. Other materials are an encapsulant, a rear layer and a frame around the outer edge.

The panels will be attached in a single portrait configuration to horizontal mounting frames (outlined in Figure 3 and Figure 4). The panels will 'track' the sun in an east to west plane to maximise solar exposure. The mounting frames will be made of either galvanized aluminium or steel and will have a rough matte finish, rather than a polished finish.

Figure 3 Single Portrait Configuration to Horizontal Mounting Frames



Picture 1 Typical Mounted Panels (single axis tracker)

Picture 2 Typical Mounting Frames Used

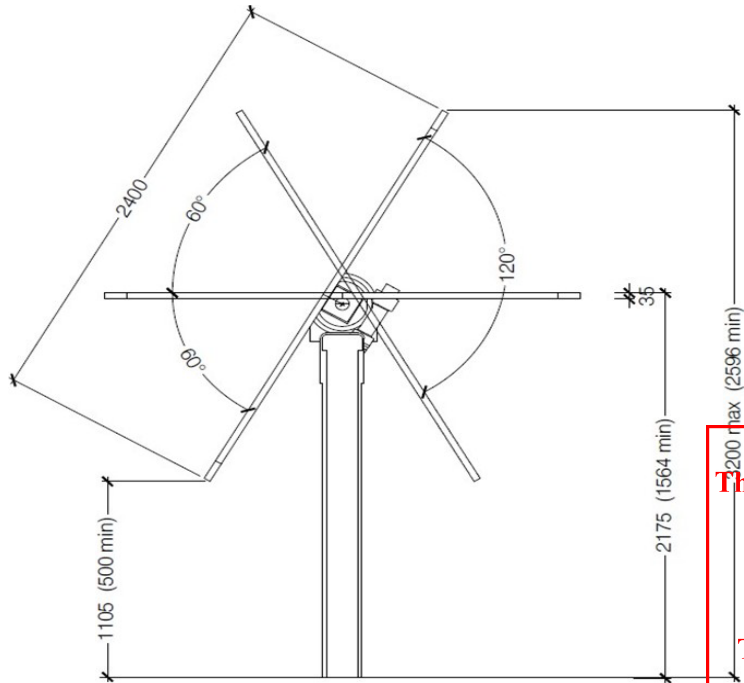
Source: MBT Energy (accessed October 2022)

Source: PV Magazine (accessed October 2022)

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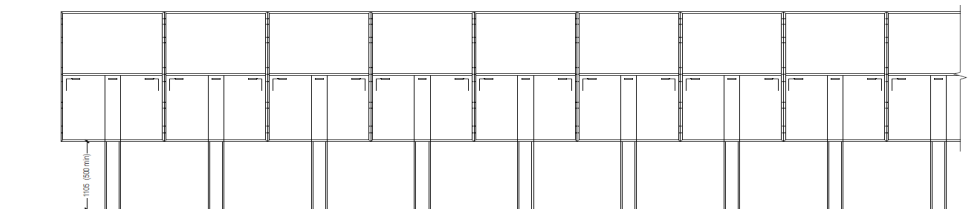
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Figure 4 Solar Tracker Elevation



Source: Urbis 2022

Figure 5 Solar Panels Row Elevation



Source: Urbis 2022

Installation

The mounting frames are usually pile driven into the ground, and no concrete foundations are required. The base of the frame piles are thin, 'H' or 'Z' shapes, thus they have very little impact on the ground and do not require any prior excavation. This means that during construction patches of grass are relatively undisturbed and not impacted or lost across the project area. The frames are driven to a depth of approximately 1.5m. At the end of their operational life when the site is decommissioned, the frame piles are simply pulled out from the ground causing minimal ground disturbance. This light construction approach also minimises impact upon potential archaeology remains. In some areas where there is depth to rock is below 2M and piling refuses there is potential for the pile foundations to be pre-drilled

Inverters

Panels generate Direct Current (DC) electricity which must be converted into Alternating Current (AC) before being fed into the local electricity grid network.

Transformers

The transformer transforms electrical energy from one circuit to another and allows for the energy generated to be fed into the local grid network.

Substations

Substations are the on-site point of connection from where electricity enters and exists the transmission network. The substation is comprised of a switchgear which facilitates the connection or disconnection of electrical assets. Substation switchgear also acts as a safety mechanism to protect the solar farm and BESS from faults in the transmission network, and vice versa. It detects and disconnects electrical circuits if there is a fault in the system, much like a household fuse box.

The network operator requires a security light to be affixed to the exterior of the Network Substation for health and safety reasons. If an emergency repair crew is required in hours of darkness, the light allows them to safely access the substation to undertake the repair work. The motion sensor light

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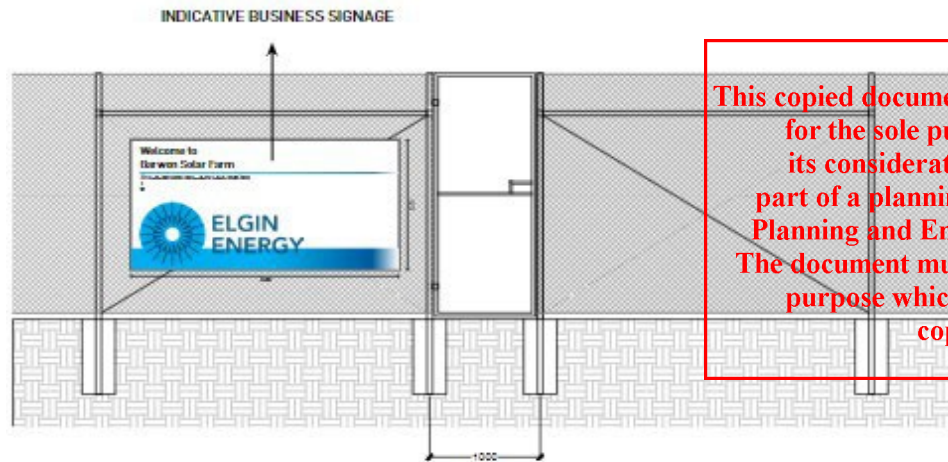
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only activates when the substation is approached and it will not be illuminated on a permanent basis. No other site lighting is required or proposed. One Customer Substation and One switchgear substations are proposed.

Signage

The indicative signage at the main access gate will display a flush 2.4m x 1.2m aluminium business identification sign, with a total area of 2.88m² (see figure 6). A maximum of 3 signs will be allowed (1 per main access gate). An Elevation Plan (Urbis, September 2022), including the specification details for indicative signage is detailed at Appendix D of this report.

Figure 6 Indicative Proposed Business Identification Signage



Source: Urbis 2022

Grid connection

The project will connect to the grid via the existing Geelong Terminal to Keilor Terminal 220 kV overhead transmission line which passes through the southwest corner of the site.

Elgin Energy submitted a connection enquiry to AEMO (the local network service provider) on the 1st of October 2021. Their response provided guidance on an appropriate connection location and configuration for the project. Given the network strength at the connection location, when

assessed against the requirements of the System Strength Impact Assessment Guidelines, AEMO determined that a Full Impact Assessment is not required for the project.

Furthermore, Elgin Energy has engaged with AEMO for a non-compulsory 'Pre-Application' package. The purpose of which was to provide greater certainty about the proposed connection earlier in the overall connection process. The outcome of AEMO's internal congestion modelling was positive and no network constraints were found to impact the solar farm and BESS.

Following the submission of the Generation Performance Standards (GPS package) Application to Connect for Barwon has been approved by AEMO, they have issued a letter with respect to the negotiated access standards for the project. This is a major milestone for the project and a culmination of a process that was initiated with AEMO on the 20/12/2022, with the application taking just over 11 months to be approved. To date, it is the largest project of its kind to have received connection approval in Victoria.

Site Access and Internal Road Network

There will be approximately six vehicle access points to the site in order to comply with the Country Fire Authority (CFA) requirements. Five of which will be from Little River Ripley Road and one from Mt Rothwell Road located near the south-eastern extent of the site (this entrance will not be used for construction). There will be two access points for accessing the northern portion of the site, west of the biodiversity corridor, two access points for accessing the northern portion of the site east of the biodiversity corridor and two access points for accessing the southern portion of the site. All new created access points will utilise the Department of Transport and Planning typical access to rural properties design based on the ability to accommodate b-double trucks and a CFA firefighting vehicle.

All internal roads have been swept-path tested using a CFA fire truck data to ensure compliance and is shown in Appendix O. All service vehicles associated with the development will also access the site from these entry points. The specific access point for service vehicles will depend on the task being undertaken and will likely change on a day-to-day basis.

There are several roads located within the site. They are broken down typically by their function. These functions are:

- Site ring road (enabling access to all parts of the site).

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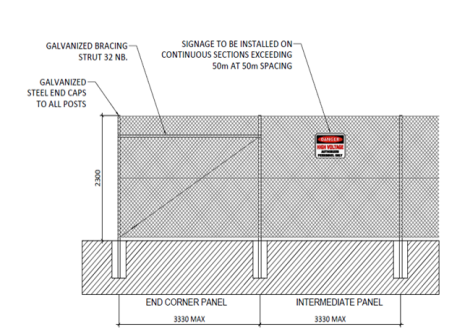
- Internal access way (the primary function of servicing the panels).
- The proposed location of vehicle access points and internal road network

Security fencing and Cameras

A 2.3 m high chain mesh fence will be installed around the solar farm asset. The purpose of the fence is to deter theft or vandalism and prevent unauthorised access to the solar farm.

In order to monitor the site and detect any unauthorised access, motion sensor CCTV cameras will be erected around the site perimeter on poles of approximately 3 m in height. The cameras are directed into the solar farm, avoiding impinging on the privacy of nearby properties, and employ infrared technology so no lighting is required.

Figure 7 Proposed Perimeter Security Measures



Picture 3 Proposed fencing elevation

Source: Urbis 2022



Picture 4 Example CCTV Cameras

Source: Urbis 2022

Ancillary Infrastructure

The proposal will include the following ancillary infrastructure:

Communication Monitoring house

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BARWON PLANNING REPORT

A Communications building is required to enable 24-hour remote monitoring of performance and security.

Security cameras and fencing

To monitor the site and detect any unauthorised access, motion sensor CCTV cameras will be erected around the perimeter of the site and by the access gates on poles (approx. 3m in height) as shown on the layout plans.

Composting toilets

A composting toilet will be provided onsite for operators and maintenance staff. The toilets are waterless, chemical free and self-composting. Toilets use a dehydration process resulting in an order free compost which is collected annually for processing off site.

5.4. DESIGN CONSIDERATIONS

Natural Vegetation Removal

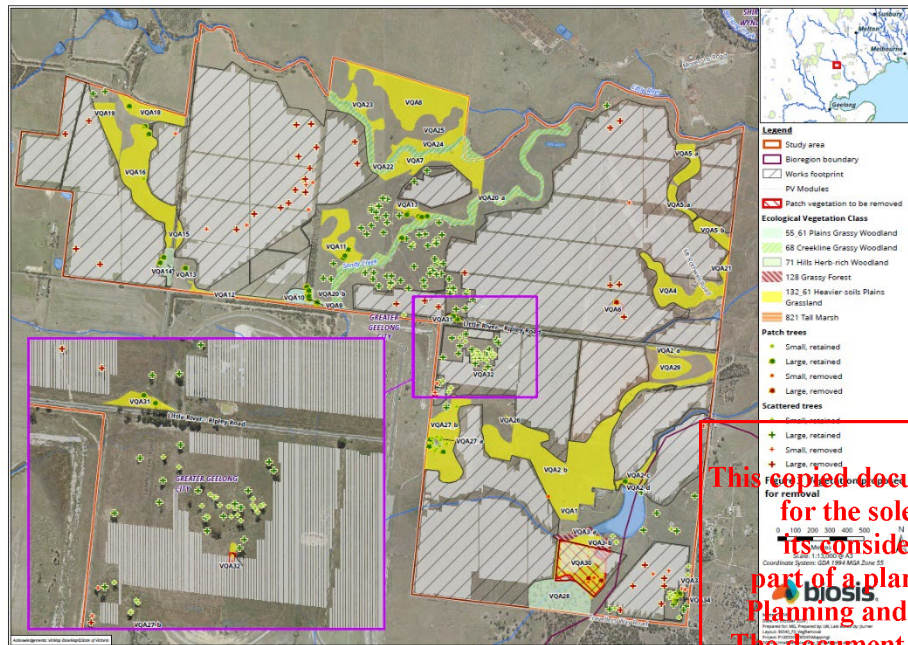
Based on the current design, the proposed development will require the removal of a total 9.926 hectares native vegetation, this includes:

- 35 large, scattered trees
- 15 small, scattered trees
- 7.0671 ha of grassland is now limited to a small area of low-quality grassland (VQA30) in the southern portion of the site, and small adjacent areas of Plains Grassy Woodland (VQA28) and low quality Plains Grassy Wetland (VQA3a and 3b) (see map below)

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Figure 8 Vegetation Proposed for Removal



Source: Biosis 2024

Spatial data of proposed vegetation removal were submitted to DEECA's native vegetation support team, who provided a Native Vegetation Removal Report for the project. This is provided in Appendix H.

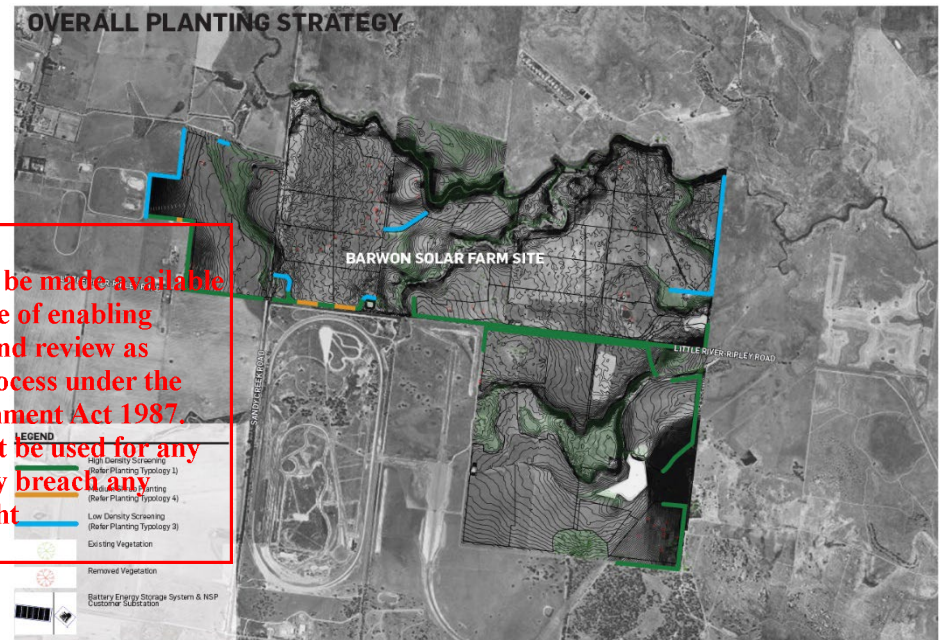
Setbacks and Landscaping

Setbacks and landscaping vary across the site and have been designed based on amenity considerations to adjacent sites. A 5m setback from external fencing will enable the establishment of buffer planting to screen the proposal from surrounding sensitive viewpoints.

The Project has exposed boundaries to the east, south and west which will be planted with screening species. The northern boundary is well screened by vegetation lining the Little River, with no proximate sensitive viewpoints.

Setbacks to the southern, western and eastern boundaries will generally be a minimum of 18 metres from the property boundary to the panel installation. In addition, the northern boundary features significant setbacks and replanting along the Little River waterway for the partial offset of vegetation removal. This provides setbacks between the installation area and properties to the north between 50m and 650m.

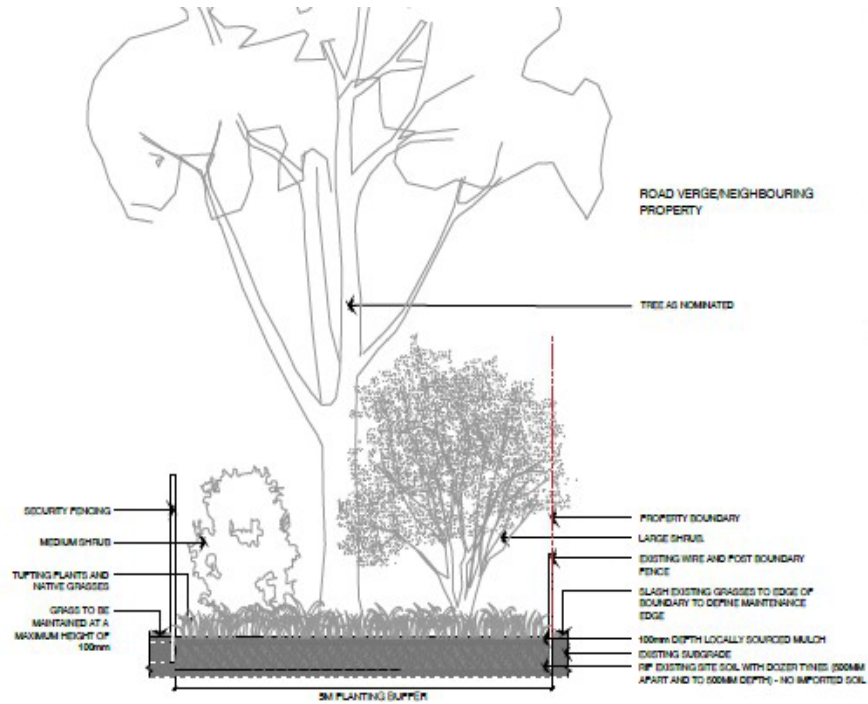
Figure 9 Landscape Strategy



Source: Urbis 2024

The planting palette has been carefully selected to accommodate existing ecologies around the site, providing a diverse selection tailored to the native species endemic to the area. The screen planting will differ according to location around the site, while still respecting the site's unique existing character and form.

Picture 5 Typical Planning Section



Source: Urbis 2022

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6. GREATER GEELONG PLANNING SCHEME

A detailed overview of the relevant planning controls and policies is provided in Appendix T of this report. A summary of the key controls and policies is provided below.

6.1. FARMING ZONE

The site is located in the Farming Zone, the relevant purposes of which are:

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

Pursuant to Clause 35.07-1, a planning permit is required to use land for:

- A Renewable Energy Facility
- A Utility Installation

Pursuant to Clause 35.07-4, a planning permit is required to construct a building or carry out works for uses in Section 2 (outlined above).

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-
- | | | |
|----------------|----------------------------|-------------------------------|
| Subject Site | Public Conservation (PCRZ) | Principal Road Network (TR22) |
| Farming (FZ) | Rural Conservation (RCZ) | |
| Planning Zones | Special Use 7 (SUZ7) | |

1,000 metres

6.2. OVERLAYS

Environmental Significance Overlay, Schedule 1

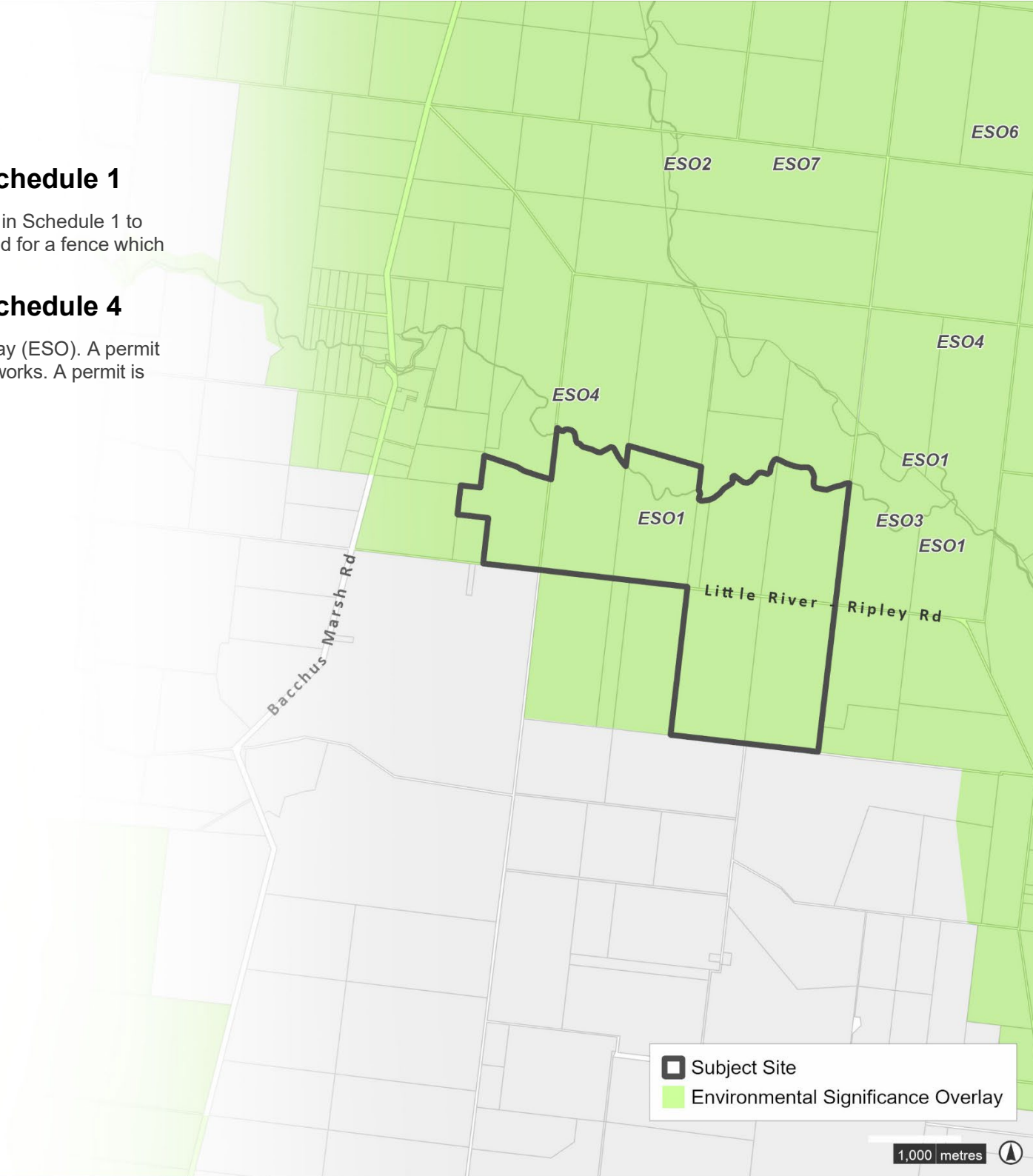
1150-1190 Little River - Ripley Road Little River is located in Schedule 1 to the Environmental Significance Overlay. A permit is required for a fence which is greater than 1.2 metres in height.

Environmental Significance Overlay, Schedule 4

The site is located in the Environmental Significance Overlay (ESO). A permit is required to construct a building or construct or carry out works. A permit is required to remove, destroy or lop native vegetation.

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Significant Landscape Overlay, Schedule 1

1085 -1135 and 1145-1215 Ripley Road, Little River are partly located in the Significant Landscape Overlay, Schedule 1 (SLO1). A permit is required to construct a building or construct or carry out works.

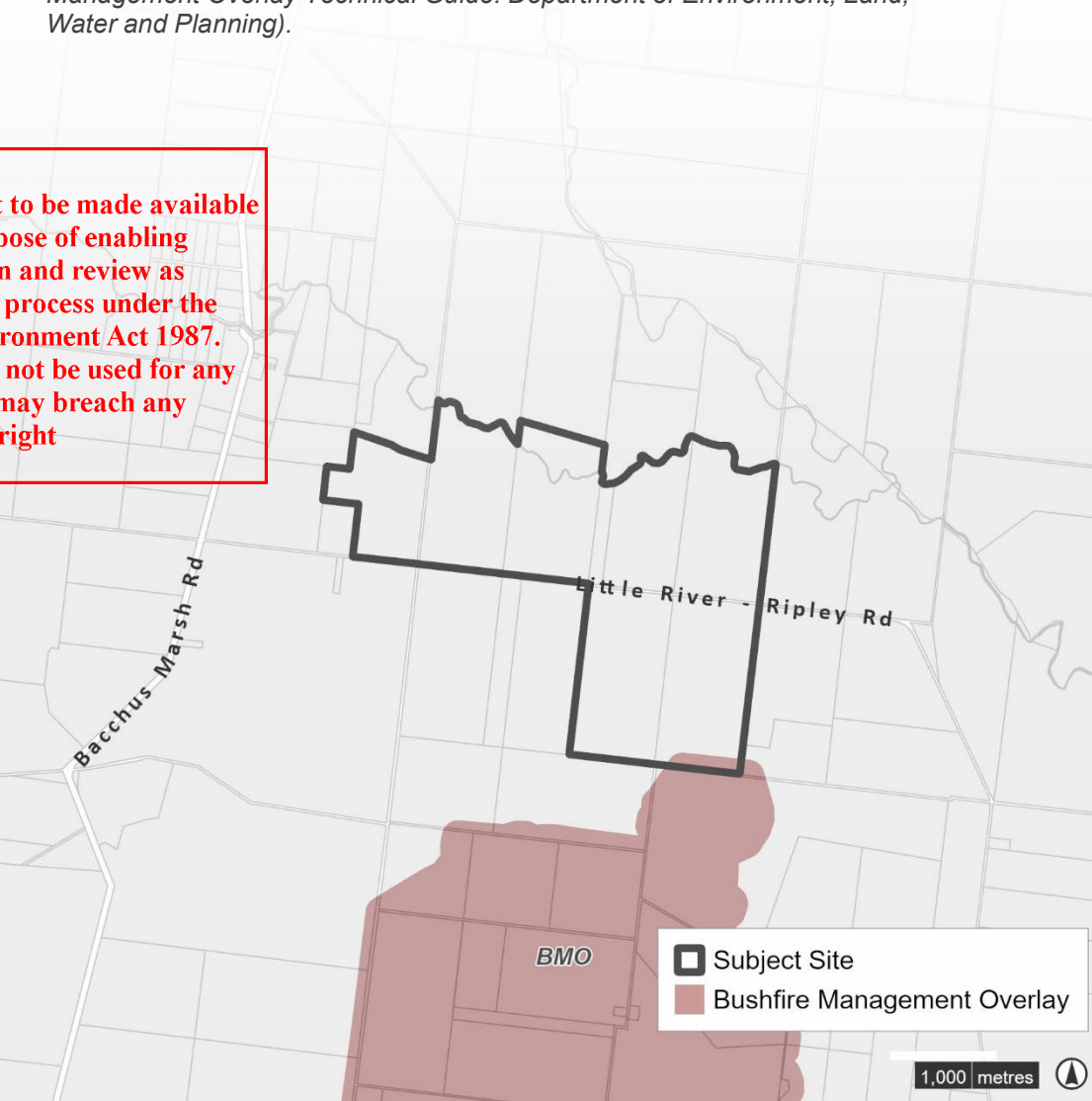
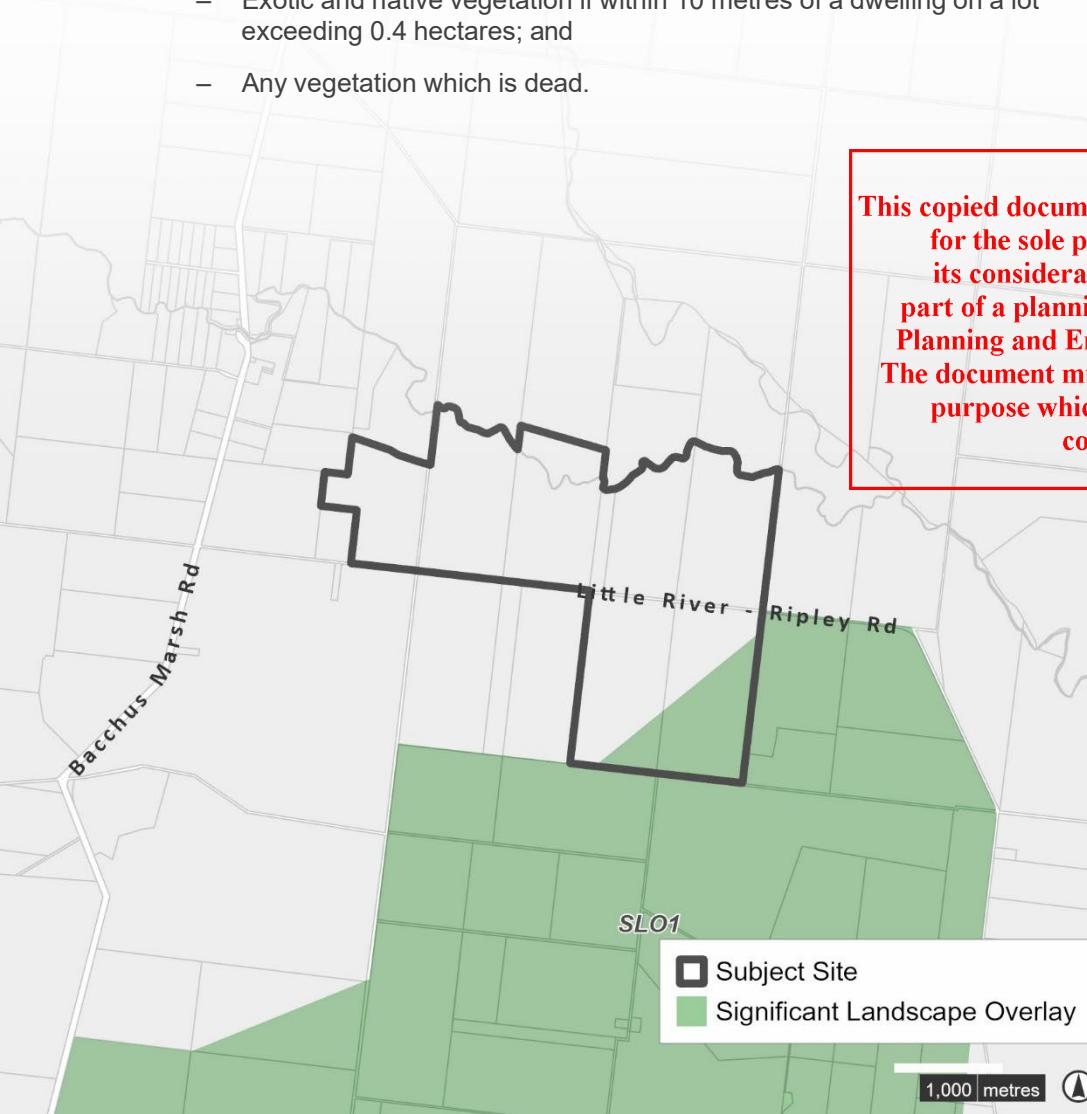
- A permit is required to remove, destroy or lop any vegetation, except:
 - Where listed within the incorporated document *Environmental Weeds*, City of Greater Geelong, September 2008;
 - Exotic and native vegetation if within 10 metres of a dwelling on a lot exceeding 0.4 hectares; and
 - Any vegetation which is dead.

Bushfire Management Overlay

1085 -1135 Ripley Road, Little River is also partly located in the Bush Fire Management Overlay (BMO). A permit is required to construct a building or construct or carry out works associated with uses specified under Clause 44.06-2.

If the Bushfire Management Overlay only applies to part of a lot, development that is sited outside the Bushfire Management Overlay does not require planning permission (2017. *Planning Permit Applications Bushfire Management Overlay Technical Guide*. Department of Environment, Land, Water and Planning).

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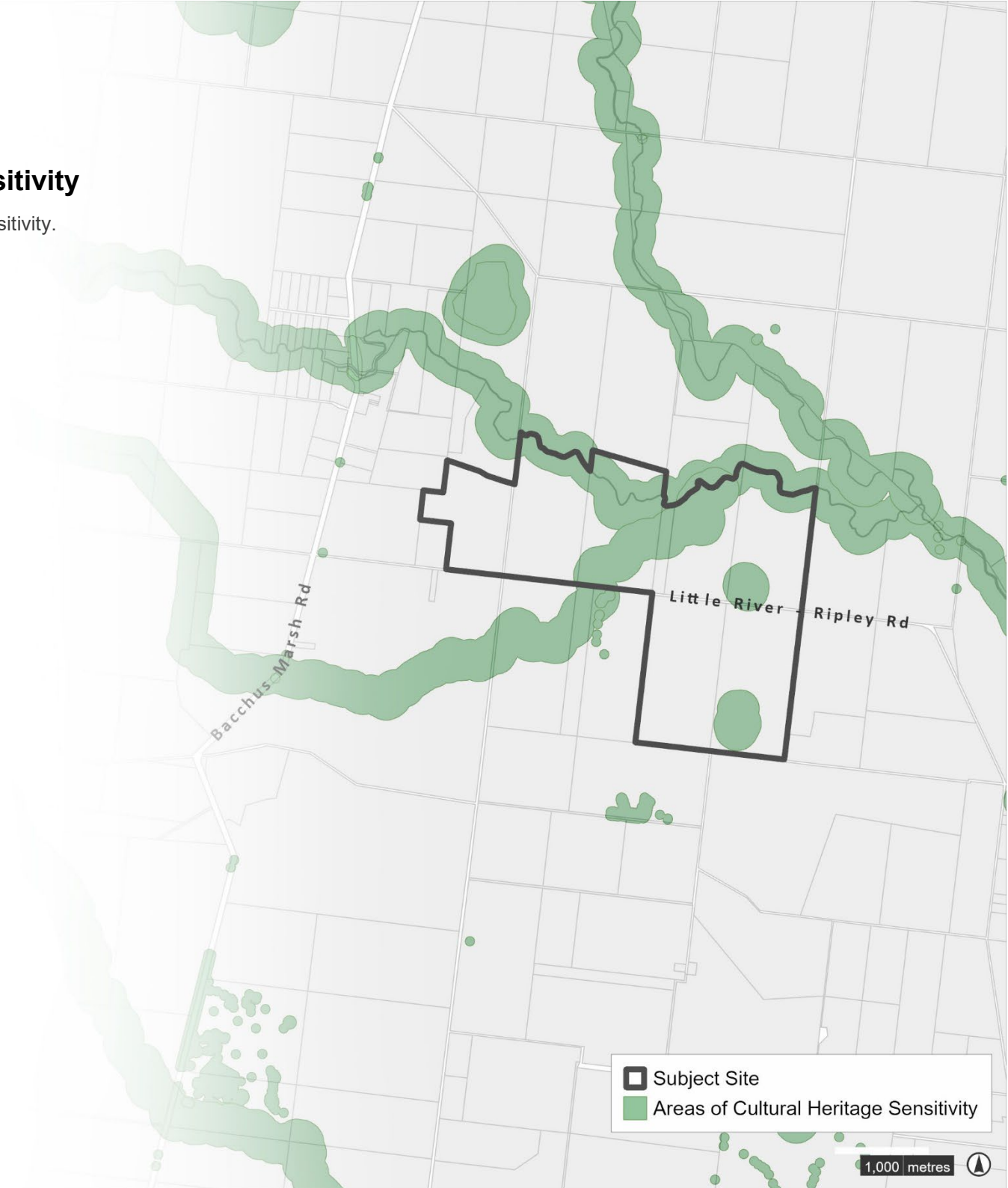
6.3. OTHER MATTERS

Areas of Aboriginal Cultural Heritage Sensitivity

Parts of the site are located in an Area of Cultural Heritage Sensitivity.

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6.4. GENERAL AND PARTICULAR PROVISIONS

The following general and particular provisions are related to the proposal:

- Clause 52.05 – Signs
- Clause 52.17 – Native vegetation
- Clause 52.29 – Land Adjacent to the Principal Road Network
- Clause 53.02 – Bushfire Planning
- Clause 53.13 – Renewable Energy Facility (other than Wind Energy Facility)

6.5. PLANNING POLICY FRAMEWORK (PPF)

The Municipal Planning Strategy sets out the context, vision, and strategic directions for Greater Geelong area. The following Clauses of the PPF are relevant to the proposal:

- Clause 11 Settlement
 - 11.01-1S – Settlement
 - 11.02-1S – Supply of urban land
 - 11.02-2S – Structure planning
- Clause 12 Environment and Landscape Values
 - 12.01-1S – Protection of biodiversity
 - 12.01-1L – Protection of biodiversity
 - 12.01-2S – Native vegetation management
 - 12.03-1S – River corridors, waterways, lakes and wetlands
 - 12.03-1L – River corridors, waterways, lakes and wetlands
 - 12.05-2S – Landscapes
- Clause 13 Environmental Risks and Amenities
 - 13.01-1S – Natural hazards and climate change

- 13.02-1S – Bushfire planning
- 13.04-2S – Erosion and landslip
- 13.04-3S – Salinity
- 13.04-3L – Salinity
- 13.05-1S – Noise Management
- Clause 14 Natural Resource Management
 - 14.01-1S – Protection of agricultural land
 - 14.01-1L-01 – Discretionary uses in rural areas
 - 14.01-1L-02 – Dwellings and subdivision in farming areas
 - 14.01-2S – Sustainable agricultural land use
 - 14.01-2R – Agricultural productivity G21
 - 14.01-2L-01 – Sustainable agricultural land use in Greater Geelong
- Clause 15 Built Environment and Heritage
 - 15.03-2S – Aboriginal Cultural Heritage
- Clause 17 Economic Development
 - 17.01-1S – Diversified economy
 - 17.01-1R – Diversified economy – Geelong G21
- Clause 19 Infrastructure
 - 19.01-1S – Energy supply
 - 19.01-2S – Renewable energy.

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Broadly speaking, these Clauses aim to:

- Ensure that adequate land is available for energy generation, infrastructure and industry and that renewable energy is encouraged within new development (Clause 11.02-1S, 11.02-2S).
- Protect biodiversity, and in particular to avoid the removal of native vegetation (Clause 12.01-1S, 12.01-2S). Development should not detract from the natural qualities of the landscape (Clause 12.05-2S).
- Ensure that development responds to climate change (Clause 13.01-1S), including the increased risk of natural hazards, and in particular bushfire (Clause 13.02-1S). The protection of human life is to be prioritised above all other considerations.
- Protect places of aboriginal cultural heritage significance (Clause 15.03-2S).
- Support development in a range of sectors, including the diversification of rural economies (Clause 17.01-1S, 17.01-1R).
- Encourage the development of energy generation and supply infrastructure that meets community needs, and demand for energy services, while transitioning to a low carbon economy. Energy infrastructure projects should take advantage of existing resources and infrastructure networks and contribute to the diversity of local economies (Clause 19.01-1S).
- In particular, renewable energy should be developed in appropriate locations, and consider the broader benefits of such development, while minimising its impact on the local environment (Clause 19.01-2S). Within the Great South Coast region, the planning scheme should plan for and sustainably manage the cumulative impacts of alternative energy development (Clause 19.01-2R).

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6.6. SUMMARY OF PERMIT REQUIREMENTS

CONTROLS/PROVISIONS	PERMISSIONS
Farming Zone	<ul style="list-style-type: none"> – 35.07-1: To use land for a Renewable Energy Facility and a Utility Installation. – 35.07-4: To construct a building and carry out works for a use in Section 2
Significant Landscape Overlay	<ul style="list-style-type: none"> – 42.03-2: To construct a building or carry out works and to remove, destroy or lop any vegetation
Environmental Landscape Overlay (ESO1 & ESO4)	<ul style="list-style-type: none"> – 42.01-2: To construct a building or carry out works and to remove, destroy or lop any vegetation
Clause 52.05 'Signs'	<ul style="list-style-type: none"> – 52.05-2: For the display of a business identification sign
Clause 52.17 'Native Vegetation'	<ul style="list-style-type: none"> – 52.17-1: To remove native vegetation, including dead native vegetation

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6.7. RELEVANT LEGISLATION

The following legislation, guidelines and policies are applicable to the proposed Barwon Solar Farm:

Commonwealth Legislation

- Environmental Protection and Biodiversity Conservation Act 1999

State Legislation

- Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018
- Climate Change Act 2017
- Environmental Effects Act 1978
- Environmental Protection Act 2017 – Environmental Reference Standards
- Flora and Fauna Guarantee Act 1988
- Planning and Environment Act 1987 and Greater Geelong Planning Scheme

Guidelines and Policies

- Victoria's Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017)
- Solar Energy Facilities – Design and Development Guidelines (DTP, 2022)
- Design Guidelines and Model Requirements – Renewable Energy Facilities v4 (CFA, August 2023)

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7. COMMUNITY AND STAKEHOLDER ENGAGEMENT

Community consultation and engagement is an integral part of the design process when undertaking the development of renewable energy facilities in Victoria. The Department of Environment, Land, Water and Planning (DELWP) has produced a guide for renewable energy developers to undertake for community consultation.

Urbis prepared the Community and Stakeholder Engagement Strategy and undertook the engagement in line with the strategy. The draft Stakeholder Engagement Strategy was prepared to align with DELWP's *Solar Energy Facilities, Design and Development Guidelines* and the International Association of Public Participation's (IAP2) *Public Participation Spectrum*. The draft was updated in line with feedback issued on 23 March 2022 from DELWP.

The activities outlined in the strategy sought to deliver an appropriate and relevant engagement process and provide opportunities for the community and stakeholders to learn about the proposal, understand the process and provide feedback which will inform design updates and the planning submission, along with the site layout plan, elevations or specification sheets and all technical reports.

7.1. ENGAGEMENT

As part of the larger planning process, Elgin Energy and Urbis Planning team were responsible for engagement with the relevant agencies, landowners and land users and stakeholders involved in prospective resource developments (such as owners of mining leases, petroleum production and exploration licences).

In addition, Urbis's Engagement team was responsible for engagement with the broader community. Engagement activities included letterbox drops, project specific website content, community and stakeholder briefings, information drop-in sessions and enquiry management through

the duration of the planning process. The processes and outcomes are outlined below:

Local Government

Urbis on behalf of Elgin Energy consulted with officers from the City of Greater Geelong (Council) via phone and email on 20 June 2022, requesting a meeting to outline the project and to provide a briefing information pack. Council declined this invitation due to not being the responsible authority for the development. No feedback from Council has been received to date. While Council is not the responsible authority, Council appreciated being informed of the project details but provided no comments on the proposal.

City of Greater Geelong will be a referral authority under S52 of the Greater Geelong Planning Scheme.

Relevant Agencies

Elgin Energy held meetings with DELWP's Development Approvals and Design - Renewables team to discuss the project in June 2021, 21 January 2022, 23 January 2022 and via various emails and phone calls up to 12 September 2022. These discussions were based around the project, its potential impacts in terms of visual impact, cultural heritage and native vegetation as requirements for the planning permit application and stakeholder engagement that was required, including the City of Greater Geelong.

As part of these discussions a meeting was also held with the Barwon South West Regional team specifically around native vegetation impacts, impacts to bird species and mitigation measures to address any impacts. These issues have been specifically addressed as part of this application and also detailed in the Flora and Fauna Assessment (Biosis, February 2023) contained in Appendix H.

Letters/emails were also sent to the following agencies:

- Country Fire Authority (CFA)
- Environment Protection Authority (EPA)
- Department of Transport (DoT)

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- Emergency Management Victoria - Catchment and Environmental Protection
- Rural water corporation: Southern Rural Water
- Urban Water Corporation: Barwon Water
- Port Philip and Westernport Catchment Management Authority (PPW CMA)

Responses back from the above agencies identified issues related to native vegetation impacts, visual amenity, bushfire hazards and compliance, impacts to bird species and setbacks from waterways.

These responses have been recorded and addressed as part of this application. Please refer to the Stakeholder Engagement Outcomes Report prepared by Urbis (September 2022) at Appendix G for further details regarding responses from the engagement process and responding procedures to manage and mitigate.

Table 4 Stakeholder Engagement Summary Table

Stakeholder	Engagement Type	Methods
Relevant agencies Department of Transport and Planning Department of Energy, Environment and Climate Action Country Fire Authority (CFA) Environment Protection Authority Department of Transport Emergency Management Victoria Catchment and environmental protection Rural water corporations: Southern Rural Water Urban Water Corporation: Barwon Water Port Philip and Western Port Catchment Management Authority	Consult: Obtain feedback on the proposal and understand how the proposal may impact each agencies service. This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright	Phone Direct emails Virtual meetings Elgin Energy held meetings with DELWP to discuss the project in June 2021, 21 January 2022, 23 January 2022 and via various emails and phone calls up to 12 September 2022. Letters/Emails were sent to CFA, and the CMAs in January and February 2022. Discussions also held with CFA in March 2022. Ongoing discussions on the project have been held with DTP and DEECA since April 2023 including a site visit to discuss vegetation impacts in December 2023 which resulted in further vegetation avoidance as shown in the submitted plans.

<p>Landowners and land users</p> <p>Traditional Custodians RAP Groups</p>	<p>Consult: Obtain feedback on the proposal by providing balanced and objective information to assist in understanding the proposal's impacts and benefits.</p>	<p>Virtual Meetings</p> <p>Face to Face meetings Email</p>
<p>Community, landowners and land users, including:</p> <p>Existing land occupiers Direct neighbours</p>	<p>Involve: Working directly with near neighbours throughout the planning process to ensure all concerns and aspirations and continually understood and considered by Elgin Energy.</p>	<p>Face to face meetings Virtual meetings</p> <p>Community newsletter Direct emails</p> <p>Phone calls</p> <p>Community information drop in sessions</p>
<p>Broader community, specifically:</p>	<p>Consult: Obtain feedback on the proposal as they may be interested in visual impact, traffic</p>	<p>Community newsletter</p> <p>Community information drop in sessions</p>

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8. ASSESSMENT

This section assesses the proposal against the relevant provisions of Greater Geelong Planning Scheme, as well as against key legislation guiding the development of renewable energy in Victoria. A thematic approach has been taken, whereby the proposal's suitability is considered against the Greater Geelong Planning Scheme together with other legislation.

The key themes, relevant legislation, and applicable referrals are outlined in the table below, and addressed in the remainder of this section

THEME	APPLICABLE STATUTORY FRAMEWORK	STATUTORY REFERRAL	TECHNICAL ASSESSMENT
Renewable energy and climate response	<i>Climate Change Act 2017</i> and associated strategies Greater Geelong Planning Scheme: Clause 02.03-3, 11.02, 13.01, 14.01, 17.01 and 19.01	Not applicable	Not applicable
Biodiversity and vegetation removal	<i>Environmental Protection and Biodiversity Conservation Act (EPBC Act – Cth) 1999</i> <i>Environment Effects Act 1978</i> <i>Flora and Fauna Guarantee Act 1988</i> <i>Victoria's Guidelines for the Removal, Destruction or Lopping of Native Vegetation, DELWP 2017</i> Greater Geelong Planning Scheme: Clause 12.01	Department of Environment, Energy and Climate Action (DEECA) – pursuant to Clause 52.17	Biodiversity Assessment, EcoLogical Australia
Bushfire	<i>CFA Design Guidelines and Model Requirements for Renewable Energy Facilities v4</i> Bushfire Prone Area Greater Geelong Planning Scheme: Bushfire Management Overlay Clause 13.02-1s	Country Fire Authority	Bushfire Risk Assessment,
Aboriginal Cultural Heritage Sensitivity	<i>Aboriginal Heritage Act 2006</i> <i>Aboriginal Heritage Regulations 2018</i> Greater Geelong Planning Scheme: Clause 15.03-2S	Not applicable. Engagement with Wadawurrung Traditional Owner Aboriginal	Aboriginal Cultural Heritage Due Diligence Assessment

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Corporation already undertaken.

Siting and Design	Solar Energy Facilities Design and Development Guidelines, DELWP 2022 Greater Geelong Planning Scheme: Clause 53.13	Not applicable.	Site Plan Landscape Strategy Elevations and Specifications
Traffic and Access	Greater Geelong Planning Scheme: Clause 52.29	Referral to Head, Transport for Victoria (Department of Transport and Planning) – pursuant to Clause 52.29	Transport Impact Assessment
Acoustic Impacts	Solar Energy Facilities Design and Development Guidelines, DELWP 2022 Greater Geelong Planning Scheme: Clause 13.05	Not applicable.	Acoustic Assessment
Agricultural Impacts	Greater Geelong Planning Scheme: Farming Zone, Clause 02.03-4, 14.01	Not applicable.	Agricultural Assessment, AgChallenge Consulting
Visual Amenity Impacts	Solar Energy Facilities Design and Development Guidelines, DELWP 2022 Greater Geelong Planning Scheme: Clause Clause 53.13	Not applicable.	
Geology, Soil, Water Quality and Hydrology	Greater Geelong Planning Scheme: Clause 13.03-1S, 14.02-1S	Not applicable	

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RENEWABLE ENERGY AND CLIMATE RESPONSE

The proposed development has been assessed in accordance with state and local planning policies and planning controls applicable to the site contained within the Greater Geelong Planning Scheme. Below is an assessment of the goals of the Victorian Government and the City of Greater Geelong in relation to climate change against the relevant planning scheme policy and controls contained within section 5 of this report.

Renewable energy sources such as solar power have the potential to mitigate climate change through reducing greenhouse gas emissions from fossil fuel combustion. For this reason, the Victorian Government seeks to accelerate the development of well-sited and well-designed renewable energy generation facilities in Victoria, to reduce emissions, create jobs and put downward pressure on energy prices, while meeting legislated generation targets.

The Climate Change Act 2017, provides Victoria with the legislative foundation to manage climate change risks and drives the transition to climate-resilient communities and the economy with net-zero emissions by 2050. Additionally, the sustainability pillar within the G21 Geelong Region Alliance emphasises the need to achieve zero carbon emissions while building a clean energy economy

The Barwon Solar Farm will play a significant role in achieving the City of Greater Geelong's and Victoria's net zero targets and renewable energy generation targets.

Electricity generated from the Barwon Solar Farm renewable energy source, unless otherwise specified, will avoid emissions that would otherwise be generated and supplied to the Victorian electricity grid from more carbon-intensive sources.

Providing zero emissions clean energy, considering the current emissions factor of the Victorian grid, it is estimated that the Barwon Solar Farm would reduce operational emissions by ca. 318,932 tCO₂e per year, reduce stress on the Victorian energy grid by ca. 375,214 MWh (375,214,993 kWh) per year, and provide 330MW of peak power.

Outlining the project's capacity to assist in the clean energy transition and to combat global warming, Urbis' Net Zero team have prepared a brief overview of the positive impact the solar farm will have in relation to operational emissions reductions and renewable energy generation.

OPERATIONAL EMISSIONS REDUCTIONS

City of Greater Geelong	<ul style="list-style-type: none"> 8.4% operational emissions reduction (3,791,000 tCO₂e 2021/22 municipal emissions) 21.3% operational emissions reduction from electricity as energy source (1,494,000 tCO₂e 2021/22 municipal electricity source emissions)
Victoria	<ul style="list-style-type: none"> 0.4% operational emissions reduction (80,064,500 tCO₂e 2021 state emissions) 0.8% operational emissions reduction from electricity as energy source (41,400,000 tCO₂e 2021 state)
Victoria	<ul style="list-style-type: none"> Provide 11.0% of 2030 target of 2.6GW Provide 4.9% of 2035 target of 6.3GW

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RENEWABLE ENERGY TARGETS

Victoria's Renewable Energy Action Plan outlines the actions the Victorian Government are taking to encourage investment in the renewable energy sector, including a long-term policy agenda and pathway which will drive investment and action in the sector.

The proposal meets state and local initiatives to invest in renewables as well as the related state and local policies through the following:

- Aligns with the G21 goal to provide energy infrastructure for the facilitation of growth within the region and diversity the local economy (Clause 17.01-

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1S & 17.01-1R) as well as supporting sustainable agricultural land use in Greater Geelong (Clause 14.01-2L-01).

- The proposal is compliant with noise limits and will not adversely impact community and amenity (Clause 13.05-1S).
- The land is neither highly productive nor highly versatile, and the proposed developments has no perceived impacts to surrounding farm business or significant impacts to the agricultural amenity of the region. The land is also classified as non-strategic (Clause 14.01-1S).
- The proposal aligns with policy direction to incorporate resilience into natural hazards, which include future risks of climate change (Clause 19.01-1S & 19.01-2S).
- The proposal is compliant with Clause 12.03-1S (Hydrology) as it does not impact upon a floodplain, major water course or wetland.
- The proposal complies with the regulations associated with Clause 13.02 (Bushfire), including measures taken which align with the Design Guidelines and Model Requirements for Renewable Energy Facilities (CFA, 2019), as detailed in section 6.6 of this report.
- The proposal complies with the policy direction associated with Clause 12.01 (Biodiversity) as although vegetation removal is required for the proposed installations will not have a significant impact on the ecology of the site or surrounding area.
- The proposal complies with the regulations associated with Clause 52.17 (Native Vegetation) and includes a range of measures to protect the existing ecology of the site by avoiding, minimising and offsetting impacts in accordance with Victoria's guidelines for the removal, destruction or lopping of native vegetation.
- The proposal will comply with Clause 15.03 (Heritage) as well as the recommendations and mitigation measures in provided in the Cultural Heritage Standard Assessment (Ecological Australia, October 2022) (Appendix I) and the Cultural Heritage Desktop Assessment (Ecological Australia March 2022) (Appendix I.01 and I.02) to ensure protection of aboriginal cultural heritage continues during construction and operation of the facility.

While there have been several recent amendment changes in relation to energy goals in the Victorian Planning Provisions, there is little directing policy regarding Solar Farms and related facilities (particular provisions) to meet the energy demands of the state. The proposal proceeds current policy guidance and looks towards the future to align with future policy reform, direction and goals for carbon neutrality in Victoria.

As discussed, state and local policy seeks to maintain and enhance the biodiversity of native flora and fauna communities through native planting, offsets and retention of native vegetation where possible to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.

As mentioned, the site location and layout have been carefully considered to avoid impacts to biodiversity by restricting native vegetation removal to what is reasonably necessary to achieve the minimum yield to make the development economically viable. On balance the proposed site location and layout avoids major removal of native vegetation on site and minimises impacts to biodiversity through appropriate site selection, design and operation management to deliver a large-scale clean energy project that will help facilitate a needed transition to renewable energy in Australia.

Importantly offsets commensurate with the net loss of biodiversity as a result of the removal of native vegetation have been included within the proposal in line with the strategies of Clause 12.01-2S and the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017). Further discussion of these offsets and impacts to the existing biodiversity of the area are discussed in section 8.3 of this report.

State and local planning policies also seek to conserve and protect Aboriginal sites and places of cultural heritage significance via liaising with the local Aboriginal community to identify areas and sites of cultural sensitivity. Elgin Energy have engaged the services of Ecological Australia to produce a Cultural Heritage Management Plan (CHMP number 18474) in compliance with the Aboriginal Heritage Regulations 2018 and have been involved extensively with the Wadawurrung Traditional Owner Aboriginal Corporation (WTOAC) throughout this process. The permit application will comply with the recommendations and mitigation measures provided in CHMP to ensure protection of aboriginal cultural heritage continues during construction and operation of the facility.

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Clause 13.01 – Natural hazards and Climate Change

Electricity generated from the Barwon Solar Farm renewable energy source, unless otherwise specified, will avoid emissions that would otherwise be generated and supplied to the Victorian electricity grid from more carbon-intensive sources.

Clause 19.01-1S – Energy Supply & Clause 19.01-2S – Renewable Energy

The proposal aligns with the clauses for energy supply and renewable energy as it will reduce the impacts of climate change while providing broader economic, social and environmental benefits to the broader community and environment. The proposal will be one of Victoria's largest solar farm sites and will contribute approximately 330MWp of affordable green power to both Geelong and Melbourne. The generation of energy to power of approximately 98,000 homes annually will meet community demand for clean energy services and improve sustainability outcomes on a micro and macro scale.

Planning Scheme Amendment VC160 (gazetted on January 24, 2020) amended this clause to update references to the revised Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria (Department of Environment, Land, Water and Planning, March 2019). Additionally, Amendment VC161 (gazetted on September 17, 2019) updated this clause to specify the Solar Energy Facilities Design and Development Guideline (Department of Environment, Land, Water and Planning, August 2019) as a policy document.

Planning Scheme Amendment VC216 changed the Greater Geelong Planning Scheme by including strategies in Clause 19 (Infrastructure) to include planning policy relating to minimising environmental impacts and increasing resilience to climate change risks. Clause 19.01-1S introduced a new strategy to support the resilience of energy infrastructure to impacts from climate change, and modified strategies to better align with Victorian energy policy. Amendment VC221 also supports Clause 19.01-1S in facilitating the appropriate development of energy supply infrastructure.

Assessment against Clause 53.13 Renewable Energy Facilities is in the Appendix U.

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BIODIVERSITY AND VEGETATION REMOVAL

Environmental Protection and Biodiversity Conservation Act 1999

The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (MNES) protected under the Act.

An assessment against the EPBC Act policy statements published by the Australian Government which provide guidance on the practical application of EPBC Act has been provided in Table 6 of the provided Flora and Fauna assessment prepared by Biosis (February, 2023). In this assessment any potential habitat for EPBC Act listed species was assessed in accordance with relevant DAWE guidelines (e.g. DEWHA 2009, DSEWPC 2011).

Habitat for one threatened flora and 18 threatened fauna species listed under the EPBC Act were identified within the study area.

On 2 February 2024, the Project (proposed action) was determined to be a 'controlled action' under the Environment Protection Biodiversity Conservation Act 1999 (EPBC Act) by the Commonwealth Minister for the Environment and Water's delegate, as it is likely to have a significant impact on matters of national environmental significance (MNES) protected under Part 3 of the EPBC Act.

Environmental Effects Act 1978

The Environment Effects Act 1978 establishes a process to assess the environmental impacts of a project. If applicable, the Act requires that an Environment Effects Statement (EES) be prepared by the proponent. The EES is submitted to the Minister for Planning and enables them to assess the potential environmental effects of the proposed development.

The 'Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978' (DSE 2005) provide a range of criteria that can be used to determine whether an EES may be required for a project.

The project, in its current form, requires the removal of under 10 hectares of native vegetation and therefore the action is below the single criteria and below the combined criteria for referral.

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On 26 May 2024, the Victorian Minister for Planning decided under the *Environmental Effects Act 1978 (EE Act)* that an environment effects statement (EES) is not required for this project, subject to conditions.

Flora and Fauna Guarantee Act 1988

The FFG Act is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes.

Permit exemptions under the FFG Act generally apply to the non-commercial removal of protected flora from private land, unless there is 'critical habitat' that has been declared on the land.

As such, the study area is predominantly on private land, does not contain any declared 'critical habitat' for the purposes of the FFG Act and the flora species within are not being taken for the purpose of commercial sale. A protected flora permit is therefore not required.

For further detail regarding the removal of native vegetation please refer to the provided Flora and Fauna Assessment and memo prepared by Biosis (February 2023 and March 2024) at Appendix H.

Clause 52.17 – Native Vegetation and Guidelines for the removal, destruction or lopping of native vegetation

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider the decision guidelines specified in *the Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017) as appropriate.

Native vegetation to be removed or lost

The development area consists of:

- 119 hectares of native patch vegetation comprised of EVC_VPP 55_63 Plains Grassy Woodland, EVC_VPP 68 Creekline Grassy Woodland, EVC_VPP 125 Plains Grassy Wetland, EVC_VPP 821 Tall Marsh and EVC_VPP 132_61 Heavier-soils Plains Grassland.
- 188 scattered trees (River Red-gum *Eucalyptus camaldulensis*, Melbourne Yellow Gum *Eucalyptus leucoxylon* subsp. *connata*, Yellow box *Eucalyptus melliodora*, Buloke *Allocasuarina*

luehmannii, Grey *Eucalyptus microcarpa*, Manna Gum *Eucalyptus viminalis*) and 38 large patch trees (River Red-gum *Eucalyptus camaldulensis*, Melbourne Yellow Gum *Eucalyptus leucoxylon* subsp. *connata*, Yellow box *Eucalyptus melliodora*, Grey Box *Eucalyptus microcarpa* and Manna Gum *Eucalyptus viminalis*).

- Two threatened ecological communities including 84 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVPP) and 1.4 hectares of Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia.
- Habitat for one threatened flora listed under the EPBC Act and three additional flora listed under the FFG Act.
- Habitat for 18 threatened fauna; including seven species listed under the EPBC Act and 11 species listed under the FFG Act.

The development proposes to remove 9.926 hectares of native vegetation, comprised of 7.06 ha of native patch vegetation, 35 large trees and 15 small live scattered trees..

In order to ensure a gain to Victoria's biodiversity that is equivalent to the loss resulting from the proposed removal of native vegetation, compensatory offsets are required. The table below provides a summary of the extent of removal and required offset.

Figure 10 Summary of DEECA Native Vegetation Removal Report

Attribute	Outcome
Location category	3
Native vegetation removal extent	9.926 hectares
Assessment Pathway	Detailed
Modelled habitat for threatened species	51 species – no specific offsets required
Offset type	General
Offset amount: general habitat units	2.615 general habitat units
General offset vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Greater Geelong City Council
General offset minimum Strategic Biodiversity Value Score	0.381
Large tree attributes	38 large trees

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Guidelines for the removal, destruction or lopping of native vegetation

The Guidelines for the removal, destruction or lopping of native vegetation (Guidelines) is an incorporated document of all planning schemes in Victoria and therefore must be applied when a permit is required under Clause 52.17 of planning schemes.

The three-step approach (avoid, minimise, offset) is the key policy in relation to the removal of native vegetation to achieve no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. The three-step approach has been undertaken at this site and is detailed within section 5.1 of the Biosis Flora and Fauna assessment contained in Appendix H of this report. We have also further summarised and addressed this below:

Avoid the removal, destruction or lopping of native vegetation.

As shown in section 3.2.1 of this report, the proposed site layout of the solar facility demonstrates significant consideration has been given to avoiding the removal of native vegetation, including:

- **Site Selection** – A robust and lengthy approach to site selection was undertaken noting the need to avoid significant native vegetation impacts. Elgin Energy needed to find land for lease that had access to the 220KW power lines that run across the site to connect to the grid. Noting this, they started engaging with nearby landowners from 2016. At this time, they canvassed all landowners on all land adjacent to the current site boundaries (as well as the existing site boundaries). Given the large capacity available in the grid it was thought a minimum of 550ha of developable land was required to make the site economically viable. Noting land would be lost to factors such as:
 - Native Vegetation
 - Cultural Heritage
 - Land features (water ways etc)
 - Easements
 - High gradient land
 - Land unsuitable for construction (i.e. shallow rock)

Elgin knew they would need a larger area to accommodate these constraints.

After 2 years of engagement with landowners Elgin Energy secured the 7 parcels of land for this site which make up 735ha (of which only 505ha can be developed noting the above constraints). Development of approximately 65-70% of the chosen site was the threshold of what could be considered economically viable for this project.

Reasons other nearby land was unable to be leased included:

- Owners not interested due to seeking to sell or rezone land for future residential.
- Surrounding Land use zoning include the Rural Conservation Zone which is reserved for preservation of plains grassland (by the Victorian government under agreement with the Commonwealth)
- Land being land banked by overseas corporation for rezoning or land being incorporated into Melbourne Growth Areas
- The existing land use, and ongoing management in the absence of the planning and environmental assessment were also considerations in the site's selection. The subject site is modified grazing and cropping land that is primarily cleared of native patch vegetation. The site is not considered to be significant land or strategically important land from an agricultural perspective as informed by the Agricultural Assessment prepared by Ag-Consulting - 2022. Agricultural landscapes are often intensively managed and species-poor which is why the site lends itself to this type of project..

The design has avoided the majority of the Plains Grassland within the site and riparian vegetation along the Little River and Sandy creek. This includes the incorporation of 15m setbacks along all boundaries (including a 30m setback along the western boundary).

Several design iterations were undertaken as knowledge of the site was improved, Principally locations of key ecological features such as habitat for threatened species, locations of Flora and Fauna Guarantee Act 1988 (FFG Act) listed trees and FFG Act and EPBC Act listed threatened ecological communities were identified and avoided.

The following features were prioritised for avoidance:

- Creekline Grassy Woodland associated with Little River and Sandy Creek.

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- Remnant vegetation within the Little River-Ripley Road reserve.
- All areas of Plains Grassy Woodland, including VQA 13 and VQA 28.
- Plains Grassland corresponding with the definition of the EPBC Act listed threatened ecological community Natural Temperate Grassland of the Victorian Volcanic Plain and the FFG Act listed Western (Basalt) Plains Grasslands.
- Plains Grassland where Golden Sun-moth (listed as Vulnerable under the EPBC Act) were recorded.
- All areas assessed as being suitable Grassy Earless Dragon habitat
- A group of scattered trees including and near the Black Falcon nest, to the south of Little River Ripley Road (directly south-east of VQA 31) forming a corridor to Sandy Creek north of Little River Ripley Road.
- A further revised design seeks further avoidance by removing the installation of solar panels immediately south-east of the ecological corridor in order to preserve a greater number of scattered trees. These trees have been prioritised for retention, as they assist in improving connectivity and the area of remnant vegetation along Sandy Creek. Following further consultation with DEECA in December 2023 the design has been modified. In the design, the loss of scattered trees to 40. This equates to 20% of all the trees mapped within the study area. Patches of native vegetation (7.01ha) proposed to be removed has been deliberately targeted to be patches of poor quality vegetation and avoid any areas of medium to high quality vegetation or areas. The poor quality areas have degraded due to farming practices across the land. It is anticipated that these areas being under solar panels would not necessarily be lost due to the nature of the panels construction and as evidenced on other solar farms across Australia the patches of plains grassland can actually thrive and recover under the solar panels providing an increase to the biodiversity condition of these areas providing a net increase in native vegetation due to these areas being under development.

The reduction in intensive agricultural practices on the site supported by environmental site management and preservation of large conservation areas make the subject site more than suitable for the project and project actions

High threat weeds are common throughout the study area, and pose a major risk to the ongoing viability of biodiversity values within grassland areas, unless there is a change to the management regime. The following species are of particular concern.

- Serrated Tussock *Nassella trichotoma*
- Chilean Needle-grass *Nassella neesiana*
- Cane Needle-grass *Nassella hyalina*
- Galenia *Aizoon pubescens*
- Cape Weed *Arctotheca calendula*
- Saffron Thistle *Carthamus lanatus*
- Boneseed *Chrysanthemoides monilifera*
- African Box-thorn *Lycium ferocissimum*

- Forehound *Marrubium vulgare*
- Tiger Pear *Opuntia aurantiaca*

The design of the Solar Farm is highly responsive to the site conditions, as it avoid almost all patches of native grassland and other vegetation types. Removal of grassland is now limited to a small area of low quality grassland (VQA30) in the southern portion of the site, and small adjacent areas of Plains Grassy Woodland (VQA28) and low quality Plains Grassy Wetland (VQA3a and 3b). Recent updates to the design have also focussed on retention of trees in the central portion of the site, which provide a linkage of scattered trees through to remnant vegetation to be retained along Sandy Creek. Trees proposed for removal are in disturbed paddocks, subject to cropping or regular grazing, where removal of the trees facilitates extensive area of panels, which allows the project to avoid and retain larger patches of grassland and trees considered important habitat features for mobile fauna species.

Minimise

Considering the preliminary results of the Flora and Fauna Assessment the solar farm layout has significantly altered and reduced the amount of native vegetation that has to be removed, with particular focus on preserving and relocating endangered species and habitats identified in the assessment.

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We note the site is currently used for medium to heavy agricultural practices which can be considered to be equally detrimental to the surrounding native vegetation and ecosystem. This is particularly relevant to patches of Plains Grassland on the site which are considered to be in relatively poor condition due to existing land use and management practices.

Large scale land use changes and the removal of native vegetation such as this would commonly lead to negative impacts upon some species through altering or degrading habitat. However, in agricultural landscapes, which are often intensively managed and species-poor, there is potential for benefits if deployed and managed strategically. The nature of construction for this land use is considered to be low impact, avoiding heavy duty foundations and disturbance to the land. The mounting frames are pile driven into the ground, and no concrete foundations are required causing minimal ground disturbance, which significantly reduces environmental impacts in comparison to other built form development. This leads to opportunities for regenerative land management which revitalizes soils, restores grassland ecosystems and increases biodiversity while maintain light agricultural production as described in 5.2.3.

Measures to minimise the amenity and environmental impacts during the construction, operation and decommissioning of the solar energy facility will be addressed in the preparation of management plans (EMP) and relevant subplans in accordance with the solar energy facilities design and development guidelines. Specifically appropriate sediment control measures to ensure run-off during construction does not impact potential habitat for threatened species Growling Grass Frog and Yarra Pygmy Perch.

Additionally, where possible primary access to the site has been confined to existing access points to the property where native vegetation does not exist.

Given all the design amendments and targeted vegetation enhancements to the site including a thorough approach to site selection and design, there is no feasible opportunities to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal. Any further reduction in development area would render the project economically unviable and the project would not be able to proceed.

Offset

In order to compensate for the loss to biodiversity from the removal of native vegetation offsets are required.

The applicant intends to satisfy additional offset requirements through the purchase native vegetation credits through the offset register and/or first party offsets from areas underdeveloped on the land such as the area north of Little River (1PS/434520).

Furthermore, as a secondary measure (although not registered as an official first party offset) Elgin Energy is prepared to preserve and rehabilitate a large ecological corridor of native vegetation, riparian habitats and grassland associated with the Little River and Sandy Creek catchments. This is located within the site and indicated on the site plan (Elgin Energy, February 2023) (See Appendix C). This could also potentially provide for significant onsite offset areas. This area (potentially up to 40ha) could provide opportunity for onsite rehabilitation/conservation including revegetation of site appropriate species and relocation of native habitats (i.e dead trees and creation of hollows) for beneficial biodiversity outcomes. Combined with the environmental benefits of green energy generation, the Project represents a significant net environmental positive to the State.

Key actions would include weed control, biomass management and potentially seeding with locally sourced seed to improve native herb cover and diversity and to extend/join the grassland patches into previously disturbed areas as recommended in the flora and Fauna assessment.

Environmental Significance Overlay Schedule 1 & 4 and Significant Landscape Overlay Schedule 1

The need for a permit to remove native or exotic vegetation within the study area will be triggered by the two Environmental Significance Overlays (ESO1 and ESO 4).

Under the ESO1- a permit is required for the removal of exotic and native vegetation pursuant to Clause 42.01 of the Greater Geelong Planning Scheme.

Under the ESO4 – a permit is required for the removal of native vegetation pursuant to Clause 42.01 of the Great Geelong Planning Scheme.

The Werribee plains hinterlands contain some large areas of predominant native vegetation including high quality wetlands, which are important for many Victorian threatened fauna species. The dry plains of the Werribee plains hinterland formerly supported extensive areas of Plains Grassland.

The major issue for biodiversity conservation in the Werribee plains hinterland is loss of native vegetation and habitat through clearing for urban

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development, cropping and infrastructure and weed management. The compounding effects of such clearing are the loss of floristic and habitat diversity and increasing fragmentation of habitats and isolation of remnants. Similarly, changes to management of remnant vegetation and increased urbanisation contribute to the proliferation of weeds and feral animals. Degradation of drainage lines and riparian vegetation through erosion, pollution and uncontrolled grazing, depletion of wetlands and changes to the hydrology of wetlands and streams are also serious threats to biodiversity in the region.

However, a range of conservation assets are present and significant opportunities do exist to establish networks of areas that are managed sympathetically for conservation. Such networks could include a range of vegetation types, land tenures and relatively large and intact areas of open grassland, grassy woodland and wetland communities.

Amendment VC68 and the Western plains grassland reserves.

The ESO4 was introduced into the Greater Geelong Planning Scheme in July 2010 via Amendment VC68 which sought to revise Melbourne's Urban Growth Boundary and designate land for development whilst also reserving land for the alignments of the Regional Rail Links the Outer Metropolitan Ring / E6 Transport Corridor.

It was recognised that the proposed expansion of the urban growth boundary would have significant impacts on matters of national environmental significance. As such, a strategic impact assessment of the potential impact of urban and infrastructure development from growing Melbourne was conducted.

These documents are referenced under Clause 7.0 of Schedule 4 to the Environmental Significance Overlay

Delivering Melbourne's Newest Sustainable Communities: Strategic Impact Assessment Report for the Environment Protection and Biodiversity Conservation Act 1999 (Department of Sustainability and Environment 2009)

Delivering Melbourne's Newest Sustainable Communities: Background Technical Report 2a: Biodiversity Assessment of Melbourne's Western Investigation Area (Biosis Research 2009)

In order to protect remaining areas of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) and offset losses associated with the expansion of the urban growth boundary (almost 3278 hectares of Natural Temperate Grasslands), grassland reserves of approximately 15,000 hectares outside the Urban Growth Boundary containing the largest consolidated mapped areas of Natural Temperate Grassland remaining on the Victorian Volcanic Plain were identified for compulsory acquisition.

By amending the schedule to the Public Acquisition Overlay (Clause 45.01) through Amendment VC68, land envisage for the Western Plains Grassland reserves was to be compulsory acquired within ten years of the Public Acquisition Overlay (PAO) being applied to the land. Simultaneously, Amendment VC68 introduced the ESO4 to all remaining mapped grassland areas on private land to afford targeted protection through the planning scheme to ensure that areas were assessed in detail prior to any clearing proposal being considered or approved.

The Western Plains Grassland Reserves were intended to provide for the conservation and secure management of viable and representative areas of an endangered ecological community discovered in the biodiversity assessment of Melbourne's western investigation area (prepared by Biosis in 2009). The defined reserve areas indicate just how much of the land has been acquired for the reserves over the last the ten years, since the introduction of the PAO and the ESO4. Evidently the State Government has only acquired approximately 10% of this land. Due to the delay of acquisition and uncertainty, land management, biodiversity protection of this area has not been delivered as originally intended.

Condition of the Western Plains Grassland reserves

By 2020 the department had not met its commitments to deliver the Western Grasslands Reserve (WGR). Therefore, an investigation into the progress made toward establishing the reserves and the monitoring, evaluation and reporting processes by DELWP and its predecessors to support the delivery of these commitments was commissioned by the Victorian Auditor General's Office (VAGO). The report, 'Protecting Critically Endangered Grasslands (VAGO,2020)', has been included at appendix H.01 for reference.

The 2020 report concluded that current governance arrangements are not adequate to effectively oversee the Melbourne Strategic Assessment (MSA)

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program's future delivery and manage risks because they do not include all delivery partners nor separate oversight from management.

As DELWP does not have the power to enter private property, it cannot undertake onsite assessments to determine the state of the land. DELWP does not have a complete and comprehensive understanding of the ecological values and condition in the WGR. Without up-to-date, comprehensive ecological data, DELWP cannot effectively prioritise management actions or which private land in the WGR to acquire. There is a significant risk that native grasslands on identified WGR land have since been lost to degradation and weed infestation.

The Land acquired under the public acquisition overlay (transferred to Parks Victoria to manage in perpetuity) has faced significant challenges. As of February 2020, Parks Victoria has 1,198.6 hectares of WGR land to manage, mostly comprising unconnected parcels. Parks Victoria faces key management challenges due to the slow and piecemeal nature of land acquisition. Parks Vic have contested; they need a critical land mass for cost-effective management actions. Without this, management is restricted to small, isolated blocks rather than across a large area. DELWP has found that most of the land purchased for the WGR is of low quality, as much of it is nutrient-enriched. Whilst the land still has significant ecological value, improving its ecological condition requires long-term effort from DELWP and Parks Victoria and will incur significant management costs.

Grassland management is complex. It is not clear what are and will be the best approaches to attaining the multiple goals expected of the Western Grassland Reserves. What is clear, is it is now timely for DELWP to more proactively engage with stakeholders to focus on adaptive management of the remaining patches, including improved weed control, discontinuation of fertiliser use and management of grazing regime for biodiversity outcomes on private land.

The application of the ESO4 on sites outside of the POA is currently ineffective in preserving without the delivery of a consolidated WGR. Insufficient mapping of native grasslands and lack sufficient new data across the Werribee Plains means there is limited opportunity for targeted investment into important/ strategic areas of native grassland in the landscape. As such, the majority of grasslands retained/ avoided under the ESO remain isolated from a consolidated conservation area and are ineffective unless there are interim management processes in place in order to create established biodiversity networks.

Biodiversity

Biosis was engaged to undertake a Flora and Fauna assessment (February 2023) of the subject site and its surrounding context. On balance the proposal has considered preliminary results of this assessment and amending the solar farm layout so as to avoid impacts to patch vegetation and scattered trees, where possible.

Spatial data (shapefiles) of proposed vegetation removal were submitted to DELWP's native vegetation support team, who provided a Native Vegetation Removal Report for the project. Based on the current design, the proposed development will require the removal of 9.926 hectares of native vegetation, comprised of 7.01ha of patch vegetation and 40 scattered trees (of which only 35 are large and require an offset (also noting 4 of the 35 large trees are dead).

In order to achieve the objective of 'no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation', the applicant has undertaken or committed to a number of measures to protect the existing ecology of the site by avoiding, minimising and offsetting impacts in accordance with Victoria's guidelines for the removal, destruction or lopping of native vegetation. These include:

- Locating the project within modified grazing and cropland that is primarily cleared of native patch vegetation. Under the current management regime (use of the land for grazing and cropping) the scattered trees and patches of native vegetation, including the threatened Plains Grassland, is likely to continue to decline.
- Considering the preliminary results of the Flora and Fauna Assessment (February 2023 and March 2024) the solar farm layout has been significantly altered and reduced to avoid impact to native vegetation. The design has avoided the majority of the Plains grassland within the site and riparian vegetation along the Little River and Sandy creek. The design was again modified in January-February 2023 and March 2024 in response to consultation with DEECA (including the DEECA RFI to the previous Planning Permit Application). This included:
 - Contraction of the panel area in the cropping paddock to the south of Sandy Creek (north of Little River – Ripley Road), prioritising 11 trees for retention, as they assist in improving connectivity and the area of remnant vegetation along Sandy Creek.

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- Alterations to the layout to the south of Little River – Ripley Road, resulting in the avoidance of 2 individual scattered trees, as listed below:
- Alterations to the panel layout and location of fencing and access tracks in the south-east of the project area, avoiding the removal of 14 scattered trees and patch vegetation (5 trees)
- Total number of trees retained by the design amendments total 51 trees.
- Removal of impacts to all areas of Plains Grassland apart from VQA30 (6.01ha) and all Grassy Earless Dragon habitat
- Primary access to the site has been confined to existing access points to the property where native vegetation does not exist.
- Preparation of management plans (EMP) and relevant subplans in accordance with the solar energy facilities design and development guidelines. Specifically appropriate sediment control measures to ensure run-off during construction does not impact potential habitat for threatened species Growling Grass Frog and Yarra Pygmy Perch.
- Preservation of large areas of native vegetation, riparian habitats and grassland associated with the Little River and Sandy Creek catchments within the site. The site can potentially include an ecological corridor of approximately up to 40 hectares running north to southwest through the site for onsite offsets. This area provides opportunity onsite rehabilitation/conservation including revegetation of site appropriate species and relocation of native habitats for beneficial biodiversity outcomes.
- Purchase of native vegetation credits through the offset register to offset the native vegetation proposed for removal.

In summary, although vegetation removal is required onsite, the proposed installations will not have a significant impact on the ecology of the of the site or surrounding area. The reduction in intensive agricultural practices (grazing and cropping) on the site supported by environmental site management and preservation of large conservation areas will more than

likely increase the biological diversity of the area and eventually result in the creation of approximately double the amounts of vegetation proposed to be removed.

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An Agricultural Assessment has been prepared by AG – Challenge Consulting (March 2022), this report concludes the subject land is neither highly productive nor highly versatile. It is not considered to be significant land or strategically important land from an agricultural perspective. The impact on local and regional productivity is estimated to be a loss of a little less than 1% of the dryland cropping land within the Geelong statistical area as defined by the Australian Bureau of Statistics.

Overall, the combined land parcel is determined to have a Land Capability rating of 3 with the limiting attributes being the imperfect drainage, shallow rooting depth, poor aggregate stability, and presence of surface rock. The land can be described as fair quality land for grazing and for broad acre cropping, but it has no special values. It is currently part of the expansive land resource that supports the grazing and broad acre cropping districts of the Werribee Plains west of Melbourne.

The proposed change of primary land use to solar energy productions will mean the current agricultural versatility (cropping or grazing) will be lost in favour of an alternate use. The design of the solar farm however, will enable sheep to be grazed underneath the solar panels, thus retaining some of the current level of agricultural productivity. 225 hectares of land will not be developed, rather utilised for this purpose. Of this land, potentially up to 40 hectares could be utilised for revegetation. Agricultural productivity will be reduced rather than lost.

Properties neighbouring the site are in various forms of agriculture use and operate as separate stand-alone enterprises. No interdependence between the existing agriculture use of the Project Site and these adjoining properties has been identified.

Overall the removal of up to 505 hectares from cropping use should not result in any discernible negative impacts on the agricultural use of the adjacent properties. Impacts to the agricultural amenity of the broader area and the Greater Geelong region are not considered to be significant.

Clause 14.01-1S – Protection of Agricultural Land

An Agricultural Assessment prepared by Ag-Challenge Consulting (March 2022) detailing the construction and operation of the proposed Barwon Solar Farm indicates the land is not considered to be significant or strategically important land from an agricultural perspective and is neither highly productive

nor highly versatile. The assessment of agricultural values of each attribute group adapted from the Design and Development Overlay (2019) includes:

- Soils and landscape
- Water and climate
- Impact of fragmentation
- Impact of change of land use
- Specific planning protection for agricultural values
- Government investment, and
- Co-location of solar energy facility with agriculture.

None of the land fits within the criteria to consider it of high agricultural value. With dry and hot summers and low to moderate annual rainfall, the proposed Barwon Solar Farm will utilise these valuable climate conditions to properly utilise the site's potential.

The Assessment outlines that the potential impacts to the agricultural amenity of the region or surrounding farm businesses are not significant. While cropping may no longer be practical with the development of a solar energy facility, with appropriate panel design, sheep may still be able to graze the land, thus retaining some of the current level of agricultural productivity. Therefore, agricultural productivity will be reduced, rather than lost.

The results of the Agricultural Assessment are contained in detail within Appendix J of this report.

Clause 14.01-1L-01 Discretionary uses in rural areas

The findings of the Agricultural Assessment produced by Ag-Challenge Consulting (March 2022) notes that there is clearly no identifiable impact from the installation of solar panels on any of the relevant agricultural surrounding farming businesses. Additionally, the removal of areas from grazing and cropping should not result in any negative impacts on the agricultural use of adjacent properties. This assessment is detailed at Appendix J of this report.

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MANAGEMENT AND LAND USE

The proposed solar farm is considered to be in accordance with the requirements of the Greater Geelong Planning Scheme and the intent of the Farming Zone (Clause 35.07).

In order to satisfy the requirements of the Decision Guidelines of Clause 35.07-6, the following matters have been considered in this assessment:

- General Issues
- Agricultural issues and the impacts from non-agricultural uses
- Accommodation issues
- Environmental issues
- Design and siting issues

Detailed analysis is outlined in Appendix W. The project is generally in accordance with the aims of the zone and does not detrimentally affect nearby agricultural uses.

Clause 14.01-2S – Sustainable agricultural land use

The use of land for a renewable energy facility (solar farm) encourages sustainable land use. As mentioned in app (contained at Appendix 1) it is noted that biodiversity will be significantly maintained under solar panels. The site taken out of active crop production with this enhanced biodiversity will create a more productive and fertile land at the end of the solar farms life than exiting conditions. Grazing of sheep will continue to occur across areas of the site keeping it in agricultural use. Elgin Energy has proposed to enter a lease with an existing farmer to continue to graze sheep on the property.

Environmental Significance Overlay Schedule 1 & 4 and Significant Landscape Overlay Schedule 1 –(7.3 p.81)

The solution is practical management of the land and cooperative land uses that offer proper land management outcomes in line with the revised strategic goals for the grasslands.

As indicated, the Subject Site is located outside the POA and will likely be subject to further degradation under private tenure and current agricultural

practices on the land (grazing/cropping), as suggested in the 2020 report by the Victoria Auditor General's Office

The above-mentioned intersections are assumed to result in loss of the grassland area and associated habitat for Golden Sun Moth, and these losses have been included in the impact and offset calculations. However, there is potential for grassland biodiversity values to persist beneath the solar panels in coordination with adaptive management of the existing patch vegetation. Specifically, the introduction of controlled well-managed grassland maintenance strategies, which synergises with weed management plan, a controlled grazing strategy and Environment Management Plan.

The nature of construction for this land use is considered to be low impact, avoiding heavy duty foundations and disturbance to the land which significantly reduces environmental impacts in comparison to other built form development. This leads to opportunities for regenerative land management which revitalizes soils, restores grassland ecosystems and increases biodiversity while maintaining light agricultural production.

Restoration Ecologist Dr. Paul Gibson-Roy and the Biosis team have highlighted that weed control, in particular for introduced Needle Grasses, is the most pressing issue for the conservation of native grasslands at the proposed development site. For Serrated Tussock and Chilean Needle Grass the risk is that both will outcompete and inevitably displace resident native grasses that currently provide critical habitat for threatened native fauna in the area. Local farmers have also stressed the impacts on agricultural production that these weeds are increasingly producing. To mitigate this risk, an integrated weed management and restoration plan would be developed to enhance the conservation value of the subject site long term, for which several scenarios have been discussed in our preceding response letter.

Increased moisture levels are known to occur under solar panels, and these conditions are likely to favour some resident species. However, to increase the likelihood of natives benefiting from these conditions restoration actions could reseed under panels with high rates of moisture and shade-tolerant species (such as Weeping Grass, Red-legged Grass and Kangaroo Grass) and conversely sow species that preferred drier and high light conditions (such as Wallaby Grass, Spear Grass, Plume Grass) between panels in open rows.

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Golden Sun Moth habitats will be retained under the panels, and by doing so, it will increase its quality long-term, further increasing conservation efforts for the Golden Sun Moth population of the area.

Seeding outcomes could also be enhanced by sowing into semi-prepared seed beds (i.e., creating small surface indentations into existing areas where biomass has been removed) prior to panel installation. In this scenario, sowing outcomes are likely improved where there is a higher chance that sown seeds fall into indents providing them with improved soil contact and protection.

The proposed solar development and its associated vegetation management and ecological restorative action planning would by comparison significantly reduce these processes and impacts providing the opportunity and potential for enhanced native values, and vegetation community health in the long-term. In accordance with the overarching objectives and decision guidelines of the Environmental Significance Overlay, Schedule 4. Moreover, this management proposal also maintains adequate conditions for cattle/sheep grazing and cropping after the decommissioning of the solar farm, thus not comprising the long-term agricultural value of the land for the community.

Foothills of the You Yangs – Significant Landscape Overlay Schedule 1

The You Yangs, to the south of the Project, are the dominant feature of the regional landscape. They rise progressively from the north to a maximum elevation of 319 m at Flinders Peak, located to the south of the range. The proposal has been sited and designed to be responsive to the landscape values of the area and avoid any potential for visual intrusion.

The landscape of the Project setting has a generally high landscape absorptive capacity, as the flat topography does not allow for significant overlooking and the scattered, and occasionally dense vegetation in the area surrounding the Project, provides visual screening, with the extent of screening increasing with distance from the Project.

For further mitigation of the visual matter, the establishment of locally indigenous screening vegetation along selected areas of the Project boundaries will ensure the landscape character will appear similar to the remainder of the regional agricultural landscape and other bands of vegetation that occur through the landscape of the region.

BUSHFIRE PRONE LAND AND FIRE RISKS

The proposed development is partly located in the Bushfire Management Overlay, as shown in the planning scheme and therefore risk needs to be addressed.

The overall bushfire risk to the site is considered low, given the background hazard context and landscape risk profile, its siting, construction, design and mitigation strategies. In addition, the solar farm is not expected to result in a noticeable increase in fire risk in the locality and to downwind assets and values. The facility is considered to be appropriate within the identified low risk fire environment, and mitigation strategies proposed are compliant with the CFA Design Guideline requirements.

URBIS engaged Ecological Australia to produce a Fire Risk Assessment (April 2023) for the proposal and site. The assessment clearly demonstrates compliance with both Section 5.3 of the CFA Design Guidelines and Model Requirements for Renewable Energy Facilities (2019), as well as the relevant aims, objectives and principles covered in the Guidelines. Mitigation strategies for the proposed development, outlined below, will provide an appropriate level of risk reduction for the solar farm, as well as significantly lower the risk of impacts to life, property, agricultural and environmental assets.

A Bushfire Risk Assessment peer review has been prepared by Ecology Heritage and is included in Appendix P.

In line with the CFA Guidelines the following measures will be in place on site:

- An emergency management plan will be developed and made available on site.
- Emergency management information will be available at the 5 main access gates to the site, and safety and advisory signage will be available onsite.
- Primary solar panel banks are separated throughout the solar farm facility by perimeter/internal access roads and/or fire breaks that equal or exceed 6m.
- 7 non-combustible static water supply tanks have been proposed, each 45,000 litres, containing a total of up to 270,000L dedicated to firefighting. These will be located by the entrances to the site along Little River-Ripley Road.

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- Roads are to a minimum of 4m wide with established firebreaks and 4m vertical clearance of vegetation. Access tracks are within 10m of the fire break on the site perimeter and will be oriented to the panel side of the firebreak.
 - Perimeter bays will be included around the entire perimeter of the site, and around BESS infrastructure.
 - Passing bays will be available every 600m and be 20m long, with a width of 2m to create a total minimum traffic width of 6m.
 - The required minimum of 2 access points will be exceeded. 7 access points are provided in and out of the facility, all up to 7m wide to accommodate fire trucks and other emergency vehicles. The access points are located at:
 - 4 points north of Little River – Ripley Road
 - 2 points south of Little River – Ripley Road
 - 1 point on Mount Rothwell Road
 - The carrying capacity of roads will be up to 15 tonnes for fire fighting vehicles.
 - A perimeter fire break of 10m wide to mineral earth is to be created and maintained around the BESS compound. All fire breaks will be maintained to mineral earth through the application of herbicides. Elsewhere throughout the site will be maintained to a height no greater than 100mm through slashing or grazing.
 - Proposed planning of screening vegetation including trees and hedges are considered low flammability vegetation and are discontinuous in nature.
- In line with the CFA Guidelines the following measures for the BESS will be in place on site:
- A mineral earth fire break to a width of 10m is proposed around the entire perimeter of the BESS compound and facility perimeter, reducing the impact of potential bushfire or grassfire spread.
- A 6m wide ring road (with 2m wide passing bays) is provide around BESS compound and Customer Substation.
 - The BESS is located 260m from the south-east site entrance off Mount-Rothwell Road, suitable for emergency vehicles.
 - The potential for fires in BESS units is mitigated by being housed within fully enclosed non-combustible container modules, along with monitoring, safety and coolant fire suppression systems. This will mitigate the propagation of fire escape (together with adjoining fire breaks) both on and off site, should thermal battery runaway occur.
 - All BESS units will be built on concrete foundations, include an inbuilt Solbank cooling, fire monitoring and detection system and suitable ember protection systems, ventilation systems, permitter barrier impact protection and spill containment.
 - All cabling within the BESS containers will be enclosed underground to the Customer Substation.
- A copy of the Fire Risk Assessment (Ecological Australia, April 2023) is detailed at Appendix O of this report.
- Clause 13.02-1S – Bushfire Planning**
- The Design Guidelines and Model Requirements for Renewable Energy Facilities (CFA, 2019) provides standard considerations and measures in relation to the design, construction and operation of new renewable energy facilities. Fire safety, risk and emergency management must be considered in the proposal of a solar farm. There are no site-specific guidelines for this proposal.
- The overall bushfire risk to the site is considered low, given the background hazard context and landscape risk profile, its siting, construction, design and mitigation strategies. In addition, the solar farm is not expected to result in a noticeable increase in fire risk in the locality and to downwind assets and values. The facility is considered to be appropriate within the identified low risk fire environment, and mitigation strategies proposed are compliant with the CFA Design Guideline requirements. An assessment of the proposal against this clause, including the CFA Design Guidelines, is detailed at section 7.5.2 of this report. A copy of the Fire Risk Assessment (Ecological Australia, April 2023) is detailed at Appendix O of this report.

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CFA Design Guidelines and Model Requirements, Renewable Energy Facilities 2022

A Fire Risk Assessment (FRA) for the project has been prepared by Eco Logical Australia (September 2022) in support of an application in accordance with the Design Guidelines and Model Requirements, Renewable Energy Facilities (CFA 2022). A Copy of the assessment has been provided at Appendix O of this report.

Overall, the FRA demonstrates compliance with both Section 5.3 of the CFA Design Guidelines (CFA 2022) model requirements and also the overall the aims and objectives as covered in Section 1.3.

Bushfire Planning Decision Guidelines

Decision Guideline	Comment
<p>The impact of any State, regional or local bushfire management and prevention actions occurring around the site and in the wider area on the bushfire hazard and the level of risk to the proposed development.</p> <p>Whether the risk arising from the broader landscape can be mitigated to an acceptable level or warrants the development not proceeding.</p>	<p>The Fire Risk Assessment produced by Ecological Australia (September 2022) emphasises the risk of fire spreading to and from the proposed solar farm is very low, based on the low likelihood of ignition, good suppression opportunities, impedances to fire development and spread (fuel breaks and reduced fuel areas). The Assessment can be found at Appendix O of this report.</p>
<p>Whether the proposed development meets the bushfire protection objectives of Clause 53.02-4.</p> <ol style="list-style-type: none"> 1. Landscape, siting and design 2. Defendable space and construction 3. Water supply and access 	<p>It is submitted that the proposal meets the relevant objectives of Clause 53.02-4 mentioned above as:</p> <p>Landscape, siting and design</p> <ul style="list-style-type: none"> ▪ The development is appropriate regarding the surrounding landscape given the site's flat the gentle terrain would not increase the risk to bushfire behaviour, and any surrounding landscape features have a low potential to exacerbate bushfire behaviour. ▪ The development is sited to minimise risk from bushfire, including at least 10m mineral earth fire breaks surrounding the entire site and BESS. ▪ The development is sited to provide safe access for vehicles, including emergency vehicles. A 6m wide perimeter road with the 10m perimeter firebreak around facility has been incorporated into the design layout, as

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well as an all-weather site access road and perimeter road around the BESS compound, with passing bays included every 600m.

- The design of the solar arrays and BESS substation comply with the objective to minimise vulnerability to bushfire attack. Mitigation strategies have been noted above and can be evidenced in detail in section 8.7 of this report.

Defendable space and construction

- The BESS units will be housed in non- combustible steel containers with monitoring, safety and coolant fire suppression systems, surrounded by a mineral earth fire break of 10m. These strategies will mitigate the propagation of fire escape should thermal battery runaway occur.

Water supply and access

- A static water supply is provided to assist in protecting property, comprising of 7 x 45,000L water tanks around the site.
- Vehicle access has been designed and constructed to enhance safety in the event of a bushfire.

Whether the proposed measures can be practically implemented and maintained in conjunction with the ongoing use of the land.

It is submitted that the proposed use and development of the land to produce renewable energy is an entirely appropriate use of the land, and the proposed bushfire measures will not impact the use of the land as a solar farm. While the proposed development requires a large area of land to facilitate this, it will not affect the long-term viability of the land for agriculture, nor adversely affect the land or surrounding properties through the implementation of bushfire measures.

Whether the use of an alternative measure meets the relevant objective having regard to the bushfire hazard and the nature of any constraint that prevents the applicable approved measure from being implemented.

It is submitted that all bushfire mitigation measures are compliant with Clause 53.02-4 and the CFA Design Guidelines.

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If one or more of the objectives in Clause 53.02-4 will not be achieved in the completed development, whether the development will, taking all relevant factors into account, reduce the bushfire risk to a level that warrants it proceeding.

The proposal considers all objectives mentioned in Clause 53.02-4. Despite overall bushfire risk to the site is very low based on the aspects mentioned above, the risk still warrants mitigation measures. The measures taken outlined in section 8.7 of this report details how the objectives will be achieved to reduce bushfire risk, with also align with the CFA's Design Guidelines and Model Requirements for Renewable Energy Facilities.

ABORIGINAL CULTURAL HERITAGE SENSITIVITY

Heritage and Character

The most visible changes to the landscape character of the existing setting will result to views from three adjacent residences. However, following amelioration, comprised of the establishment of locally indigenous screening vegetation along the Project boundaries, the landscape character will appear similar to the remainder of the regional agricultural landscape and other bands of vegetation that occur through the landscape of the region.

The landscape of the Project setting has a generally high land absorptive capacity, as the flat topography does not allow for significant overlooking and the scattered, and occasionally dense vegetation in the area surrounding the Project. Screen planting will differ according to locations around the site, while still respecting the site's unique existing character and form.

Aboriginal Cultural Significance

Clause 15.03-2S – Aboriginal cultural heritage

The findings and recommendations of the Aboriginal Heritage Council and the Victorian Heritage Council for post-contact Aboriginal heritage places should be considered as relevant.

The relevant Traditional Owners Group (TOG) or registered Aboriginal Party (RAP) is the Wadawurrung Traditional Owner Aboriginal Corporation (WTOAC).

Elgin Energy engaged the services of Eco Logical Australia to produce a Cultural Heritage Management Plan (CHMP number 18474) in compliance

with the Aboriginal Heritage Regulations 2018. Regulation 7 states that a CHMP is required for all or part of the activity area, for the activity is an area of cultural heritage sensitivity, and all of part of the activity is a high impact activity. See section 6.4 of this report for an assessment against the planning scheme and details of the CHMP process which is running in parallel with the planning permit process.

Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018

The Aboriginal Heritage Act 2006 provides for the protection of Aboriginal Cultural Heritage in Victoria whilst the Aboriginal Heritage Regulations 2018 sets out the process as to when a Cultural Heritage Management Plan (CHMP) should be prepared for a development.

Elgin Energy have engaged the services of Ecological Australia to produce a Cultural Heritage Management Plan (CHMP number 18474) in compliance with the Aboriginal Heritage Regulations 2018. Regulation 7 of the regulations states that a CHMP is required if all or part of the activity area for the activity is an area of cultural heritage sensitivity, and all of part of the activity is a high impact activity.

Ecological Australia undertook an Aboriginal Heritage Desktop Assessment of the activity area. The methods used to undertake the desktop assessment included:

- Searching Victorian Government information online,
- Searching the Victorian Aboriginal Heritage Register (VAHR) and other archaeological resources for information relating to the area and the geographic region, and

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- Reviewing and analysing the information gathered to identify and characterise the Aboriginal cultural heritage site types and locations likely to be present within the project area.

The following conclusions of the assessment have been drawn through a comparison of background research results and previous archaeological investigation undertaken within the geographic region:

- A total of 405 registered Aboriginal cultural heritage places are located within the region, as defined by a 10km buffer around the activity area.
- Majority of these places contain stone artefacts (93%), as well as scarred trees, stone features, earth features, Aboriginal Ancestral Remains, Aboriginal Cultural Places, Aboriginal Historical Places and a quarry.
- Clustering of places is evident along major, small and ephemeral water ways in the region, notably Little River, Hovells Creek and Sandy Creek.
- Located within the site is VAHR 7722-0498 (FORD 1): An artefact scatter recorded in 2001 comprising an unspecified number of quartz flakes and chipped stone artefacts identified on ground surface.
- A total of six Aboriginal cultural heritage places are also located within 200 metres of the activity area boundary:
 - VAHR 7722-0036 (Mount Rothwell Burial): Multicomponent Place – Aboriginal Ancestral Remains (Burial) and Artefact Scatter
 - VAHR 7722-1121 (Ford Proving Ground): LDAD
 - Four Object Collections comprising reburied artefacts collected as a part of CHMP 14184

The findings of the desktop assessment indicate that it is reasonably possible for Aboriginal cultural heritage to be present within the site, which resulted in the requirement that the CHMP progress to a standard assessment ground survey under Regulation 7 of the Aboriginal Heritage Regulations 2018.

Following the desktop assessment Elgin Energy then engaged the services of Eco Logical Australia to produce a Cultural Heritage Standard Assessment

(October 2022). A field survey was undertaken on from 15th 25th March 2022 by three archaeologists and three WTOAC representatives. The methods of the Assessment included a foot-survey using a combination of:

- Survey of areas of archaeological potential identified in desktop assessment (surfaces along watercourses; exposures and outcrops on granite hill landforms),
- Pedestrian transects undertaken across broad landforms (flood plain; volcanic plain; stony outcrops),
- Systematic inspection of all identified exposures,
- Examination of all mature indigenous trees,
- Checked for the presence of caves and rock shelters, and
- Excavation of 26 manual auger probes.

Results of the Standard Assessment include:

- The activity area contains nine separate Investigation Areas (IAs) based on the presence of the various landforms,
- 800 stone artefacts,
- 3 scarred trees,
- No caves, cave entrances or rock shelters were identified,
- Artefacts are concentrated along watercourses – Primarily Little River and Sandy Creek,
- High densities along sections of Little River, and
- Concentrations on granite hills section in southern portion of the activity area.

The results of the Desktop Assessment are contained in Appendix I.02 of this report. The results of the Standard Assessment prepared by Eco Logical Australia (October 2022) are contained within Appendix I.01 of this report.

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A meeting was held with WTOAC on 13th September 2022 to discuss the results of the Standard Assessment and present a methodology for a Complex Assessment, to support the CHMP being finalised and assessed.

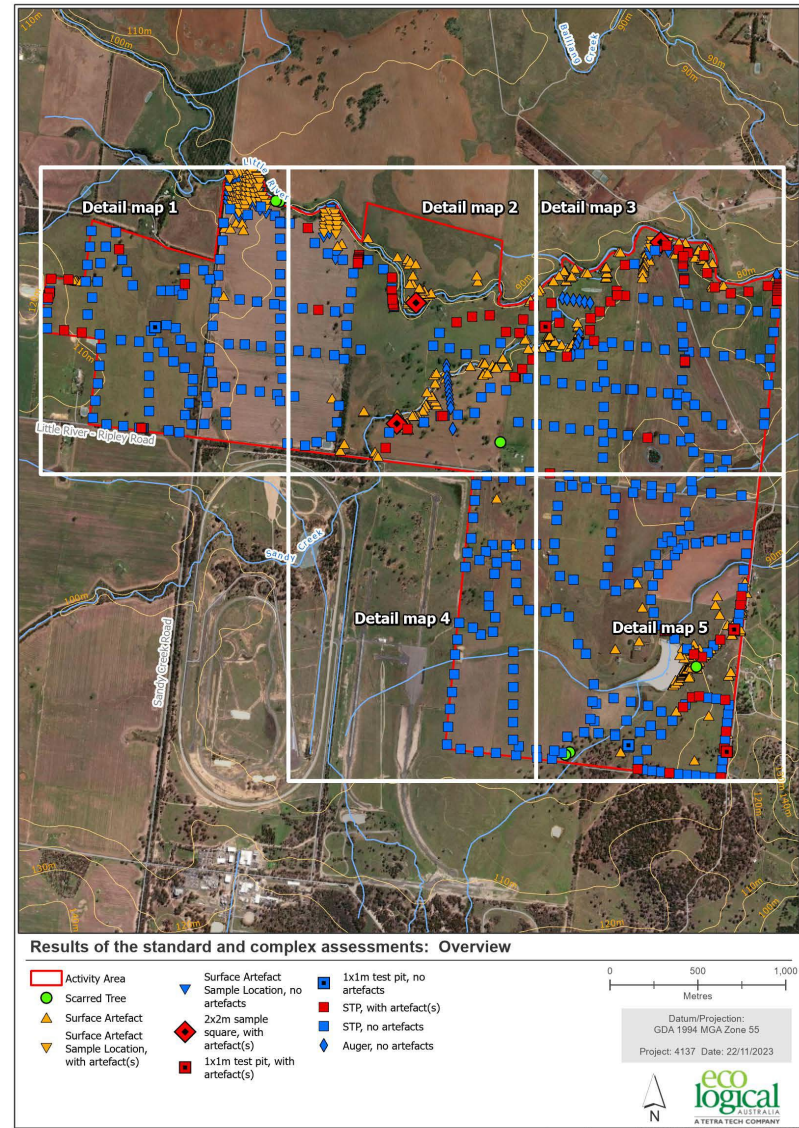
Field work was undertaken for the Complex assessment between March 2023 and October 2023.

Following the complex assessment a CHMP is being prepared to be submitted for evaluation in May 2024 and expected approval by July.

The permit application and development will comply with the recommendations and mitigation measures provided in each of these reports to ensure protection of aboriginal cultural heritage continues during construction and operation of the facility.

Overview results of Standard and Complex assessments

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TRAFFIC AND ACCESS

There are six proposed access points, which will be used to service the site, five of which will be from Little River Ripley Road, the sixth is accessed from Mt Rothwell Road. The access from Mt Rothwell Road is the access that will be used to access the battery storage system and the substation for operation and maintenance purposes.

The access point which is used on a day-to-day basis will vary based on the type of work that is being undertaken at the site on that specific day and will be at the discretion of the service vehicle operator. All of the entry points will be designed to a minimum standard utilising the Department of Transport and Planning Typical Access to Rural Properties design accommodating access for b-double trucks and CFA firefighting vehicles.

There are several roads located within the site. They are broken down typically by their function. These functions are:

- Site ring road (enabling access to all parts of the site).
- Internal access way (the primary function of servicing the panels).

As stated in the Traffic Impact Assessment (TIA), Trip generation during the operation Phase will amount to no more than two vehicle trips per day. Access to the site is required to perform cleaning and servicing activities. Given that a maximum of two vehicle trips will be generated by the site on a daily basis, a negligible traffic impact of the development on the surrounding road network is expected.

There is no onsite carparking proposed for vehicles accessing the site. While the facility is to operate 24 hours a day seven days a week, there is only expected to be one staff member on site during the day (between 9 AM and 5 PM) to carry out routine maintenance and cleaning. It is anticipated that a minimum of two vehicles will access the site on a daily basis to carry out routine maintenance and cleaning.

Vehicles will pull over on one of the internal services road to carry out this routine maintenance. This is deemed acceptable given the expected trip generation is limited to two vehicles per day during the operational phase and vehicles will not be blocking any traffic on the internal road network.

During the peak construction stage of the development, approximately 20 vehicles will access the site per hour. Vehicles accessing the site for construction purposes will likely do so from the north of Bacchus Marsh Road before turning left into Little River Ripley Road. A Construction Traffic Management Plan will be prepared prior to the issue of a Construction Certificate, detailing the construction trip generation levels, the haulage routes and the appropriate operational measures to mitigate any traffic impacts.

Please refer to the provided TIA at Appendix N further detail regarding traffic generation, access and parking.

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SITING AND DESIGN

Environmental Landscape Overlay Schedule 1 & 4

Strategic Impact of the Proposed Development

The subject site proposed for Barwon solar is considered suitable for a solar energy facility of this size and scope because of its location, flat topography, ease of access and minimal impacts to site conditions and planning constraints. The site also has direct proximity to grid capacity that can support a large-scale project. This combined with the fact that the site receives an abundance of solar resource, makes it an ideal site for generating solar energy. The Barwon Solar Farm represents one of the largest solar projects in Victoria to date and certainly the largest with proximity to Melbourne and Geelong.

The project design intersects with panels 6.01 hectares of Plains Grassland of which it is also considered 'Natural Temperate Grassland' The design process considered the quality of the grasslands, as assessed in the Habitat Hectare assessment, the shape and level of connectivity and the presence of Golden Sun Moth. The only patches selected for partial development as shown in Appendix H includes:

Portion of low-quality grassland in VQA 30, to provide additional panel area and connection through the site.

Most remnant grasslands within the study area were located in areas unsuitable for cultivation, including rocky areas, or low-lying seasonally wet areas. None of these areas are currently managed for protection of biodiversity values

Though, even poor condition examples of the community are still protected under the EPBC Act, the grasslands are located on farmland, and without active management this vegetation is likely to continue to degrade in quality over-time. All areas of plains grassland within the study are subject to impacts from adjacent land, including grazing by stock and weed infestations. High threat weeds are common throughout the study area and envisaged WGR, and pose a major risk to the ongoing viability of biodiversity values within grassland areas, unless there is a change to the management regime.

The change in land use presents an opportunity to improve the interim management of retained patches, including improved weed control,

discontinuation of fertiliser use and management of grazing regime for biodiversity outcomes in lieu of an established WGR.

Solar Energies Facilities Design and Development Guidelines 2019

The Solar Energy Facilities Design and Development Guidelines provide an overview of the policy, legislative and statutory planning arrangements for solar energy facility projects in Victoria.

The guideline came into effect following amendment VC161 (dated 17 September 2019) which amended the Victoria Planning Provisions and all planning schemes to introduce new requirements for renewable energy facilities.

For full assessment against these guidelines see Appendix V The proposal is relatively in accordance with these guidelines.

Clause 52.05 – Signs

The site is located within a Category 4 (Sensitive area), given the land is within the Farming Zone. The maximum size a business identification sign can be in this area is 3m². The proposed signs are in line with Clause 52.05-8 and 52.05-12 as mentioned above, with a total area of 2.88m². See section 3.2.7 of this report for more information regarding indicative signage.

The proposed signage is in accordance with the requirements as outlined in the Zone as well as the Victorian Planning Scheme's Particular Provisions (Clause 52.05-8 Decision Guidelines)

The main site access gates will display a flush 2.4x1.2m aluminium business identification sign. Clause 52.05 outlines several decision guidelines that are relevant to the assessment of the proposal. An assessment of the proposal against the relevant Clause 52.05 assessment criteria is included in appendix X of this report.

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Noise Impacts

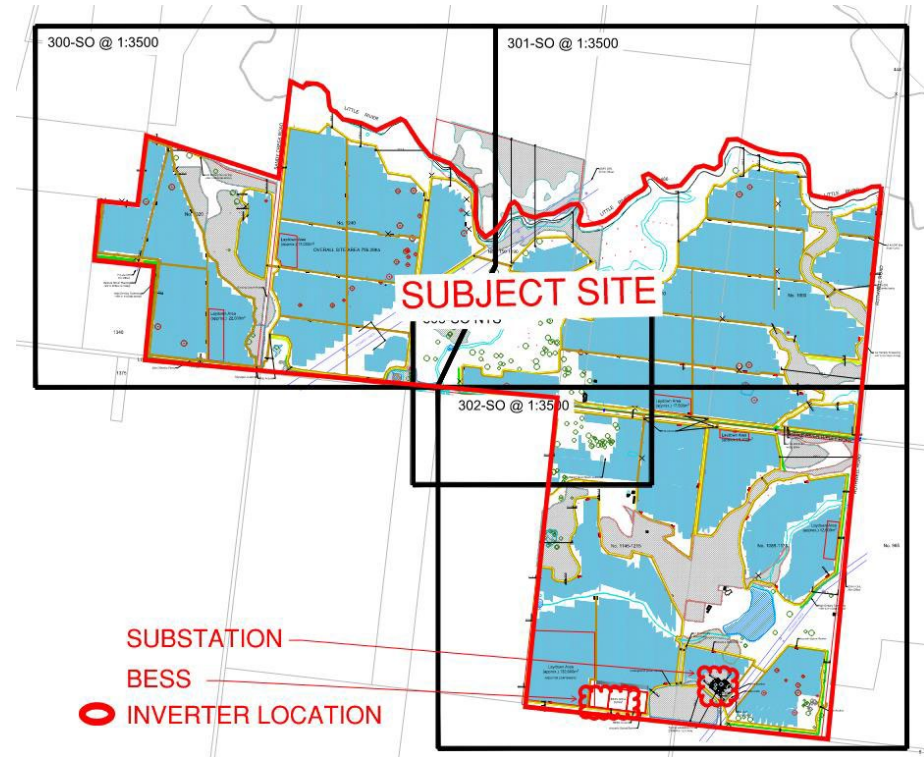
Solar facilities are known to be relatively silent, however ancillary systems i.e. inverters and BESS storage units do create noise. Norman Disney & Young have conducted a noise emission assessment to determine all predicted noise levels of the proposed inverters, and BESS storage units from the three most affected residential receivers (between 70m and 840m from the project boundary)

In order to comply with the night period criteria, acoustic treatment will be required to the BESS and to some Inverters. With acoustic barriers, the combined noise level from the inverters and BESS is predicted to be 35-38dBA at the closest residential receivers, compliant with NIRV limits. These will be incorporated into the detailed design and we would expect this requirement and outcomes from the noise emission assessment to be conditioned onto any planning permit granted for this development.

Most the noise impacts will be created during the construction phase of the project. This will be due to the machinery needed to install the proposed equipment and build the appropriate access tracks. However, this will be managed by a construction management plan and will only occur within normal working hours.

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Figure 11: Location of Noise Generating Equipment



Source: Urbis 2022

Clause 13.05-1S – Noise Management

The proposal is compliant with NIRV limits and thus will not adversely impact community amenity and human health. Recommendations for treatment to protect potential impacts have also been provided and considered in the design of the solar farm.

The results of the Acoustic Assessment are contained within Appendix M of this report.

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Visual Impact

A Visual Impact Assessment has been undertaken and is included in Appendix L. The Visual Impact Assessment concludes that from ground viewing locations, only localised changes will occur. Due to the typically low-profile form of the proposed installation, the detailed assessment of viewpoints is confined to sensitive locations within 1.5 km of the site, the area within which the proposed installation will be most visible.

The most visible changes to the landscape character of the existing setting will result to views from three adjacent residences. However, following amelioration, comprised of the establishment of locally indigenous screening vegetation along the Project boundaries, the landscape character will appear similar to the remainder of the regional agricultural landscape and other bands of vegetation that occur through the landscape of the region.

The landscape of the Project setting has a generally high landscape absorptive capacity, as the flat topography does not allow for significant overlooking and the scattered, and occasionally dense vegetation in the area surrounding the Project, provides visual screening, with the extent of screening increasing with distance from the Project.

Prior to amelioration, three sensitive uses proximate to the Project will result in high levels of impact. These areas:

- VP2 – Mt Rothwell Estate residence – High visual impact.
- VP3 –Residence at 1375 Little River-Ripley Road - Moderate to high visual impact.
- VP4 – Residence at 1340 Little River-Ripley Road - Moderate to high visual impact.

Apart from the above, overall, the Project is assessed as having a low level of visual impact on surrounding sensitive viewpoints, primarily due to the limited number of sensitive viewpoints and the relative lack of visibility resulting from existing vegetation throughout the landscape and rising topography. The residual visual impact will typically reduce to very low after the establishment of amelioration measures.

Glint and Glare

A Glint & Glare assessment has been prepared by Urbis and identifies that there will be no impacts to road users and residents in close proximity the

Project (refer to Landscape and Visual Impact Assessment at Appendix L) (September 2022). As a result, there would also be no interference expected for viewpoints located at greater distances from the project site.

Given the tilting solar panels, the flat topography with limited opportunities for overlooking of the Project, the potential for impact resulting from reflection or glare is considered to be low.

Furthermore, risk of glare and glint for road users, and surrounding residences by proposed perimeter buffer landscaping which, once established, will ensure that surfaces of the panels are not visible, screening any reflections that would have occurred across the flat terrain. The area to the north of the site is a significant wetland with no residences or transport corridors to be assessed for glare and glint.

Landscaping

A Landscape strategy has been prepared by Urbis Pty Ltd (February 2024) to support the amelioration recommendations of a preliminary Landscape Visual Impact Assessment (LVIA). An agricultural type stockproof fence will be installed around the boundary of the site, with a 2.3 m high security fence set 5 metres to the inside of it. The 5 m space between the fences will enable the establishment of a buffer planting zone to screen the Proposal from surrounding sensitive viewpoints.

Figure 12 Viewpoints

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Source: Urbis 2022

Planting along the western and eastern boundaries, as well sections of the boundaries adjacent to Little River-Ripley Road, will mitigate impacts to VP2, VP3 and VP4, receptors with the highest levels of visual impact as seen in Figure 12 above.

The Project has been set back from VP2. Additionally, the planting has also been set back from the property boundary to allow for foreground views and with species selected to ensure that the Project is screened, while maintaining views over the Project to the distant Brisbane ranges.

The Project and screen planting have been set back from VP4 to allow for foreground views. The low-profile form of the majority of the Project, primarily the solar array, which is approximately 2.4 m in height at full tilt, will ensure that planting will be able to provide screening within a relatively short period of time.

Given the location of the Project between the foothills of the You Yangs and the Little River, the plant species have been drawn from a number of EVC's and Council plant lists.

Cumulative Impacts

There are no other utility sized solar farms in the City of Greater Geelong and majority of the surrounding land is made up agricultural land or nature reserve.

The site has been located and designed to minimise or avoid impact to surrounding sensitive uses, areas of cultural sensitivity and native vegetation. Noting, the dual use of the site with light agriculture will also reduce the potential for cumulative impact of built form concentration in the area.

The closest solar farm to the proposed site is in Anakie, a small 5MW solar farm, which is currently under assessment. Additionally, the 3MW Black Rock Solar Farm supplies power for the Black Rock Water Reclamation Plant owned and operated by Barwon Water.

Accordingly, there are no cumulative impacts raised by this proposal.

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GEOLOGY, SOIL, WATER QUALITY AND HYDROLOGY

Urbis, with support from Elgin Energy, engaged Ecological Australia to produce a hydrology assessment (September 2022) for the Barwon Solar Farm proposal. The report assesses hydrological conditions associated with the existing and proposed conditions under 10%, 5%, 2%, 1%, 0.5%, 0.2% and 0.1% Annual Exceedance Probability (AEP) flood events for the proposed site.

The existing conditions flood depths highlights that the flows are generally concentrated to the waterways and defined overland flow paths in the region, with sufficient terrain relief to limit the amount of sheet flow. The main concentrated overland flow paths/waterways within the site are as follows:

- The waterway through the middle is generally away from the proposed solar arrays, with minimal isolated areas that may be close to the 1% AEP flood inundation area (See Figure 13). These areas are to the edge of the solar panel regions and depths are shallow and pose little impact on the site.
- The overland flow path across the upper east of the site travels under proposed sections of solar panels and are described as shallow (<0.1m). As the overland flow path progresses downstream, these depths increase to around 0.5m.
- The overflow paths in the south-eastern corner of the site are also considered shallow under the solar arrays in the case of 1% AEP. In the proposed location of the BESS, depths increase up to 0.8m. This will pose minimal impact to overall flood paths due to the close location of the onsite dam immediately downstream of the proposed BESS.
- Little River is located along the northern border of the site, and solar array regions are clear of the 1% AEP extent, except for one location where the overland path joins Little River in the central north of the site. The existing access roads in this location have been designed and sited appropriately to reduce potential flooding impacts.

Figure 13: 1% AEP Maximum Flood Depth



Source: Ecological Australia 2023

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Velocities across the site are generally low (<0.5m/s) and below the threshold (<2m/s), therefore further infrastructure to protect waterways and features is not required. Few isolated higher velocities (>1m/s) occur through the overland flow path/waterways through the middle of the site, and should erosion form at these locations, erosion mitigation strategies will be implemented.

Based on the predicted velocities and flood extents, the solar arrays and associated infrastructure at the Barwon Solar Farm are unlikely to affect flood levels or downstream discharge. While there is some potential for flood impacts, the Hydrology Report produced by Ecological notes that this may be considered a “conservative approach,” as if the soil type is more sandy, the rainfall will likely infiltrate thus reducing flow rates and flood extents across the site. Key aspects of flood management methods which have been considered in the final design include the location of the BESS, solar arrays and access roads. The proposed solar panels are elevated and will not impact upon surface run off. Other equipment installed on the ground will have a small surface area and have been designed and sited to reduce any significant impact, particularly the BESS. Appropriate drainage infrastructure will be proposed to prevent damage through erosion or runoff.

Clause 12.03-1S – River corridors, waterways, lakes and wetlands

The site’s northern boundary along Little River and Sandy Creek has a proposed setback of minimum 50 metres, which is increased in several locations to avoid important areas of Aboriginal Cultural Heritage. Refer to section 3.2.1 of this report for more details regarding the setback of these areas.

Urbis on behalf of Elgin Energy engaged Ecological Australia to produce a Hydrology Assessment (September 2022) for the site. This assessment outlines that based on the installation of the solar panels above the natural ground surface, soil type and quality, overflow paths, depths of the land and appropriate siting of relevant infrastructure, the Barwon Solar Farm is unlikely to affect flood levels or downstream discharge. The BESS infrastructure will be raised to minimise any potential for flooding impacts to the area. The Hydrology Assessment (September 2022) can be found in detail at Appendix K of this report.

Two patches of Wetland were mapped associated with the constructed dam in the south-east section of the study area. No development is proposed in these areas.

Management of these wetlands during construction will be addressed in a Construction Management plan and Environmental management plan to ensure there are no unintentional impacts to the wetlands away from the development areas including ensuring the wetlands are not drained or adversely affected as a result of the development.

Clause 12.03-1L – River corridors, waterways, lakes and wetlands

The proposed solar farm is setback from all waterways by a minimum of 50m from Sandy Creek and Little River and 10m from all other second order streams and waterbodies. An examination of the development against Hydrology Impacts is contained in section 8.10 and Appendix K of this report.

Clause 13.04-1S – Salinity & Clause 13/04-S Erosion and landslip

The Agricultural Assessment undertaken by Ag-Challenge Consulting (March 2022) indicates the concentration of runoff from the panels onto the soil surface may initiate soil erosion. Although, the Hydrology Assessment produced by Ecological Australia (September 2022) identifies that velocities across the site tend to be low and below the threshold where rock armouring to protect waterways and features is required. Should erosion occur, mitigation strategies will be implemented.

The results of the Agricultural Assessment are contained in detail within Appendix J of this report. The Hydrology Assessment is contained in Appendix K of this report.

13.04-3L Salinity

The proposed Solar Farm does not require any substantial excavation or foundations; therefore, minimal soil impacts are expected.

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Economic Impact

Clause 17.01-1S – Diversified economy

The development is consistent with the G21 Regional Growth Plan as the region has an increasingly diversified economy with traditional strengths in agriculture, manufacturing, construction and tourism. A move away from heavy manufacturing to more advanced processes such as renewable energy facilities (solar farm) will provide diversification and growth to the local agricultural economy. The proposed development will continue to support the local agricultural use (sheep grazing) and provide a means for the land to remain productive without compromising its long term agricultural viability, to which it will return upon potential decommissioning of the solar farm.

Costs of the project total over approximately \$600 million, and much of this will be created within the Victorian economy through job creation, such as builders, contractors, materials and services required for the installation and running of the solar farm. The project will assist in the creation of approximately 150 jobs during construction and 3 during operation, supporting the rural economy and providing employment opportunities to local workers.

Clause 17.01-1R – Diversified Economy – Geelong G21

The development is consistent with the G21 Regional Growth Plan and will continue to support the local agricultural use (sheep grazing) whilst providing a means for the land to remain productive without compromising its long-term agricultural viability.

Easements, Restrictions and Reserves

Clause 52.02 – Easements, Restrictions and Reserves

There are three easements which bisect the site, including:

- Easement E-1 (Book 864, No. 761 to State Electricity Commission of Victoria) passes through the site to the west of Sandy Creek Road. The electricity transmission line bisects the project site from southwest to northeast.
- Easement E-2 (Book 822, No. 437) is an electricity transmission line which bisects the site from Little River-Ripley Road in the southwest to Little River in the northeast.

- Easement E-3 (Book 655, No. 933) is an electricity transmission line which runs from a Government Road, northeast through Mount Rothwell Road.

The development will not interfere with these easements and is setback from their boundaries.

The relevant Certificate of Titles for this site, including all easements, are detailed at Appendix A. Additionally, a Survey Plan (Veris, December 2021) is located at Appendix B.

Clause 65 – Decision Guidelines

Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate:

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9. CONCLUSION

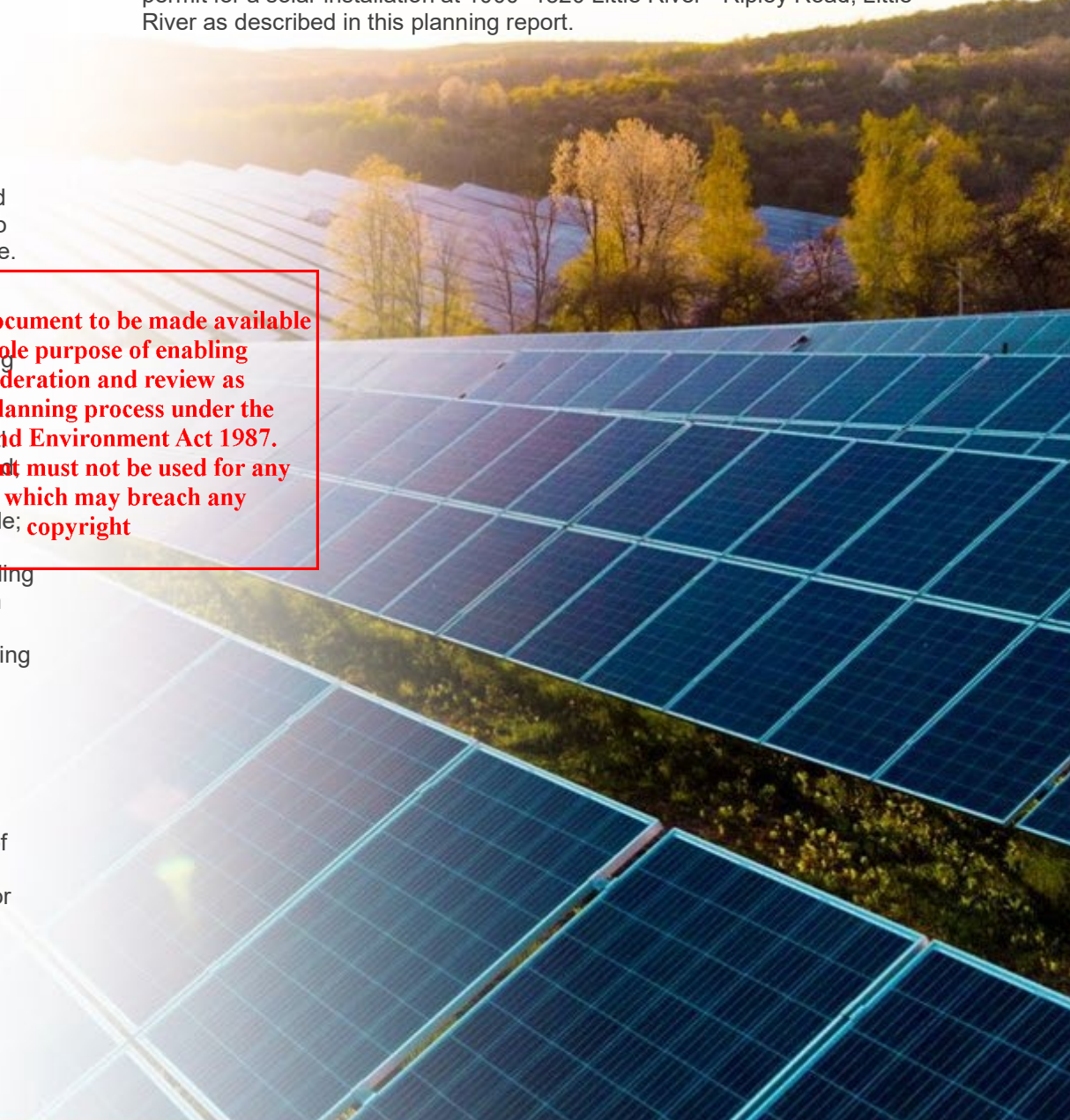
This Planning Report has demonstrated that the proposed renewable energy (solar farm) installation is an appropriate use and form of development for the site when assessed against the Greater Geelong Planning Scheme and all relevant State and Commonwealth legislation, policies and guidelines.

It is considered appropriate that a planning permit be granted for a solar installation at 1000 -1320 Little River - Ripley Road, Little River ('the subject site') for the following reasons:

- ✔ The proposed development demonstrates consistency with state and local policies, provisions and zoning controls and overlays relevant to the proposal; contained within the Greater Geelong Planning Scheme. The proposed installation and associated ancillary buildings and infrastructure appropriately accounts for the site conditions and constraints and responds accordingly, demonstrating general compliance with the planning provisions contained within the planning scheme;
- ✔ The proposed development allows retention of productive agricultural land and not impact negatively upon the long-term viability of this land as the construction is low impact and can be restored to its previous use upon decommissioning of the installation at the end of its lifecycle;
- ✔ The proposal will not negatively impact upon the amenity of surrounding properties and agriculture uses. The passive nature of the solar farm once operational ensures limited noise pollution to neighbouring properties and visual impacts have been mitigated through landscaping screening measures.
- ✔ The site supports State and local policies seeking site-responsive renewable energy facilities to assist in meeting Victoria's renewable energy targets.
- ✔ The proposal will provide community benefit through its generation of energy to be placed back into the grid for the local supply as well as offshoot benefits through the creation of employment opportunities for maintenance and management of the environment on the site.

Considering the aforementioned reasons, Urbis, on behalf of the permit applicant requests that the Minister for Planning provides a planning permit for a solar installation at 1000 -1320 Little River - Ripley Road, Little River as described in this planning report.

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APPENDIX T GREATER GEELONG PLANNING SCHEME

ZONE AND OVERLAYS

Farming Zone

The site is located in the Farming Zone (Clause 35.07), the relevant purposes of which are:

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

Pursuant to the Farming Zone:

- A permit is required for the use of land for a Renewable energy facility.
- A permit is required for building or works associated with a use in Section 2 - Renewable energy facility.

Environmental Significance Overlay, Schedule 4 and Schedule 1 (ESO4 and ESO1)

The site is located in the Environmental Significance Overlay (Schedule 4) the relevant purposes of which are:

- *To identify areas where the development of land may be affected by environmental constraints.*

- *To ensure that development is compatible with identified environmental values.*

Schedule 4 to the Environmental Significance Overlay relates specifically to the Grasslands within the Werribee plains hinterland. Werribee plains hinterland contain some large areas of predominantly native vegetation as well as some high quality wetlands, which are important for many threatened fauna species. The major issue for biodiversity conservation in the Werribee plains hinterland is loss of native vegetation and habitat through clearing for urban development, cropping and infrastructure.

Pursuant to the Environmental Significance Overlay Schedule 4 and Schedule 1:

- *A permit is required to construct a building or construct or carry out works*
- *Remove, destroy or lop native vegetation.*

1150-1190 Little River - Ripley Road Little River is located in Schedule 1 to the Environmental Significance Overlay.

Schedule 1 to the Environmental Significance Overlay relates specifically to *areas of flora and fauna habitat and of geological and natural interest*. Many of these sites contain remnant vegetation, marsh flats, bird and wildlife habitats and corridors, natural scrub heathland vegetation, and river and streamside corridor.

Pursuant to the Environmental Significance Overlay Schedule 1:

A permit is required for a fence which is greater than 1.2 metres in height

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Significant Landscape Overlay - Schedule 1 (SLO1)

1085 -1135 and 1145-1215 Ripley Road, Little River are partly located in the Significant Landscape Overlay, Schedule 1 the relevant purposes of which are:

- To identify areas where the development of land may be affected by environmental constraints.
- To ensure that development is compatible with identified environmental values.

Schedule 1 to the Significant Landscape Overlay relates specifically to the Foothills of the You Yangs. This area is comprised of treeless foothills and plains at the base of the You Yangs. The surrounding foothills and plains create an open view path to the You Yangs, visually exposing them when viewed from the surrounding basalt plains.

The key element of the landscape is it's open character

and contrast with the You Yangs. Pursuant to the

Significant Landscape Overlay and Schedule 1:

- A permit is required to construct a building or construct or carry out works.
- A permit is required to remove, destroy or lop any vegetation, except:
 - Where listed within the incorporated document *Environmental Weeds*, City of Greater Geelong, September 2008;
 - Exotic and native vegetation if within 10 metres of a dwelling on a lot exceeding 0.4 hectares; and
 - Any vegetation which is dead.

Bushfire Management Overlay (BMO)

1085 -1135 Ripley Road, Little River is also partly located in the Bush Fire Management Overlay the relevant purposes of which are:

- To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.
- To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.
- To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.

Pursuant to the Bush Fire Management Overlay:

- A permit is required to construct a building or construct or carry out works associated with uses specified under Clause 44.06-2.

If the Bushfire Management Overlay only applies to part of a lot, development that is sited outside the Bushfire Management Overlay does not require planning permission (*2017. Planning Permit Applications Bushfire Management Overlay Technical Guide. Department of Environment, Land, Water and Planning*).

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Areas of Aboriginal Cultural Heritage Sensitivity

The site is located in an Area of Cultural Heritage Sensitivity . These areas are defined under the Aboriginal Heritage Regulations 2018, and include registered Aboriginal cultural heritage places and land form types that are generally regarded as more likely to contain Aboriginal cultural heritage.

Under the *Aboriginal Heritage Act 2006*, where a cultural heritage management plan is required, planning permits, licences and work authorities cannot be issued unless the cultural heritage management plan has been approved for the activity.

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STATE AND LOCAL PLANNING POLICY FRAMEWORK

Clause 11.01-1S – Settlement

The objective of this clause is to:

“Facilitate the sustainable growth and development of Victoria and deliver choice and opportunity for all Victorians through a network of settlements.”

Key strategies in relation to this development are to:

- *Ensure regions and their settlements are planned in accordance with their relevant regional growth plan.*
- *Deliver networks of high-quality integrated settlements that have a strong identity and sense of place, are prosperous and are sustainable by:*
- *Building on strengths and capabilities of each region across Victoria to respond sustainably to population growth and changing environments; and*
- *Contributing to net zero greenhouse gas emissions through renewable energy infrastructure and energy efficient urban layout and urban design.*

Clause 11.02-1S – Supply of urban land

The objective of this clause is to:

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

The relevant strategies of this clause are to:

- *Ensure the ongoing provision of land and supporting infrastructure to support sustainable urban development.*
- *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 11.02-2S – Structure planning

The objective of this clause is to:

“Facilitate the fair, orderly, economic and sustainable use and development of urban areas.”

The relevant strategy of this clause is to:

- *Encourage renewable energy generation, storage and distribution.*

Clause 12.01-1S – Protection of Biodiversity

The objective of this clause is to:

“Protect and enhance Victoria’s biodiversity.”

Key strategies relevant to the proposed development are:

- *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.*
 - *Support land use and development that contributes to protecting and enhancing habitat for indigenous plants and animals in urban areas.*

Clause 12.01-1L – Protection of Biodiversity

The strategy of this clause is to:

- *Ensure that land use and development enhances areas of native vegetation and other habitats.*

Clause 12.01-2S – Native Vegetation Management

The objective 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.”

The strategy to implement this policy is to:

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):

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 from the removal, destruction or lopping of native vegetation.*

Clause 12.03-1S – River corridors, waterways, lakes and wetlands

The objective of this clause is to:

“To protect and enhance river corridors, waterways, lakes and wetlands.”

The relevant strategies of this clause are to:

- *Protect the environmental, cultural and landscape values of all water bodies and wetlands.*
- *Ensure development responds to and respects the significant environmental, conservation, cultural, aesthetic, open space, recreation and tourism assets of water bodies and wetlands.*
- *Ensure development is sensitively designed and sited to maintain and enhance environmental assets, significant views and landscapes along river corridors and waterways and adjacent to lakes and wetlands.*
- *Ensure development does not compromise bank stability, increase erosion or impact on a water body or wetland’s natural capacity to manage flood flow.*

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and management decision making processes.

Clause 12.03-1L – River corridors, waterways, lakes and wetlands

The strategies of this clause are to:

- *Ensure that land use and development avoids isolating wetlands and provides for connective water flows and vegetative links.*
- *Ensure waterways and wetlands are not drained or adversely affected as a result of development.*

Clause 12.05-2S – Landscapes

The objective of this Clause is to:

“Protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments.”

The relevant strategies for this clause are to:

- *Ensure development does not detract from the natural qualities of significant landscape areas.*
- *Improve the landscape qualities, open space linkages and environmental performance in significant landscapes and open spaces, including green wedges, conservation areas and non-urban areas.*
- *Recognise the natural landscape for its aesthetic value and as a fully functioning system.*
- *Ensure important natural features are protected and enhanced.*

Clause 13.01-1S – Natural hazards and Climate Change

The objective of this clause is to:

“Minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.”

The relevant strategies of this clause are to:

- *Respond to the risks associated with climate change in planning*

Clause 13.02-1S – Bushfire planning

This policy must be applied to all planning and decision making under the *Planning and Environment Act 1987* relating to land that is within a designated bushfire prone area or is subject to a Bushfire Management Overlay. The proposed development is partly located in the Bushfire Management Overlay, as shown in the planning scheme, specifically at 1085-1135 Ripley Road, therefore risk needs to be addressed.

The objective of this clause is to:

“Strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.”

The strategies associated with this clause include:

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

– Ensuring that strategic planning documents, planning scheme amendments, planning permit applications and development plan approvals properly assess bushfire risk and include appropriate bushfire protection measures.

Clause 13.04-1S – Salinity

The objective of this clause is to:

“Minimise the impact of salinity and rising water tables on land uses, buildings and infrastructure in rural and urban areas and areas of environmental significance and reduce salt load in rivers.”

- The relevant strategies of this clause are to:
- *Identify areas subject to salinity in the preparation of planning schemes and land use planning decisions.*
- *Promote vegetation retention and replanting in aquifer recharge areas contributing to groundwater salinity problems.*
- *Prevent inappropriate development in areas affected by groundwater*

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salinity.

Clause 13.04-3L – Salinity

The strategy of this clause is to:

- Discourage land use and development that aggravates existing salinity impacts or leads to the generation of newly affected areas, particularly through rising groundwater levels.

Clause 13.04-2S – Erosion and landslip

The objective of this clause is to:

“Protect areas prone to erosion, landslip and other land degradation processes.”

The strategies of this clause are to:

- Identify areas subject to erosion or instability in planning schemes and when considering the use and development of land.
- Prevent inappropriate development in unstable areas or areas prone to erosion.
- Promote vegetation retention, planting and rehabilitation in areas prone to erosion and land instability.

Clause 13.05-1S – Noise Management

The objective of this clause is to:

“Assist the management of noise effects on sensitive land uses.”

The strategies of this clause are to:

- Ensure that development is not prejudiced and community amenity and human health is not adversely impacted by noise emissions.
- Minimise the impact on human health from noise exposure to occupants of sensitive land uses (residential use, child care centre, school, education centre, residential aged care centre or hospital) near the transport system and other noise emission

sources through suitable building siting and design (including orientation and internal layout), urban design and land use separation techniques as appropriate to the land use functions and character of the area.

Clause 14.01-1S – Protection of agricultural land

The objective of this clause is to:

“Protect the state’s agricultural base by preserving productive farmland.”

The relevant strategies of this clause are to:

- 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.

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- Identify areas of productive agricultural land by consulting with the Department of Economic Development, Jobs, Transport and Resources and using available information.
- 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.*
- *Avoid the subdivision of productive agricultural land from diminishing the long-term productive capacity of the land.*
- *Give priority to the re-structure of inappropriate subdivisions where they exist on productive agricultural land.*
- *Balance the potential off-site effects of a use or development proposal (such as degradation of soil or water quality and land salinisation) against the benefits of the proposal.*

Clause 14.01-1L-01 Discretionary uses in rural areas

This local planning policy seeks to preserve the productive agricultural capacity of the land and where possible enhance the environmental condition of the land as well as maintain the landscape character of rural areas. The policy states discretionary uses will be supported where:

- *The intensity of the use will complement and support adjoining rural land uses.*
- *Existing agricultural activity on adjoining land will not be compromised.*
- *The scale of the development will complement and respect the rural landscape character.*
- *The site has access to a constructed or sealed road that is capable of accommodating anticipated traffic levels.*
- *The site has access to all necessary servicing infrastructure*

Clause 14.01-1L-02 Dwellings and subdivision in farming areas

This policy applies to relevant land in the Farming Zone. The objective of this clause is to:

“Ensure that the development of dwellings and excision of existing dwellings are consistent with the use of land for sustainable rural uses.”

The relevant strategy of this clause is to:

- *Support the construction of a dwelling where:*
 - *The dwelling will not result in the property being removed from agricultural production and the primary use of the land will continue to be agriculture.*
 - *Existing agricultural activity on adjoining land will not be compromised.*

It should be considered as relevant:

Proposed measures to preserve the productive capacity of the land and enhance its environmental condition, including:

- Addressing pest plants and animals.
- Managing land erosion.
- Protecting remnant vegetation through fencing or other methods.
- Revegetating strategic areas such as between remnant vegetation stands and along waterways.
- The *City of Greater Geelong Rural Land Use Strategy* (Parsons Brinkerhoff, 2007) as a policy document relating to the proposal.

Clause 14.01-2S – Sustainable agricultural land use

The objective of this clause is to:

“To encourage sustainable agricultural land use.”

The relevant strategies for this clause are to:

- *Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources.*

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- Support the development of innovative and sustainable approaches to agricultural and associated rural land use practices.
- Support adaptation of the agricultural sector to respond to the potential risks arising from climate change.
- Encourage diversification and value-adding of agriculture through effective agricultural production and processing, rural industry and farm-related retailing.
- 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 14.01-2R – Agricultural productivity G21

The strategy of this clause is to:

- Support new opportunities in farming.

Clause 14.01-2L-01 – Sustainable agricultural land use in Greater Geelong

The strategies of this clause are to:

- Encourage agricultural uses with export potential.
- Encourage horticulture activities in the rural areas around Avalon Airport.

Clause 15.03-2S – Aboriginal cultural heritage

The objective of this clause is to:

“Ensure the protection and conservation of places of Aboriginal cultural heritage significance.”

The strategies for this clause are to:

- Identify, assess and document places of Aboriginal cultural heritage significance, in consultation with relevant Registered Aboriginal Parties, as a basis for their inclusion in the planning scheme.
- Provide for the protection and conservation of pre-contact and post-contact Aboriginal cultural heritage places.

Ensure that permit approvals align with the recommendations of any relevant Cultural Heritage Management Plan approved under the Aboriginal Heritage Act 2006.

Clause 17.01-1S – Diversified economy

The objective of this clause is to:

“Strengthen and diversify the economy.”

The relevant strategies of this clause are to:

- 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.
- Support rural economies to grow and diversify.

Clause 17.01-1R – Diversified economy – Geelong G21

The relevant strategies of this clause are to:

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- *Build on the region’s competitive strengths, including agricultural land resources and economic and natural assets.*

Clause 19.01-1S – Energy supply

The objective of this clause is to:

“Facilitate appropriate development of energy supply infrastructure.”

The strategies of this clause are to:

- *Support the development of energy generation, storage, transmission, and distribution infrastructure to transition to a low-carbon economy.*
- *Develop appropriate infrastructure to meet community demand for energy services.*
- *Ensure energy generation, storage, transmission and distribution infrastructure and projects are resilient to the impacts of climate change.*
- *Support energy infrastructure projects in locations that minimise land use conflicts and that take advantage of existing resources and infrastructure networks.*
- *Facilitate energy infrastructure projects that help diversify local economies and improve sustainability and social outcomes.*

Clause 19.01-2S – Renewable energy

The objective of this clause is to:

“Support the provision and use of renewable energy in a manner that ensures appropriate siting and design considerations are met.”

The relevant strategies of this clause are to:

- *Facilitate renewable energy development in appropriate locations.*
- *Protect renewable energy infrastructure against competing and incompatible uses.*
- *Set aside suitable land for future renewable energy infrastructure.*

- *Consider the economic, social 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.*

PARTICULAR PROVISIONS

Clause 52.02 – Easements, Restrictions and Reserves

The purpose of this clause is to:

“Enable the removal and variation of an easement or restrictions to enable a use or development that complies with the planning scheme after the interests of affected people are considered.”

Clause 52.05 – Signs

A permit is required for the display of a business identification sign pursuant to Clause 52.05.

Clause 52.17 – Native Vegetation

A permit is required under this clause as the removal of native vegetation, including dead native vegetation. 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 through a three step approach in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017) (the Guidelines) to manage the removal, destruction or lopping of native vegetation to minimise land and water degradation. This approach includes:

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

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5. *An assessment of this clause against the proposed development is evidenced at section 7.5.3 of this report.*

Clause 53.02 – Bushfire Planning

This clause applies to an application under Clause 44.06 – Bushfire Management Overlay. The purpose of this clause is to:

- *To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.*
- *To ensure that the location, design and construction of development appropriately responds to the bushfire hazard.*
- *To ensure development is only permitted where the risk to life, property and community infrastructure from bushfire can be reduced to an acceptable level.*
- *To specify location, design and construction measures for a single dwelling that reduces the bushfire risk to life and property to an acceptable level.*

Clause 53.02-4 – Bushfire protection objectives

The landscape, siting and design objectives in this clause include:

- *Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.*
- *Development is sited to minimise the risk from bushfire.*
- *Development is sited to provide safe access for vehicles, including emergency vehicles.*

The defensible space and construction objective is:

- *Defensible space and building construction mitigate the effect of flame contact, radiant heat and embers on buildings.*

The water supply and access objectives include:

- *A static water supply is provided to assist in protecting property.*
- *Vehicle access is designed and constructed to enhance safety in the event of a bushfire.*

Clause 53.13 Renewable Energy Facility (Other than Wind Energy Facility)

This clause applies to land used and developed or proposed to be used and developed for a renewable energy facility. 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.”*

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APPENDIX U

ASSESSMENT AGAINST CLAUSE 53.13 RENEWABLE ENERGY FACILITY

This clause applies to land used, developed and proposed to be used and developed for a renewable energy facility. The clause outlines application requirements for a renewable energy facility which must be complied with in respect to this proposal.

Section	Application Requirement	Response
A site and context analysis	<ul style="list-style-type: none"> ▪ A site plan, photographs or other techniques to accurately describe the site and the surrounding area. ▪ A location plan showing the full site area, local electricity grid, access roads to the site and direction and distance to nearby accommodation, hospital or education centre. 	<ul style="list-style-type: none"> ▪ A site layout is provided at Appendix C. Refer to Table and Figure 1 and Figure 2 for aerial maps and photographs identifying the site location and the surroundings, including the nearest electricity substation and site access road. The proposed development has been carefully sited to consider the environmental and amenity impacts that it may have on the site and surrounding area.
Design Response	<ul style="list-style-type: none"> ▪ Details plans of the proposed installation including, the layout and height of the facility and associated building and works, materials, reflectivity, colour, lighting, landscaping, the electricity distribution starting point (where the electricity will enter the distribution system), access roads and parking areas. ▪ Accurate visual simulations illustrating the development in the context of the surrounding area and from key public view points. ▪ The extent of vegetation removal and a rehabilitation plan for the site. 	<ul style="list-style-type: none"> ▪ Site layout plans and elevations are provided at Appendix C and Appendix D. Refer to section 3.2 of this report for equipment specification details and photographs. ▪ Photo simulations and a Landscape and Visual Impact Assessment (Urbis, September 2022) are provided at Appendix L of this report. ▪ Details of the required vegetation removal and the offsets and revegetation proposed is provided in section 8.3. Refer to Appendix H for the Flora and Fauna Assessment and memo (Biosis, February 2023 and March 2024).

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<p>Written Report and Assessment</p>	<ul style="list-style-type: none"> ▪ An explanation of how the proposed design derives from and responds to the site analysis. ▪ A description of the proposal, including the types of process to be utilised, materials to be stored and the treatment of waste. ▪ Whether a Works Approval or License is required from the Environment Protection Authority. ▪ The potential amenity impacts such as noise, glint, light spill, emissions to air, land or water, vibration, smell and electromagnetic interference. ▪ The effect of traffic to be generated on roads ▪ The impact upon Aboriginal or non- Aboriginal cultural heritage. ▪ The impact of the proposal on any species listed under the Flora and Fauna Guarantee Act 1988 or 	<ul style="list-style-type: none"> ▪ Refer to section 3.2.1 for details of the development of the site layout. ▪ The proposed installation is a solar energy facility. Materials will not be stored at the site and no waste will be produced. ▪ At this stage there is no requirement for a Works Approval or License from the Environmental Protection Authority for the works. ▪ Amenity has been assessed and considered, including in terms of: <ul style="list-style-type: none"> – Noise (refer to section 8.11) – Traffic (refer to section 8.4) – Visual impact and glare glint and glare (refer to section 8.5) <p>It is concluded that there would be little to no impacts upon the area from any of the above matters</p> <ul style="list-style-type: none"> ▪ A traffic impact assessment (Urbis, September 2022) has been undertaken and it concludes
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APPENDIX V

SOLAR ENERGY FACILITIES DESIGN AND DEVELOPMENT GUIDELINES

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TABLE IDENTIFYING SUITABLE LOCATIONS

Consideration	Response
<p>Ideal Siting Conditions</p> <p>A solar energy facility should not lead to:</p> <ul style="list-style-type: none"> – the loss or interruption of supply to the immediate or broader electricity transmission network – the loss of vegetation, habitat or species of environmental importance – the loss of cultural heritage or landscape values of significance – the loss of productive state-significant agricultural land – increased exposure of the area to fire flood or other natural or environmental hazard <div style="border: 2px solid red; padding: 10px; margin-top: 20px; text-align: center;"> <p>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<ul style="list-style-type: none"> ▪ The permit applicant will engage contractors to install the facility, consistent with the requirements of the electricity transmission network operators. ▪ It is unavoidable that vegetation will be lost due to the nature of the installation. However, assessments have been undertaken to identify vegetation of significance and value that can be retained, and offsets will be provided for the vegetation lost. These offsets include a <ul style="list-style-type: none"> – combination of new planting and relocation of vegetation within a designated ecological corridor that runs north to southwest through the site, and the purchase of native vegetation credits. ▪ The ecological corridor located along the Little river and Sandy river catchments is an essential element to conserving the native habitats and species of the area and limiting the impact of vegetation removal on the ecosystem. This is particularly relevant for the future regeneration of the area during its operation as a solar facility and post its life cycle. Further details of vegetation removal and offsets are discussed in the Flora and Fauna assessment and memo prepared by Biosis (February 2023 and March 2024) at Appendix H. ▪ The findings of the desktop assessment indicate that it is reasonably possible for Aboriginal cultural heritage to be present within the activity area, which resulted in the requirement that the CHMP progress to a complex assessment. This is a complex assessment to determine the final methodology for impact mitigation/ minimization. This is contained at Appendix I. ▪ Engagement with the Wadawurrung has been ongoing since 2020. ▪ As stated in the provided agricultural impact assessment, the subject land is neither highly productive nor highly versatile. It is not considered to be significant land or strategically important land from an agricultural perspective. As the solar facility will

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maintain light grazing onsite, the change of use will result in a reduction in the overall usable agricultural asset rather than a complete loss.

- As stated in the Fire Risk assessment provided, the location of the solar energy facility complies with suitable siting conditions as defined by the CFA 2019 Guidelines. While the likelihood of bushfire is considered low, ignition and fuel management considerations and mitigation measures to reduce any potential impact have been considered. Flood modelling detailed in the Hydrology Assessment (Ecological Australia, September 2022) highlights that while there is some potential for flood impacts on the proposal, it is considered a conservative approach due to soil type and flow rates across the site.

Ideally a solar energy facility should be located:

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

- Earthworks are not proposed, with the exemption of foundations for substation batteries and inverters, and ground disturbance for underground cables, access roads and fences. The panels do not require significant ground disturbance; these are supported on poles driven into the ground (or pre drilled) which can be removed with ease when the facility ends its lifecycle.
- The facility has been designed to maximise the retention of vegetation on site. Offsets have been provided to ensure vegetation lost is either relocated or replaced in designated conservation areas onsite.
- The project will connect to the grid via the existing Geelong terminal to Keilor terminal 220 KV powerline which passes through the southwest corner of the development site. Due to the network strength at this location, a Full System Strength Impact Assessment is not required according to AEMO.
- The site is not located near any existing urban areas designated urban growth areas. Majority of the surrounding land is made up agricultural land or nature reserve.
- There are no existing solar facilities in this area. The site has been located and designed to minimise or avoid impact to surrounding sensitive uses, areas of cultural sensitivity and native vegetation.
- The Hydrology Assessment (September 2022) detailed at Appendix K of this

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	<p>report outlines the site does not impact upon a major flood plain, watercourse or wetland.</p> <ul style="list-style-type: none"> ▪ There are six proposed access points, which will be used to service the site, five of which will be from Little River Ripley Road, the sixth is accessed from Mt Rothwell Road. Where possible existing access have been utilised or retrofit to accommodate a CFA firefighting vehicle at a minimum. This will minimise ground disturbance and avoid further removal of native vegetation. ▪ The access from Mt Rothwell Road located near the south eastern extent of the site is the access that will be used to access the battery storage system and the substation for operation and maintenance purposes.
<p>Connecting to the electricity transmission network: Electricity transmission network connections</p> <p>Managing cumulative effects in an area (too many facilities in an area can):</p> <ul style="list-style-type: none"> ▪ reduce the availability and/or productivity of strategic agricultural land, particularly in irrigation districts ▪ result in landscape-scale visual impacts, due to an overconcentration of built form in an area ▪ impact the area's biodiversity, habitat or wildlife, due to an overconcentration of built form. 	<ul style="list-style-type: none"> ▪ The project will connect to the grid via the existing Geelong terminal to Keilor terminal 220 KV powerline which passes through the southwest corner of the development site. Due to the network strength at this location, a Full System Strength Impact Assessment is not required according to AEMO. There are no other solar farms in the City of Greater Geelong. The closest solar farm to the proposed site is in Anakie, a small 5MW solar farm, which is currently under assessment. Additionally, the 3MW Black Rock Solar Farm supplies power for the Black Rock Water Reclamation Plant owned and operated by Barwon Water.

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<p>Protecting environmental values Crown Land Flora and fauna Native vegetation and biodiversity</p> <div style="border: 2px solid red; padding: 10px; text-align: center; color: red; font-weight: bold;"> <p>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<ul style="list-style-type: none"> ▪ The study area also encompasses a section of road reserve along Russells Bridge Road and Brownes Lane. Two protected flora species were identified in these reserves. These species will not be affected by the proposal. ▪ A Flora and Fauna assessment has been undertaken by Biosis (February 2023 and March 2024). Based on the current design, the proposed development will require the removal of 9.926 hectares of native vegetation, comprised of 7 ha of patch vegetation and 50 scattered trees. ▪ As the removal of vegetation on the site is unavoidable due to the nature of the installation an assessment has been undertaken to identify vegetation of significance and value that can be retained and potential offsets for vegetation lost. ▪ The applicant considers that it has undertaken reasonable measures to protect the environmental values of the area by firstly avoiding high impact areas, and minimising and offsetting unavoidable impacts.
<p>Protecting cultural heritage</p>	<p>A Cultural Heritage Management Plan is being prepared for the project. Engagement with the Wadawurrung has been ongoing since 2020.</p> <p>The findings of a standard assessment indicated that Aboriginal cultural heritage is present within the site, which resulted in the requirement that the CHMP progress to a complex assessment.</p> <p>The project has been designed to avoid all cultural heritage found to date with avoidance of sensitive areas including buffers from waterways.</p> <p>A CHMP will be lodged in May 2024 expected to be approved by July 2024.</p> <ul style="list-style-type: none"> ▪ Refer to section 8.9 of this report for further details.
<p>Avoiding loss of high-value agricultural land Strategically important agricultural land Solar energy facilities in irrigated districts</p>	<p>As stated in the provided agricultural impact assessment, the subject land is neither highly productive nor highly versatile. It is not considered to be significant land or strategically important land from an agricultural perspective.</p> <p>The subject site is not located within an irrigation district.</p>

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<p>Minimising impacts on landscape values</p>	<p>The Visual impact assessment concludes overall, the project is assessed as having a low level of visual impact on surrounding sensitive viewpoints, primarily due to the limited number of sensitive viewpoints and the relative lack of visibility resulting from existing vegetation throughout the landscape and rising topography. The residual visual impact will typically reduce to very low after the establishment of amelioration measures.</p>
<p>Natural hazard management</p> <ul style="list-style-type: none"> – Bushfire management – Flood management <p style="text-align: center;">ADVERTISED PLAN</p>	<ul style="list-style-type: none"> ▪ The Fire Risk assessment prepared by Ecological Australia (September 2022) outlines the proposal in relation to the Design Guidelines (CFA, 2019), including relevant model requirements and compliance methods. Given the background hazard context and landscape risk profile, its siting, construction, design and mitigation strategies, the potential risk of fire impacting on the proposed solar farm is considered to be low. Additionally, the solar farm is not expected to result in a noticeable increase in fire risk in the locality and to downwind assets and values. Note this was peer reviewed by EHP in October 2023 who agreed with its findings. On this basis the CFA provided their support for the proposal with conditions. ▪ The Hydrology Assessment prepared by Ecological Australia (September 2022) outlines that while general modelling has shown there is potential for flood impacts on the proposed Barwon Solar Farm, this may be a conservative approach depending on the soil type of the site. In areas where the soil contains more sand, rainfall will likely infiltrate, thus reducing the flow rates and flood extents across the site. Flood management has been considered in the final design of the proposal, including examining the flood levels and impacts outlined in the Hydrology Assessment and designing according to relevant recommendations. For further detail refer to section 8.10 of this report.

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TABLE – BEST PRACTICE FOR PROPONENTS

Consideration	Response
<p>Engaging the community</p> <ul style="list-style-type: none"> – Early community consultation is important – Engaging Traditional Owners – Developing well-planned consultation – Benefit-sharing – Ongoing engagement 	<p>The permit applicant has undertaken extensive consultation with stakeholders including community groups, residents, traditional owners and government. Refer to section 4.1 for further details regarding community engagement undertaken.</p>

TABLE – DESIGN STAGE

Application Requirements	Response
<p>Siting facility components</p> <div style="border: 2px solid red; padding: 10px; margin: 10px 0;"> <p style="color: red; text-align: center;">This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<p>The solar facility has been carefully designed over 16 months taking into account site constraints and the DELWP’s Solar-Energy-Facilities-Design-and- Development-Guideline-August-2019. The design accounts for:</p> <ul style="list-style-type: none"> Native Vegetation Cultural Heritage Visual Impact to neighbouring properties Bushfire Mitigation Impacts to waterways Noise Efficiency and economic viability of the solar facility

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In taking account of these constraints the development design process has had to balance these and the economic viability of the development given the high voltage (220KV) connection required for the site to be a minimum size to achieve a viable project.

A minimum setback of 30 metres from any part of a component that makes up a solar pod or zone, or other building or structure, measured from the neighbouring property boundary is recommended within the guidelines.

As set out in sections 3.2.1 the setbacks across the site vary from 600 metres down to 13.5 metres. As stated above a full assessment across the site has been undertaken in regard to impacts upon adjacent land, notably in regard to visual impact which has formed part of the design response.

Providing a blanket 30 metres setback around all perimeters of the site does not make practical sense and does not account for various topographical features and the nature of adjacent uses. This is roughly divided into direction justifications below:

North – The site's northern boundary along Little River and Sandy Creek has a proposed setback of minimum 50 metres, which is increased in several locations to avoid important areas of Aboriginal Cultural Heritage and native vegetation.

South – Majority of the southern boundary interfaces with Little Ripely Road and Travelers Way to the south-east and features a minimum set back of 20 metres. We note, all potential green glare predicted has been sufficiently mitigated through high density screening solutions proposed by the visual impact assessment prepared by Urbis.

East – The Mount Rothwell Estate is the nearest residence to the eastern boundary of the site. Although the residence is well setback from the common boundary the project will be highly apparent and is therefore considered to be highly sensitive from a visual impact perspective.

The ameliorative screen planting along the Project boundary will be set well away from the residence and designed to allow for views to the distant Brisbane Ranges. The project features a minimum setback of 30 metres from the common boundary of its site.

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	<p>West - The site almost completely visually contained in views from the west by rising topography. The Ford Proving Ground is to the west of the site, where the development and validating testing of new vehicles occurs. It is important to note that although the site is in the Farming Zone, it is considered an industrial use rather than agricultural use. There is unlikely to be any visual or amenity impacts from the proposed development to this site.</p> <p>The project features a minimum setback of 13 metres from the common boundary of this site.</p>
Landscape screening	<ul style="list-style-type: none">The subject site has exposed boundaries to the east, south and west which will be screened with perimeter screen planting to ameliorate views. The northern boundary is partially screened by vegetation lining the Little River. <p>The screen planting will differ according to location around the site, while still respecting the site's unique existing character and form.</p>
Glint and glare management	<p>Given the tilting solar panels, the flat topography with no opportunities for overlooking of the Project, the potential for impact resulting from reflection or glare is considered to be low.</p> <p>Additionally, proposed screen planting around the perimeter of the Project will mitigate this impact.</p> <p>Please see Appendix L for the visual impact assessment prepared by Urbis, which provides a detailed assessment of glint and glare impacts.</p>
Designing security measures	<p>CCTV is proposed near the perimeter of the site and secure fencing around the boundary of the site for security purposes.</p>

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<p>Traffic impacts</p>	<ul style="list-style-type: none"> ▪ A traffic impact assessment has been undertaken by Urbis (September 2022) and concludes, traffic from the proposed development will have a negligible impact on the surrounding road network during the operation stage. ▪ A Construction Traffic Management Plan will be prepared prior to the issue of a Construction Certificate, detailing the construction trip generation and haulage routes.
<p>Noise</p> <div data-bbox="280 526 824 866" style="border: 2px solid red; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; color: red; font-weight: bold;">This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<ul style="list-style-type: none"> ▪ NDY have conducted a noise emission assessment to determine if the predicted noise levels from the site are below the NIRV limits. ▪ The three most affected residential receivers range between 70m and 840m from the project boundary. Noise attenuations measures such as acoustic barriers are to be installed around the BESS and some Inverters to ensure the proposal is compliant with NIRV limits. These will be incorporated into the final detailed design and we would expect to be conditioned onto any planning permit that is granted for the project. ▪ Noise will be generated during the installation of the solar facility, by the machinery required on site to position and install the proposed equipment and to construct access tracks. Construction noise impacts will be subject to a construction management plan and construction will occur only within normal working hours.
<p>Earthworks and dust management</p>	<ul style="list-style-type: none"> ▪ Further details will be provided within a construction management plan, which will be prepared before construction begins.
<p>Natural hazard risk management</p> <ul style="list-style-type: none"> – Bushfire – Flooding <p>Other matters:</p>	<ul style="list-style-type: none"> ▪ The fire risk assessment (april 2023) outlines mitigation strategies to be taken to reduce the potential impact of bushfire to the site and surrounding areas. During the design stage, designs specific to solar energy facilities and battery energy storage systems have been implemented. An outline of all mitigation strategies taken is detailed at section 8.7 of this report. ▪ The hydrology report produced by ecological australia outlines that while there is

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- Dangerous goods and building fire safety
- Electromagnetic radiation and interference
- Heat island effect

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potential for flood impacts on the barwon solar farm, this may be a conservative approach. Sandy soil types will allow for rainfall infiltration, thus reducing flow rates and flood extents across the site. During the design stage the following aspects have been examined:

- the location of the bess in relation to flood extend and velocity mapping
- where flow paths cross existing access roads, causeways will be implemented. These will be included in the detailed design required for construction.
- water ways will safely pass under solar arrays and electrical systems
- The facility would produce only low levels of electromagnetic energy associated with electrical equipment and will be fully in accordance with the Australian standards (radiation protection standard for maximum exposure levels to radiofrequency fields - 3 khz to 300 ghz (2002)).
- Where there is adjacent horticulture or cropping activities a minimum of 10 metres separation has been adopted from the property boundary to any part of physical structure of the facility in compliance with the guidelines. A mineral earth fire break to a width of 10m is to be maintained around the entire perimeter of the site as well as the bess compound, which will minimise the impact of grassfire and/or bushfire spread. Additionally, bess components will be fully enclosed in non-combustible shipping module containers with monitoring, safety and coolant fire suppression systems.

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TABLE – CONSTRUCTION AND OPERATION STAGE

Consideration	Response
<ul style="list-style-type: none"> – Environmental management plan – Risk and emergency management planning – Site access and traffic management – Construction noise and dust management – Decommissioning 	<p>Environmental management plan (EMP)</p> <ul style="list-style-type: none"> ▪ This will be prepared before construction commences and would be expected to be conditioned onto any planning permit granted for the development. <p>Risk and emergency management planning</p> <ul style="list-style-type: none"> ▪ A fire and emergency plan will be prepared before construction commences and would be expected to be conditioned onto any planning permit granted for the development. <p>Site access and traffic management</p> <ul style="list-style-type: none"> ▪ A traffic impact assessment (Urbis, September 2022) has been prepared to outline access arrangements and impacts; however, a construction traffic management plan will be prepared before the construction stage commences and would be expected to be conditioned onto any planning permit granted for the development. <p>Construction noise and dust management</p> <ul style="list-style-type: none"> ▪ A construction management plan will be prepared before the construction stage commences and would be expected to be conditioned onto any planning permit granted for the development. <p>Decommissioning</p> <ul style="list-style-type: none"> ▪ The permit applicant will operate the facility throughout its operational lifecycle and will be responsible for removing equipment and returning the site to its previous condition if the facility ceases to operate. A condition of consent outlining this would be expected to be placed onto any planning permit granted for the development.

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TABLE – APPLICATION REQUIREMENTS

Requirement	Response
Site analysis	<p>A site layout is provided in Appendix C.</p> <p>Refer to Figure 1 and Figure 2 for aerial maps and photographs identifying the site location and the surroundings, including the nearest electricity substation and site access road.</p>

TABLE - DECISION GUIDELINES

Decision Guideline	Response
Clause 65 Decision Guidelines	Refer to section 6.7.6 for further details regarding Clause 65 decision guidelines.
Clause 53.13 Renewable energy facility	Please refer section 7.5.4 of this report for an assessment against the decision guidelines of Clause 53.13.

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TABLE – PLANS THAT MAY BE REQUIRED AS A CONDITION OF A PERMIT

Requirement	Response
<p>Development plan - The responsible authority may require amendments to be made to the development plan documentation provided as part of the application:</p> <p>6 Landscape Plan</p> <p>7 Traffic management plan (TMP)</p> <p>8 Environmental management plan (EMP)</p> <p>9 Fire and emergency management plan</p> <p>10 Complaint investigation and response plan</p>	<p>Development plans</p> <p>The evolution of the design layout to respond to site constraints was set out in section 3.2 of this report. The applicant will review any requests to change the development and will implement these if possible and if there are benefits to the community and environment.</p> <p>Landscape plan provided (Appendix F)</p> <p>Traffic Management Plan provided (Appendix N)</p> <p>Environmental management plan (EMP)</p> <ul style="list-style-type: none"> - This will be prepared before the construction stage commences <p>Fire and emergency management plan</p> <ul style="list-style-type: none"> - This will be prepared before the construction stage commences <p>Complaint investigation and response plan</p> <ul style="list-style-type: none"> - <input type="checkbox"/> If required by a condition of consent, this will be prepared before the construction stage commences

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APPENDIX W

ASSESSMENT AGAINST FARMING ZONE

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TABLE – FARMING ZONE CONSIDERATIONS

Decision Guideline	Response
The Municipal Planning Strategy and the Planning Policy Framework	Please refer to section 5.2 and 5.4 of this report for an assessment against the Greater Geelong State and Local Planning Policy Framework.
Any Regional Catchment Strategy and associated plan applying to the land.	None apply to this land.
The capability of the land to accommodate the proposed use or development, including the disposal of effluent.	The land has been assessed to be entirely capable of accommodating the proposed development as outlined throughout this report with minimal amenity impacts to surrounding properties or to the long terms use of the site itself for agricultural use beyond the life span of the proposed Solar Farm.
How the use or development relates to sustainable land management.	<p>The proposed land use seeks to provide a source of renewable energy for the surrounding area with no waste impacts as a result of its operation.</p> <p>The nature of construction for this land use is considered to be low impact, avoiding heavy duty foundations and disturbance to the land. As a result, the agricultural potential of the subject land is able to be retained after the life cycle of the use (solar farm) has been completed.</p> <p>Additionally, the site will be available for agricultural use during its operation as solar installation as the land remains ideal for grazing (most likely sheep).</p>

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<p>Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.</p> <div data-bbox="224 518 763 858" style="border: 2px solid red; padding: 10px; text-align: center;"> <p>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<p>The use and development of the land as a solar farm to produce renewable energy is entirely appropriate use of the land.</p> <p>Solar installations require large areas of land to facilitate the capture of solar radiation. The subject site provides a land profile that is ideally located on land that is neither highly productive nor highly versatile.</p> <p>To the south and west of the Project Site is a large property owned by Ford Motor company and used for the testing and commissioning of vehicles. There is no agricultural use of this property.</p> <p>To the south and east of the Project Site are the northern extremities of the You Yangs National Park and the Mount Rothwell Wildlife Sanctuary. There is no agricultural use of these tracts of land.</p> <p>East of the Project Site and north of the Mt Rothwell Wildlife Sanctuary, along the entire northern extremity and part of the western perimeter of the Project Site, the neighbouring properties are in various forms of agricultural use. The use includes sheep grazing, broadacre cropping for cereals and oilseeds, an Olive Grove, some beef cattle grazing and equine grazing. No interdependence between the farms of the Project Site and these adjoining properties has been identified. They operate as separate stand-alone enterprises. There is clearly no identifiable impact from the installation of solar panels on any of these surrounding farming businesses.</p> <p>Overall the removal of up to 505 hectares from cropping use should not result in any discernible negative impacts on the agricultural use of the adjacent properties. It is important to note that 225 hectares of land will not be developed, partially maintained as grazing land for sheep. Importantly, sheep grazing will be able to continue within the solar farm installation, providing a dual use.</p> <p>Additionally there is potential for up to 40 hectares of this land to be reserved for conservation of an onsite-offset throughout the site, thus improving the land form and quality through direct management.</p>
<p>How the use and development makes use of existing infrastructure and services.</p>	<p>The use and development will seek to use existing infrastructure and services in the following ways:</p> <ul style="list-style-type: none"> ▪ Utilise the existing road network and access points to the site on its southern boundary. ▪ The project will connect to the grid via the existing Geelong Terminal to Keilor Terminal 220 kV powerline which passes through the southwest corner of the development site. <p>Due to the network strength at this location, a Full System Strength Impact Assessment is not required according to AEMO.</p>

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TABLE – AGRICULTURAL ISSUES AND THE IMPACTS FROM NON-AGRICULTURAL USES

Decision Guideline	Response
Whether the use or development will support and enhance agricultural production.	Although the use will not directly support agricultural production, it will not affect it on the long-term use of this land or on surrounding land uses. The halting of cultivation during the lifetime of the project can also benefit the soil structure as a regenerative land management practice. When the project is decommissioned at the end of life the land will have had time to recover from intensive cultivation, restoring biodiversity and soil health.
Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production.	<p>If the proposed installation is not planned to be upgraded at the end of its life cycle, a decommissioning plan will be provided to DELWP for approval prior to decommissioning works being undertaken.</p> <p>Once this is completed the site will revert to full agricultural use as grazing land across the whole site as the nature of the construction and installation methods (refer to section 3.2 of this report) are designed to consider long term and adverse impacts upon the soil quality or land for long term agricultural use as grazing land.</p>
The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.	The proposed solar installation will be contained wholly within the subject site and will produce no emissions of any kind; therefore, it will not impact the operation or expansion of adjacent nearby agricultural uses.
The capacity of the site to sustain the agricultural use.	The site will maintain it's agricultural use as light grazing land in conjunction with the renewable energy facility.
The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure.	The proposed development will not affect the agricultural qualities of the land. As stated, once the lifespan of the solar farm is complete, it would revert to its natural state maintaining the soil quality, access to water and rural infrastructure
Any integrated land management plan prepared for the site.	There is no integrated land management plan that applies to the site.

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DWELLING ISSUES

The existing residential property located at 1320 Little River - Ripley Road, Balliang will also be retained. The owner of this property has signed a lease agreement to use the land for the purposes of grazing. A copy of this lease agreement (Thomson Geer Lawyers, September 2021) is contained in AppendixQ (sensitive details redacted).

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TABLE – ENVIRONMENTAL ISSUES

Guideline	Response
<p>The impact of the proposal on the natural physical features and resources of the area, in particular on soil and water quality.</p>	<p>The proposal has been sited and designed to protect soil and water quality and other natural features of the site as discussed in section 8.10 of this report.</p> <p>The development of the facility will involve substantial changes to the local hydrology, and special consideration of the risks of soil erosion is required.</p> <p>Further details of these considerations can be found in the Hydrology report contained in Appendix K.</p>
<p>The impact of the use or development on the flora and fauna on the site and its surrounds</p>	<p>The proposed development has been sited to minimise any impact on existing flora and fauna by taking into careful consideration the natural environmental features of the site including avoiding areas of remnant vegetation and identified habitat zones.</p> <p>Further details of the impact to flora and fauna are detailed in section 8.3 of this report.</p>
<p>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.</p> <div data-bbox="224 1054 763 1394" style="border: 2px solid red; padding: 10px; margin-top: 10px;"> <p style="text-align: center; color: red;">This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<p>Following the results of the Flora and Fauna Assessment and memo (Biosis, February 2023 and March 2024) the solar farm layout has been significantly altered and reduced to avoid impact to native vegetation. The design has avoided the majority of the Plains grassland within the site and riparian vegetation along the Little River and Sandy creek.</p> <p>A rigorous approach to the avoidance of native vegetation has been undertaken through a design review process (5 designs as set out in section 3.2.1 of this report). Geotechnical studies have shown that large areas of the site are unable to be constructed upon due to the presence of rock on the surface or under 2m in depth. Nevertheless, the design has accounted for the limited areas of patch vegetation impacted (VQ30 and small section of VQ6 and 3b).</p> <p>The installation of panels in low-quality vegetated areas is unlikely to limit dispersal activities as the ground layer will still be vegetated and relatively undisturbed as panels are installed on posts, with a relatively small direct disturbance footprint. There is a growing body of evidence from other solar projects that the partial shading caused by solar panels does not completely kill grassland species, and it is possible that some elements of the grassland (ie. Native grass species), may survive into the long term.</p>

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	<p>The impact to trees has been minimised as far as possible through. Further design refinement in response to consultation with DEECA (including the DEECA RFI to the Planning Permit Application) has seen the contraction of the panels in favour of preserving a further 51 trees.</p> <p>At this stage, no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal. Any further reduction in development area would render the project economically unviable and the project would not be able to proceed.</p> <p>Further detail on this can be found in section 7.5.3 and section 8.3 of this report.</p>
<p>The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation.</p>	<p>There will be no on-site effluent disposal. The site will have a compost toilet for maintenance workers which will be maintained on a regular basis with any compost waste being disposed of off-site.</p>

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TABLE – DESIGN AND SITING ISSUES

Guideline	Response
<p>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.</p>	<ul style="list-style-type: none"> ▪ Given the nature of the development, the solar installation will be distributed evenly across all 7 lots and maintain its agricultural use via sheep grazing across the developed land. ▪ Key areas of the subject site will remain undeveloped to ensure limited impact to areas of cultural and heritage sensitivity or ecological importance. ▪ The proposed battery and substation compound which take up a very small percentage of the total site area has been appropriately located to the far south of the site at the primary point of connection. ▪ Additional vegetation screening and acoustic barriers have been proposed around the BESS to ensure minimal impact to immediate roads and land uses. ▪ The existing residential property located at 1320 Little River - Ripley Road, Balliang will also be retained.
<p>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.</p> <div data-bbox="224 1038 763 1380" style="border: 2px solid red; padding: 10px; margin: 10px 0;"> <p style="text-align: center; color: red;">This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</p> </div>	<ul style="list-style-type: none"> ▪ Although the solar installation results in a different landscape character from the existing setting, its low profile will ensure that from ground-based viewing locations, only localised changes to the landscape character will result. ▪ The following measures will be implemented to reduce visual impact: <ul style="list-style-type: none"> – Establish screen planting around selected perimeter areas of the project with screening species to ameliorate views. – Taller elements such as transformers and switching substations will be clad with non-reflective materials and be finished in a natural or neutral colour, as found in the landscape of the setting. – All internal powerlines for this site are proposed to be trenched. ▪ No impacts to on major roads are expected from traffic generation (refer to section 8.4 of this report). ▪ Further detail regarding visual impact associated with glare and glint is discussed in section 8.5.1 of this report. Please also refer to the landscape and visual impact assessment (September 2022)

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	at Appendix L.
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.	<ul style="list-style-type: none"> ▪ The most visible changes to the landscape character of the existing setting will result to views from three adjacent residences. However, following amelioration, comprised of the establishment of locally indigenous screening vegetation along the Project boundaries, the landscape character will appear similar to the remainder of the regional agricultural landscape and other bands of vegetation that occur through the landscape of the region. ▪ The landscape of the Project setting has a generally high landscape absorptive capacity, as the flat topography does not allow for significant overlooking and the scattered, and occasionally dense vegetation in the area surrounding the Project. Screen planting will differ according to locations around the site, while still respecting the site's unique existing character and form.
The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.	<ul style="list-style-type: none"> ▪ The site will require a connection to the electricity grid via the 220KV transmission lines that run north to south through 1320 Little River Ripley Road. The project substation will be located immediately west of these powerlines and connect directly via cables on power poles within the projects substation (refer to section 3.2.8 for further details).
Whether the use and development will require traffic management measures.	<ul style="list-style-type: none"> ▪ During the construction of the facility, traffic management measures will be put in place. The details of these will be provided to council prior to the construction stage through a traffic management plan part of the building permit application. ▪ The on-going operation of the solar farm will not require permanent traffic management measures due to the infrequency of traffic visiting the site which will be less than the current traffic that enters and exits the site for agricultural purposes. ▪ Please refer to the Traffic impact assessment at Appendix N (Urbis, September 2022).

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APPENDIX X

ASSESSMENT AGAINST CLAUSE 52.05 BUSINESS IDENTIFICATION SIGNAGE

Clause 52.05 decision guidelines	Response:
The character of the area:	The proposed signs do not contribute to excessive visual clutter as they are isolated to on single entry point along the sites southern interface. The signage is proportionate to the site context and respectfully respond to the character and amenity of the surrounding area.
Impacts on views and vistas:	The proposed signage will not impact any existing vistas or impede views to existing signs.
The relationship to the streetscape, setting or landscape	The proportions of the proposed signs are appropriate given the size of the site frontage and the limited built form surrounding the site.
The relationship to the site and building:	The proposed sign will sit parallel to the main access gate The signs will provide clear identification of the businesses in relation to the site.
The impact of structures associated with the sign:	All signs will be affixed to the fence, so no impacts will arise as a result of the sign's structure.
The impact of any illumination:	Illuminated signs are not proposed.
The impact of any logo box associated with the sign	The proposed logo box is proportionate to the overall sign.
The need for identification and the opportunities for adequate identification on the site or locality	The proposed signs are required to identify the tenants within the region. Noting the site spans seven separate but contiguous lots and is approximately 735 hectares in size. The proposed signs are critical to the function and management of the site.
The impact on road safety	The proposed signs will not impact the safety of Little River- Ripley Road as the signs are affixed to the fence, will not emit coloured lights, and cannot be mistaken for traffic control device.

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