

**ADVERTISED
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Planning Report

5MW Solar Energy Facility 6 Meridian Road, Yelta



December 2021

Ref: 21238

Applicant: Green Gold Energy

Rev 1. | 06/06/2022

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Document Ref: 21238, Rev. 1_R_GreenGold Solar Energy Facility, Yelta_081121

Contents
 5MW Solar Energy Facility
 6 Meridian Road, Yelta

1	INTRODUCTION	2
2	GREEN GOLD ENERGY COMPANY PROFILE.....	3
3	SITE SELECTION & PRE-APPLICATION PROCESS.....	3
4	SITE AND CONTEXT DESCRIPTION.....	4
	4.1 Surrounding Context.....	5
	4.2 Existing Planning Controls.....	6
5	PROPOSAL & PLANNING PERMIT TRIGGERS.....	6
	5.1 Planning Permit Triggers	7
	5.2 Other Statutory Considerations	7
	5.2.1 Bushfire Prone Areas.....	7
	5.3 Facility Equipment	7
6	VICTORIA'S CLIMATE CHANGE STRATEGY	9
7	DESIGN CONSIDERATIONS.....	9
8	SOLAR ENERGY FACILITIES DESIGN & DEVELOPMENT GUIDELINES	10
	8.1 Identifying suitable locations	10
	8.2 Community Consultation	12
	8.3 Design.....	12
	8.4 Construction Stage.....	13
	8.5 Operation Stage.....	15
	8.6 Decommissioning.....	17
9	CFA GUIDELINES FOR RENEWABLE ENERGY INSTALLATIONS	17
10	MILDURA PLANNING SCHEME.....	19
	10.1 Planning Policy Framework.....	19
	10.2 Local Planning Policy Framework.....	23
	10.3 Farming Zone (FZ)	26
	10.4 Environmental Significance Overlay (ESO1).....	29
	10.5 Land Subject to Inundation Overlay.....	31
	10.6 Native Vegetation (Clause 52.17).....	32
	10.7 Car Parking (Clause 52.06).....	33
	10.8 Renewable Energy Facility (Clause 53.13).....	33
	10.9 General Provisions.....	34
11	CONCLUSION.....	35

1 Introduction

This report has been prepared by Chris Smith and Associates for Green Gold Energy Pty. Ltd. – referred to herein as “Green Gold”. The proposal is for a 17.3-hectare solar energy facility on a 118-hectare parcel of land at 6 Meridian Road, Yelta.

This application also includes the ancillary power lines within the adjacent road reserve (Hoyle Road) along the north-western boundary of the subject site.

The facility is considerably smaller than the larger facilities that have been approved through regional Victoria. Green Gold’s proposed facility is designed to provide approximately 5MW (megawatts) of electricity to the local distribution network. Landscaping is to be provided along all active interfaces with neighbouring properties and road frontages.

The subject site is located approximately 6km east of Wentworth and 6.5 north-west of Merbein and has been selected based on its suitable attributes, in accordance with the *Solar Energy Facilities Design and Development Guidelines, August 2019*, as set out in this report, including direct access to 22kV powerlines and the adjacent sub-station.

Key reference documents used to guide the site selection and design process for this proposal are:

- Victoria’s Climate Change Strategy
- Solar Energy Facilities Design & Development Guidelines, August 2019
- CFA Guidelines for Renewable Energy Installations, 2021 Revision
- Mildura Planning Scheme

The site and proposal assessments, plans and documents produced to inform and support this application are:

- **Certificate of Title**, Vol. 10693; Fol. 768
- **Site Plan**, by Green Gold Energy (*both with and without aerial photo underlay*)
- **Electrical Equipment Elevations**, by Green Gold Energy
- **Fence Elevations**, by GPA Engineering
- **Overhead Powerlines Elevations**, by Green Gold Energy
- **Construction Environmental Management Plan**, by Green Gold Energy
- **Agricultural Assessment**, by Cadeema
- **Glint and Glare Assessment**, by Environmental Ethos
- **Noise Impact Assessment**, by ADP Consulting
- **Biodiversity Impact Assessment**, by Red-Gum Consulting

2 Green Gold Energy Company Profile

Green Gold is a South Australian-based company that takes a collaborative approach to renewable energy. Green Gold seek to partner with landowners to identify land that balances the farmer's needs and the requirements for electricity generation for all solar energy facilities.

Green Gold's core business is centred around smaller or underused parcels of rural land that can support commercially viable Solar Energy Facilities with the necessary investment and infrastructure.

These solar energy facility projects are designed to export generated energy into the grid, enabling it to be sold on the National Electricity Market using the latest state-of-the-art PV technologies to ensure the most efficient, reliable power generation.

Green Gold projects deliver:

- Long-term, secure supplementary income to landowners
- Access to the Australian renewable energy market to investors and shareholders
- Sustainable returns for investors

These projects also bring significant benefits to the regional communities they are located in by creating jobs, providing local economies with the assets to improve energy infrastructure, and creating stronger, more sustainable communities.

The Green Gold executive team has commissioned more than 50 solar energy facilities in South Australia. Green Gold state: "We are proud of the role we're playing in powering our region's green energy transition".¹

3 Site Selection & Pre-Application Process

The decision by Green Gold Energy to expand into providing solar energy facilities in Victoria was based on consideration of solar access, trunk electricity network infrastructure and the necessity to transition toward clean, efficient and affordable electricity. Victoria contains areas with expanses of flat and open topography with very little or no environmental constraints such as rock, steep terrain or native vegetation.

The subject site was secured by Green Gold Energy because it held the above-mentioned attributes conducive for solar facilities and is directly adjacent to 22kV powerlines and has a willing owner – who welcomed the opportunity to receive an alternative income form the land as its agricultural viability is marginal.

Once it was determined that the site had the required physical and electricity network attributes – a flat open site, adjacent powerlines that have the capacity to accept electricity generated by the facility that can feed into the nearby substation for use by the local community, Chris Smith & Associates were engaged to carry out a pre-application investigation of the site.

This included the following two-phase investigation and assessment process:

Phase 1 – Initial investigation:

- Desktop planning investigation to determine planning controls applying

¹ <https://greengoldenergy.com.au/about/>

- Discussion a local agricultural consultancy with extensive knowledge of farming and land use considerations and constraints.
- Informal pre-application discussions with DELWP renewables team.

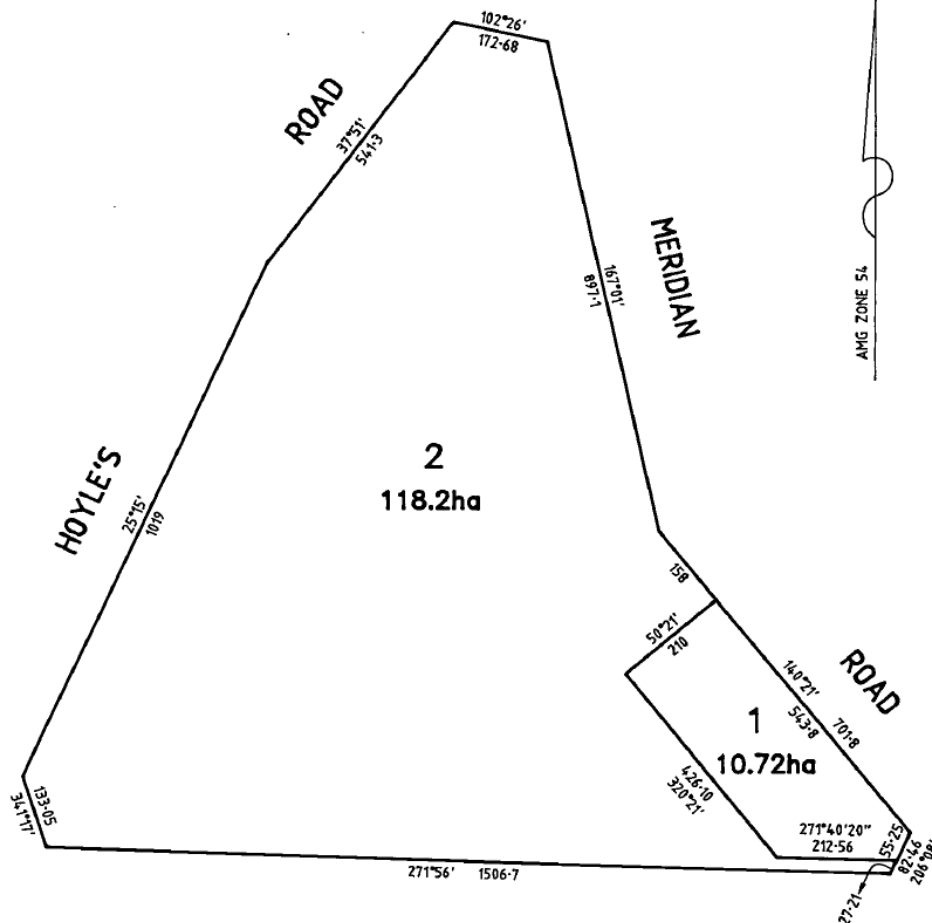
Phase 2 – Concept design & specialist assessments:

- Engage specialist consultants to undertake environmental and visual impact assessments of the site and provide independent professional opinion of the likely impacts of the proposal on the surrounding area.
- Detailed planning assessment.
- Refine solar facility layout and design, based on the recommendations of these investigations and assessments.

The aforementioned site and planning investigations confirmed the subject site's suitability, including being well clear of any areas of cultural heritage sensitivity. Accordingly, it is submitted that a detailed and balanced approach to all relevant site and planning considerations has been undertaken to provide a sound planning proposal, as set out in this report and supporting documents.

4 Site and Context Description

The proposed solar energy facility is to be built on land at 6 Meridian Road, Yelta, located wholly on a single parcel – **Lot 2, PS504917**.



Green Gold Energy has agreed to lease a north-western portion of the subject site from the landholder to develop it for a solar energy facility – for a period of approximately thirty (30) years.

A Certificate of Title for the subject land is appended with this report – Certificate of Title, Vol. 10693, Fol. 768. The land's legal configuration is illustrated in the below figure.

The subject land is an irregular, loosely triangular-shaped allotment with an area of approximately 118 hectares. The site has two (2) frontages to adjoining Council roads; with a frontage of approximately 1.1km to Meridian Road along the eastern boundary and 1.5km to Hoyle Road along the western frontage. The Hoyle Road frontage includes the extent of both made and unmade road reserve.

The subject land is largely open, cleared land, with the exception of some patches of remnant tree lines along the north-eastern portion of the site. The cleared areas have historically been used for irrigation.

The proposed facility will occupy approximately 17.3ha of the 118ha property. The remaining land outside the facility's compound fence to the north will remain "as is" allowing stock to graze seasonal growth, and/or dryland cropping.

4.1 Surrounding Context

The subject land is located approximately 6km east of the Merbein township – by direct measurement to the nearest urban-zoned land.

Any dwellings within a 2km radius of the proposed facility are illustrated in the below figure. The proposed development site is well screened from these dwellings by existing vegetation and topographical features.

Accordingly, the potential for the facility to visually impact surrounding dwellings is considered to be low.

The surrounding area is a mix of dryland agriculture, public land, and wetlands within the Murray River floodplain:

- **North:** The land north of the subject land contains the Calder Highway – which transitions into the Silver City Highway in NSW beyond which the Murray River. The Murray River itself runs around the subject site and continues along the western boundary.
- **East:** Immediately east of the site is the terminus for the Mildura-Melbourne Railway, which contains silos and storage. Reflective of the land use, this land is within the Public Use Zone. Beyond Meridian Road, the old Yelta township area contains a handful of dwellings.

Beyond the immediate vicinity of the site, the prevailing land use is conventional agriculture, with a mix of irrigated and non-irrigated farming.

- **South and West:** The land to the south/west of the site contains a mix of low-lying wetlands and biodiversity corridors with the prevailing land use being natural systems. There are a series of informal tracks and paths; however, the land remains public land.

The site is fronted by existing 22kV overhead powerlines which run along the northern side of Hoyle Road.

Hoyle Road is within a road reserve with a width of approximately 100 metres, with carriageway itself aligned along the opposite side of the road reserve.



Immediate site locality – showing 1km radius from centre of proposed facility

4.2 Existing Planning Controls

The subject land is within the **Farming Zone** and is affected by **Environmental Significance Overlay 1** and **Land Subject to Inundation Overlay**.

5 Proposal & Planning Permit Triggers

This application seeks planning approval to **use and develop** approximately 17.3 hectares of land at 6 Meridian Road, Yelta for a **solar energy facility** as shown on the attached plans.

The proposal also includes development of the adjacent road reserve containing Hoyle Road for a **utility installation** – being the extent of overhead lines that will connect into the existing 22kV overhead lines within the road reserve.

The proposed solar energy facility has been designed in compliance with the provisions of Clause 53.13 of the Mildura Planning Scheme.

The proposed development includes the **removal of native vegetation**, which is limited to patches of native grasses that have established through former/disused irrigation bays.

The proposal does not include any advertising signs (Clause 52.05), or any other matter requiring a planning permit.

5.1 Planning Permit Triggers

As touched on above, a planning permit is triggered for the proposal pursuant to the following provisions of the Mildura Planning Scheme:

Land Use

- 35.07-1 – To Use land for a *Solar Energy Facility* and *Utility Installation* in the Farming Zone. The use must meet the requirements of Clause 53.13.

Building and Works...

- 35.07-4 – ... associated with a Section 2 Use/s in the Farming Zone.
- 42.01-2 – ... including a fence, within the Environmental Significance Overlay 1
- 44.04-2 – ... including a fence, in the Land Subject to Inundation Overlay

To Remove, destroy or lop any vegetation, including dead vegetation...

- 42.01-2 – ... on land within the Environmental Significance Overlay 1
- 52.17-1 – ... in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*.

5.2 Other Statutory Considerations

5.2.1 Bushfire Prone Areas

The subject land, in addition to the surrounding area is wholly within the **Bushfire Prone Areas** mapping, which applies the provisions of the Building Regulation 2018 to development.

Accordingly, the proposal has been designed in accordance with the CFA's Guidelines for solar energy facilities to ensure that bushfire risk is managed – refer to the relevant section of this report for a detailed assessment.

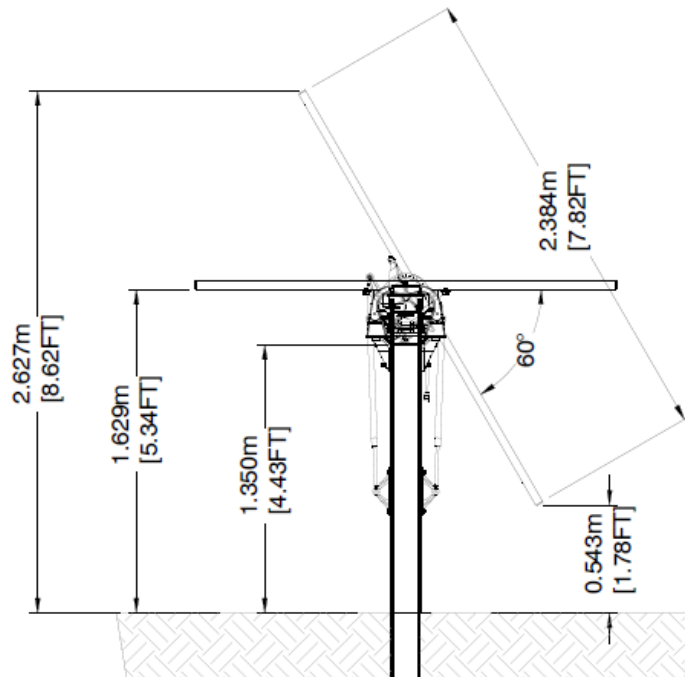
5.3 Facility Equipment

The proposed solar energy facility, utility installation and associated works are to be as shown on the attached plans and supporting documents.

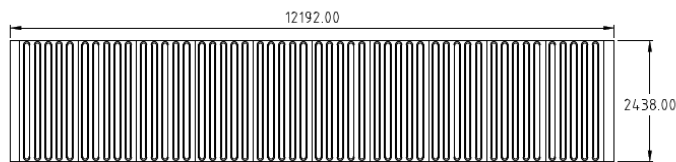
Specifically, it will consist of:

- **12,844 solar panels**, mounted on single axis tracking arrays, each having the following specification:
 - Nominal dimensions of 2.2m by 1m
 - Maximum height of 2.6m above ground (when at maximum rotation)
- **2.3m high perimeter fence** consisting of 1.8m high chain wire mesh and three strands of barbed wire on top around entire perimeter of facility, including a single gate – positioned to the front (south) of the facility.
- **Single vehicle crossing (access point)** from the west to Hoyle Road at the location shown on the Site Plan, to the requirements of the relevant local road authority.
- **Perimeter landscaping** as shown on Landscape Plan, directly outside the compound fence on all sides of the proposed facility.

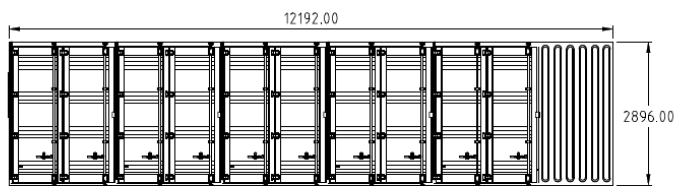
- **One (1) medium voltage power station inverter**, positioned central to the facility – between panel arrays – containing two (2) SMA2475 inverters internal to the inverter station
- **Pole and 22kV overhead powerline** connection to Powercor electricity distribution network beyond Hoyle Road.
- **One (1) high voltage power switchboard**, positioned in the northern corner at the front of the facility.



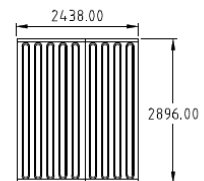
Cross Section of Typical Solar Panel Array (maximum height)



Top View



Front View



Side View



Elevations of Proposed Inverter Station

6 Victoria's Climate Change Strategy

Victoria's *Climate Change Act 2017*, outlines a comprehensive framework to achieve both emissions reduction and renewable energy targets to be achieved by 2050.

The strategy aims at reducing state's emission *up to 28-35% by 2025 and 45-50% by 2030 (Victoria Climate Change Strategy, 2021)* respectively.

The strategy delineates opportunities to cut out greenhouse gas emissions whilst acknowledging largest source of emission is the energy sector. The cutting-edge policies and investments seek to drive emissions reductions not only in Victoria but across the National Electricity Market by reducing the amount of electricity we need to import from interstate and therefore reducing the amount of fossil fuel-based electricity generated by other states (*Victoria Climate Change Strategy., 2021 p.10*).

This strategy outlines a **five (5) point plan** to ensure Victoria's Net Zero Emission Future:

- **A clean Energy Economy**

"Globally, installed wind and solar capacity will exceed gas by 2023 and coal by 2024"

"By 2030, 50% of electricity generated in Victoria will be sourced from renewables"

- **Innovation for the future**
- **Resilient Farms and Forests**
- **Climate smart businesses and communities**
- **A climate resilient Victoria**

The proposed development represents a step for Victoria toward a renewable energy future, on land that is currently used for marginal agricultural use and contains limited identifiable biodiversity value. This facility has been located to avoid the Mildura irrigation district to preserve higher value agricultural land for continued farming.

The development would not require the removal of significant native vegetation; with the vegetation to be removed being low-quality grasses and shrubs that have regenerated on unmanaged farming land and would provide a regional municipality with access to affordable renewable energy.

7 Design Considerations

Clause 53.13 of the Mildura Planning Scheme provides the key planning framework for all new renewable energy facilities, ensuring that the facilities are located in appropriate locations, so they have minimal impact on the amenity of the area.

The ***Solar Energy Facilities Design & Development Guidelines, August 2019***, are incorporated into the Scheme. The guidelines outline the key considerations for the use and development of solar facilities across Victoria.

The ***CFA Guidelines for Renewable Energy Installations, February 2019 (Revised March 2021)*** provide standard requirements with regard to fire safety, risk and emergency management for consideration in the design, construction and operation of renewable energy facilities, including solar facilities.

As such, these documents have informed the process – from the initial site selection through to design, proposed construction methods, operation and maintenance – right through to the ultimate decommissioning of the facility. To this end, consideration of the matters required by these documents is demonstrated throughout this report and the supporting documents. Notwithstanding this:

- the application requirements of Clause 53.13 are addressed in **Section 10.7** of this report;
- an overview/response to the relevant provisions of the DELWP Guidelines is below in **Section 8**; and
- a response to the relevant provisions of the CFA Guidelines is below in **Section 9**.

8 Solar Energy Facilities Design & Development Guidelines

These Guidelines set out best practice advice for developers of solar energy facilities in Victoria, including recommendations for community consultation, design, consideration of off-site impacts, construction, operation and decommissioning. In addition to the details throughout this report, the considerations and application requirements set out in the Guidelines have been grouped and responded to under the following themes.

8.1 Identifying suitable locations

Green Gold has extensive past project experience across Australia – having commissioned approximately 50 solar energy facilities in South Australia – typically small-scale solar generation facilities, similar to the current proposal. Most of these facilities have been built and are currently providing clean and cheap renewable energy to the immediately surrounding local community.

Northern and Western Victoria has been identified as having excellent solar irradiance and the Mildura region has already seen significant investment in major renewable electricity generation for the use and benefit of users on the national grid; however, this project is based on an identified capacity for additional electricity for use by local agriculture, industry and residents.

Factors such as land availability, proximity to the electricity network, accessibility, topography and site constraints are all key considerations when first looking for potential sites.

Existing electricity transmission network

The financial viability of a sub-5MW facility is dependent on the facility being within immediate proximity of the distribution network, as beyond this, network augmentation costs become prohibitive. The subject site was initially selected for its direct abuttal to existing 22kV lines and substation.

The siting of the facility close to the existing transmission infrastructure allows efficient transmission of the energy generated into the grid; and for a financially viable connection to be achieved whilst also ensuring the proposal is consistent with recent changes to planning policy which seeks to regulate extensive overhead power line connections.

The facility design – in particular, positioning of the HV Switchboard - has considered existing trees on the land and the adjacent road reserve. A clear line of sight has been

achieved for the overhead connection between the switchboard and the nearest Powercor pole on the along Hoyles Road. Accordingly, the proposal will avoid the need for removal of any trees.

Managing cumulative effects in area

The Solar Facility Guidelines outline the considerations of planning with regard to managing the potential cumulative impacts of solar energy facilities. The proposal is for a sub-5MW facility that will occupy approximately 17.3ha of land, a relatively small portion of agricultural land that retains the significant portion of the site for continued agriculture.

There are no public records of any proposed or existing solar energy facilities with close proximity to the proposal site. **The nearest facility is the approved Fifth Street Merbein** solar energy facility – approximately 10km south-east of the subject site. Accordingly, the proposed facility would not lead to any undue cumulative visual impact on the surrounding area as a result of solar panels.

The visual impact of the facility is to be further softened through the use of landscape screening. VCAT precedent has established that solar energy facilities are a typically benign land use that causes fewer impacts than many conventional rural land uses, such as those present within the site's immediate locality.

Accordingly, it is submitted that when viewed in the context of their surrounds the cumulative impact of the approved and proposed solar facilities, in terms of both land use and visual impact, is minimal.

Protecting environmental, site and amenity values

The site has been deemed suitable because of its lack of significant biodiversity value. The site is dominated by degraded pasture and opportunistic or invasive weed species with limited grazing value.

The land does not contain any mapped wetlands, either current or historic. The site contains areas of scattered remnant trees; however, the proposal has been located on a largely cleared part of the site and designed to limit the impacts on the existing paddock trees – with solar panels sited around the existing trees. Thus, there will be no impact from the proposal or any associated works.

The proposed development site is not in an area of cultural heritage sensitivity.

The site is identified as being susceptible to flooding under the Land Subject to Inundation Overlay – it is considered that suitable conditions will be imposed by the CMA as a Condition of the sought permit.

The land within the Murray River floodplain is within the Environmental Significance Overlay 1 – which seeks to protect health and environs of the Murray River floodplains. Detailed assessment of flood considerations is undertaken against the relevant provisions of the Planning Scheme within this report.

Minimising impact on landscape values

In considering size and magnitude of the facility, as well as the flat topography of the site and the built form of the development, landscape impacts are considered to be unlikely – an illustration of the surrounding area is provided with this application.

With a total area of 17.3ha, the proposed facility is considered to be of substantially lesser scale than typical conventional facilities, which can occupy hundreds of hectares of land.

The proposal also includes a centrally located inverter station, and a switchboard within the compound at the electricity network connection point. None of these components are particularly large or visually intrusive and are considered comparable to an agricultural shed. The facility does not include any batteries.

The subject land is within the Farming Zone and many surrounding properties are used for seasonal grazing. There are two dwellings to the west of the facility, on the property to the west of Hoyle Road. However, these dwellings are located within the Farming Zone and therefore not considered a sensitive use for the purpose of planning.

It is submitted that the proposal will have very little (negligible) visual impact on the locality, mostly due to the topography of the land, the height and scale of the proposed facility and use of perimeter screening landscaping. Cumulative impact of all proposed solar facilities in the area has been managed through the careful site selection process which obscures views from most public interfaces.

8.2 Community Consultation

As a result of the current climate with regard to the COVID-19 pandemic apparent and restrictions were imposed by the State's Chief Health Officer, Green Gold has been unable to make any to approach neighbours in-person and have therefore not been able to undertake face-to-face consultation with all nearby neighbours as would have been typical practice.

Accordingly, the notice provisions of Section 52 of the P&E Act will ensure all relevant stakeholders will be notified.

8.3 Design

The proposed solar panels are set back from each boundary of the site, as follows:

- West (front): 40m between the nearest panel and property boundary with Hoyle Road.
- North: Approximately 336m to the northern boundary (also bounding Hoyle Road)

The entire perimeter (inside the compound fence) includes at least ten (10) metres clear open space for emergency access and fire separation – as per the CFA Guidelines.

The inverter station has been positioned close to the panel arrays, and away from neighbouring properties to minimise potential for amenity impacts.

It is submitted that the proposed facility should be considered as having “**no impact**” in terms of glint and glare, given the siting, height and orientation of the panels in conjunction with the topography of the area, existing landscaping and vegetation. It is submitted that solar reflection at ground level on surrounding properties and roads would be impossible. To demonstrate this, a Glint and Glare assessment has been prepared by Environmental Ethos Pty Ltd and is provided herewith.

The facility will not have any external lighting, sirens or other security devices. It will be locked within a secure perimeter fence and monitored remotely and any issues will be managed by a local security company, which provides a local employment opportunity.

8.4 Landscaping

Landscaping is to be provided along all sides of the facility – with varying widths – as shown on the Site Plan and Landscape Plan submitted herewith. Landscaping will be a staggered row planting of suitable massing locally indigenous medium shrubs as specified on the Landscape Plan.

The landscaping will be positioned directly outside the compound fence – with the potential for a second post-and-wire “farm fence” outside the landscaping so that it can be protected from grazing stock – within the property boundary.



Silver Emu-bush



Narrow-leaved red mallee

The proposed landscaping species are indigenous to the Mallee and western Victoria, which will serve to provide both screening of the facility, as well as providing limited habitat for the surrounding biodiversity.

By locating the landscaping along the property frontage, within the road reserve, along Hoyle Road, the proposal provides a long-term likelihood that this landscaping will be retain beyond the lifespan of the proposed solar energy facility.

8.5 Construction Stage

Once built, the facility will remain largely static (with the exception of tracking arrays) and largely unmanned. Accordingly, the construction period will be the most impactful period of the facility’s lifespan. However, it is for a short finite period and – if managed appropriately – impacts can be controlled to an acceptable level.

The **Construction-Environment Management Plan** by Green Gold – attached herewith – includes a construction delivery timeframe. This is anticipated to be undertaken across an approximate nine (9) month construction period, with the following expectant parameters:

- **Stage 1 – Early works** consisting of piling tests, construction of site access, including vehicle crossing to Hoyle Road. During this stage, the number of workers on site should be no more than to 10.
- **Stage 2 – Civil works** consisting of land clearing, levelling and earthworks, internal road construction, drainage installation, laydown area preparation, fencing installation, site establishment, preparation of delivery station and

inverter station, and vegetation screening/landscaping. There should be 3-5 workers on site to carry out civil works.

- **Stage 3 – Mechanical works** consisting of foundation piling (ramming and auguring), tracker installation, module installation and delivery. There should be 10-15 workers on site to carry out mechanical works. Delivery of tracker piles and modules will be scheduled before piling and mechanical installation commences.
- **Stage 4 – Electrical works** consisting of solar cabling of aerials and conduits, DC main cabling via direct burial, MV cabling from inverter station to delivery station through direct buried, module connection, connection of junction boxes-inverters-delivery station, connection to grid and finally testing and commissioning. There should be 10-20 workers on site to carry out electrical works. Delivery of all electrical equipment including cables and accessories will be scheduled across this stage.

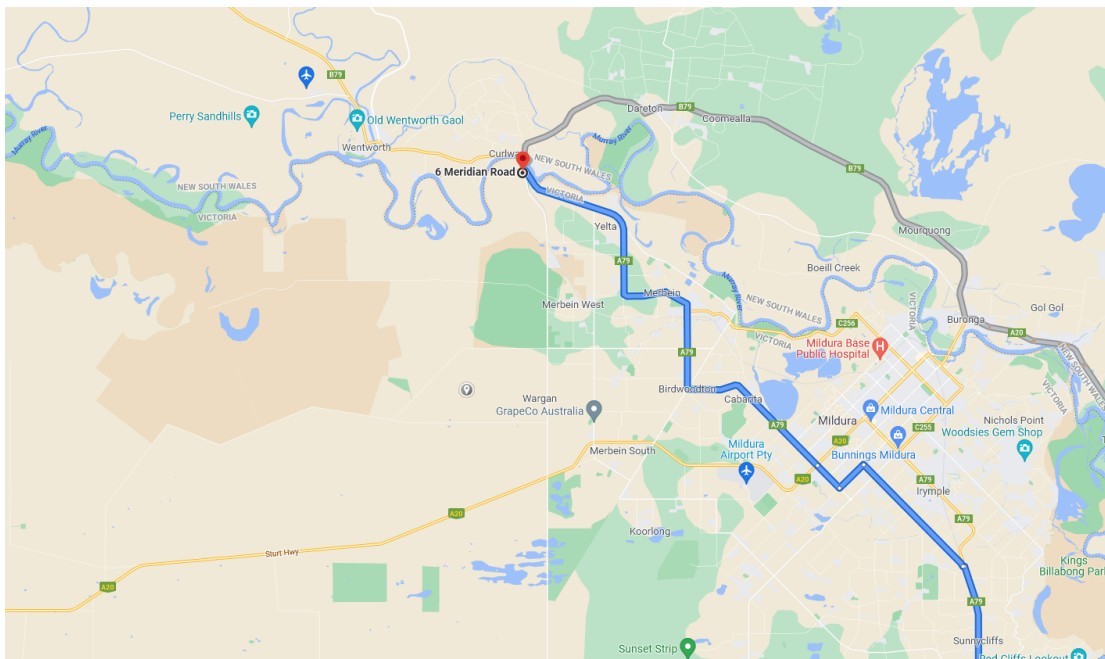
It is anticipated that all components will be delivered in containers by semi-trailer trucks and deliveries will be scheduled across the nine-month project construction period.

The Construction Management Plan sets out how construction activities will be carried out, including site logistics, operations and equipment to be used, construction hours and site management.

The proposed solar array system requires minimal earthworks. Thus, there is less propensity for environmental impacts.

Deliveries of components will be scheduled across Stages 2, 3 and 4, as required. Solar components (support system, trackers, panels and cabling) are delivered in pre-packed containers that are lifted from the delivery truck onto the lay-down area.

Construction traffic management



Proposed transport route between Calder Highway south of Mildura to the subject site

The immediate local road network will connect to the state-managed arterial road network for traffic to and from the site. The peak of construction activities will occur during the mechanical and electrical installation phases of construction. During these times, up to 20 workers could be on site during working hours. Workers will access

the site in the morning and leave at the end of the working day in either their private car or work vehicle (ute or small truck). It is anticipated that there will be some carpooling, therefore it is expectant that **up to 15 cars/utes** would be accessing the site during the height of the construction period.

Materials deliveries will also occur throughout the construction period, with most components coming in during the mechanical works phase. Deliveries will be via rigid truck or semi-trailer and will be scheduled throughout the working day, to ensure efficient unloading and handing. It is anticipated that there will **up to 3 or 4 truck deliveries** during the height of the construction period.



Hoyle Road and Calder Highway intersection

It is anticipated that most equipment and componentry will be delivered to site from Melbourne via the Calder Highway and the Victorian arterial road network – as illustrated in the above. However, vehicles would then the leave the state arterial road, turning left into Hoyles Road and then turning left into the site.

It is considered that the local road network is more-than capable of safely accommodating the abovementioned construction traffic, especially considering that the road network is designed and maintained to accommodate agricultural traffic including agricultural trucking, harvest equipment and trucks as well as agricultural workers.

8.6 Operation Stage

Other than during construction, the facility will be un-manned, other than intermittent periodical maintenance. The facility does not include batteries and there is no intention to store any dangerous goods on site.

The site will be remotely monitored in real time and local contractors would be rapidly deployed to deal with any fault or other matter, which provides the added benefit of local jobs for the local community.

Considering that the proposed facility will be un-manned, with limited moving componentry (other than the tracking arrays), it is considered that it will have a very minimal impact on the landscape.

From past project experience, we are aware of community interest in the following matters in relation to solar facilities.

Electromagnetic radiation (EMR)

Small amounts of electromagnetic radiation (EMR) can be produced (emitted) by electrical componentry associated with a solar facility such as inverters, transformers and high voltage powerlines. However, the level of radiation dissipates quickly to becoming indistinguishable from background levels, over distance from the component.

The electromagnetic field (EMF) produced around an electric installation is non-ionising, within a range that exists in our daily lives from natural sources (which are most noticeably manifested in lightning discharges) and from appliances and electrical devices that surround our daily lives.

EMR from these types of components dissipates to indistinguishable levels over about 5-to-10 metres. The inverter is centrally located within the facility, well in excess of 100 metres from any boundary.

Heat island effect

Previous community interest in solar farms have been directed toward the potential of a “heat island effect” being created by the solar facility. This is where ambient temperatures are artificially raised by reflective heat from the facility, which could have impact on adjacent sensitive vegetation or horticultural operations.

Various studies have been undertaken and assessments presented as evidence for other contested solar facility proposals. In these instances, it was concluded that any discernible impacts would be unlikely and would be quickly dissipated over a relatively short separation distance. To this end, the guidelines have recommended a 30-metre separation distance between facilities and the property boundary.

The proposed layout achieves a significant setback from any nearby properties – even greater when considering properties in private ownership. Any “heat island effect” created by the proposal would have no discernible effects over the setback distances.

Environmental, risk and emergency management

There are detailed elements of environmental management provided within the Construction Management Plan prepared by Green Gold. However, it is anticipated that a detailed EMP will be required as a condition of the sought permit.

The EMP could be required to address detailed matters, to be approved before construction begins, such as site management, dust and sediment control and traffic during construction.

The proposed facility will be remotely monitored in real-time. Thus, it will be under constant surveillance and a “silent alarm” will be sent automatically to ‘on-call’ staff in the event of a fault or potentially dangerous situation. An operational management plan will be an integral part of the operation of the facility.

Although the site and the surrounding area is within the Murray River floodplain, in considering the nature of the proposed use – being an unmanned facility –the risk of flooding can be readily managed by suitable permit controls.

Site access and traffic management

An access point will be provided to the satisfaction of the responsible road authority.

As set out above, during operation the facility will be monitored remotely, and there will be no permanent workers on site. The facility will remain largely unattended, other than periodical visits by maintenance contractors or the instance of a fault that requires site attendance.

These contractors will carry out seasonal site maintenance (slashing and ground fuel control, etc), cleaning panels and periodical visual checks of componentry and equipment. Thus, it could be weeks between site visits and most visits would be no more than one or two contractors in a single vehicle (ute) carrying out visual checks for approximately one hour or so.

8.7 Decommissioning

The majority of components of the proposed facility (including panels) have a thirty-year design life expectancy. At this stage, the intention is to maintain/upgrade the facility over its life, as components wear out and new technology becomes available. Accordingly, the facility is likely to remain functional and operating into the foreseeable future.

However, should the facility's useful life end – for any number of commercial or practical reasons – the site can easily be remediated and reverted back to agriculture or converted to another use, as allowable under the planning scheme of the time.

The non-invasive mounting system makes decommissioning and removal of all panels and componentry a relatively simple process and would allow for the full remediation of the subject site to pre-development condition.

9 CFA Guidelines for Renewable Energy Installations

With the revision of the Country Fire Authority (CFA) [now Fire Rescue Victoria] published its updated *Guidelines for Renewable Energy Installations* Guidelines in March 2021, there is specific provision for **Micro Solar Farms** – which provides requirements catered to the smaller facilities that would otherwise be excessive for facilities of this scale – particular around static water supply and access.

1. Development of Installations

The proposal does not include batteries, and there will be no storage of dangerous goods or buildings that must comply with the National Construction Code or will be considered at a workplace.

The information details set out in the guidelines are provided herein throughout this report and the supporting documents, including a Construction Management Plan by Green Gold. A detailed construction management plan, including emergency and risk management during construction will be developed prior to construction commencing.

2. Emergency Management

The CFA requires that facility operators develop an emergency management plan consistent with the requirements of Australian Standard 3745, including a fire management plan that specifically addresses risk management measures specific to fire risk and a fuel (vegetation) management plan. This will include site induction and risk overview for any staff or contractors accessing the facility.

It is considered that this requirement will be included in the conditions on the sought permit, to be provided and approved prior commencement of construction. The facility

is to be provided with a clear perimeter for access and to provide a fire break between electrical installations and adjoining land. The soil beneath the panel block will be stripped of vegetation (grass) prior to construction and maintenance contractors will be engaged to manage seasonal grass and weeds, as necessary.

3. Site Infrastructure

Provisions for **access** have been considered and incorporated into the facility design, as appropriate, including the provision of a single access point to an existing all-weather road to **Hoyle Road** to the west of the site and a ten (10) metre perimeter fire break, that will allow fire and emergency vehicle access around the entire facility. The provisions to be considered for **firefighting water supply** have been considered and incorporated into the facility design, as appropriate, including:

- Provision of an above-ground 22,500 litre static water storage tank, located directly inside the facility main gate, where it is accessible and suitable for use by fire personnel. It is submitted that the provision of 22,500 litres of on-site water is suitable, considering the size of the facility.
- The tank can be installed and maintained as per the CFA conditions, including all weather access, a hard-suction point that is positioned and of correct fitting type so that it is usable by fire personnel; protected from mechanical damage (i.e., bollards) and with an external water level indicator and signage.

4. Site Operation

A 10-metre-firebreak is to be provided between the compound perimeter fence and all componentry, including solar panels, inverters, etc. It is submitted that suitable conditions will be included in the sought permit to mandate the **Fuel/Vegetation Management** requirements within the guidelines are achieved as part of “standard operational management’ of the site and the facility.

5. Wind Facilities

Not applicable to the current application.

6. Solar Facilities

Part 2 of the Guidelines includes conditions that are particular to specific facility types, including **6.5 which outlines specific requirements for Micro Solar Farms**, including:

- *Solar farm operators must provide specifications for safe operating conditions for temperature and the safety issues related to electricity generation, including isolation and shut-down procedures, if solar panels are involved in fire. This information must be provided within the content of the Emergency Information Book.*
- *Solar arrays are to have grass vegetation maintained to 100mm under the array installation or mineral earth or non-combustible mulch such as stone.*

The requirement for banks of solar panels to observe separation distances of 6 metres is not applicable to Micro Solar Farms. It is submitted that the facility operator will provide the required information and uphold the other solar facility specific requirements, prior to commencement of use. This would be implemented through conditions on the sought permit.

7. Battery Installations

Not applicable to the current application.

10 Mildura Planning Scheme

The proposed development has been assessed against the relevant Clauses of the Mildura Planning Scheme, specifically:

11	Settlement
12	Environmental & Landscape Values
13	Environmental Risks
14	Natural Resource Management
15	Built Environment and Heritage
17	Economic Development
19	Infrastructure
21.01	Municipal Profile
21.03	Vision and Strategic Framework
21.05	Environment
21.06	Natural Resource Management
21.07	Built Environment and Heritage
21.08	Economic Development
35.07	Farming Zone
42.01	Environmental Significance Overlay (ESO2)
44.04	Land Subject to Inundation Overlay
52.06	Car Parking
52.17	Native Vegetation
53.13	Renewable Energy Facility
65	Decision Guidelines

10.1 Planning Policy Framework

11.01 Settlement

Planning is to anticipate and respond to the needs of existing and future communities through provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities and infrastructure.

Planning is to recognise the need for, and as far as practicable contribute towards [relevant matters included below, bold emphasis added]:

- *Health and safety.*
- ***Adaptation in response to changing technology.***
- ***Economic viability.***
- *Energy efficiency.*

Planning is to:

- *prevent environmental problems created by siting incompatible land uses close together; and*
- *facilitate sustainable development that takes full advantage of existing settlement patterns, and investment in transport and communication, water and sewerage and social facilities*

The proposed use of the land for a solar energy facility is considered to be compatible with adjoining rural and agricultural land uses. The use and development of land would generate negligible impacts on the surrounding area – the primary concern for solar energy facilities is the visual impact that solar panels may have on surrounding amenity and/or utility. This has been established in VCAT precedent and Planning Panels appointed by the Minister for Planning as being relatively benign as a land use.

12.01-1S Protection of biodiversity

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

Strategies to achieve this objective include:

- *Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites.*
- *Strategically plan for the protection and conservation of Victoria's important areas of biodiversity.*
- *Ensure that decision making takes into account the impacts of land use and development on Victoria's biodiversity, including consideration of:*
 - *Cumulative impacts.*
 - *Fragmentation of habitat.*
 - *The spread of pest plants, animals and pathogens into natural ecosystems*

The proposed facility has been designed to uphold the protection of the applicable biodiversity objective through the abovementioned strategies. The site has sufficient area to accommodate the proposed facility, while avoiding and retaining the remnant trees. The facility layout has been carefully designed to provide adequate tree protection zones between trees and any site works or installations.

Notably, the proposal has been designed to completely avoid the existing paddock trees, thus, there will be no impact on native vegetation or biodiversity sites on the land due to the proposal or any associated works.

The site is currently dominated by degraded pasture and opportunistic or invasive weed species. It does not contain any mapped wetlands.

13.02-1S Bushfire

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

The subject site and the surrounding area is within a Bushfire-Prone Area – which applies to most non-urban areas of Victoria. A detailed assessment against bushfire risk in accordance with the CFA Guidelines for Renewable Energy Installations, March 2021, is undertaken within the relevant Section of this report.

13.05-1S Noise Abatement

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

The facility will be an un-manned facility that would see only limited active work – generally when contractors are present on site.

The noise issues would primarily and almost exclusively be centered around the construction and de-commissioning of the site, which can be suitably implemented through a construction management plan via permit condition – to the satisfaction of the responsible authority. A Noise Impact Assessment by ADP Consulting has

assessed any potential impacts from the proposed equipment during operation stage and deemed there would be no undue impacts to surrounding farm residences.

14.01-1S Protection of Agricultural Land

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

The proposal is supported by an agricultural assessment by Cadeema – accredited agricultural scientists who have provided both qualitative and quantitative evidence of the agricultural utility of the site. As an overview of the site's productive capacity, the site is not suitable for "high value" agriculture.

The site is disconnected from formal irrigation infrastructure, which is unlikely to be re-established, and the development site is largely unimproved.

14.01-2S Sustainable Agricultural Land Use

- *To encourage sustainable agricultural land use.*

The agricultural assessment by Cadeema concluded that the conversion of the subject land to a solar energy facility will not significantly compromise prior on-farm efficiency investment, not adversely impact site land use economics; thus, it is submitted that the proposal is a sustainable use of agricultural land.

15.02-1S Energy and Resource Efficiency

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

The intention of renewable energy facilities is to generate electricity that has significantly less greenhouse emissions than conventional fossil fuel sources. This is supported by the following strategies to:

- *Improve efficiency in energy use through greater use of renewable energy technologies and other energy efficiency upgrades.*
- *Encourage retention of existing vegetation and planting of new vegetation as part of development and subdivision proposals.*

17.01-1S Diversified Economy

- *To strengthen and diversify the economy.*

The use and development of land is supported by planning policy that promotes the diversification of the economy, specifically to:

- *Protect and strengthen existing and planned employment areas and plan for new employment areas.*
- *Facilitate regional, cross-border and inter-regional relationships to harness emerging economic opportunities.*
- *Facilitate growth in a range of employment sectors, including health, education, retail, tourism, knowledge industries and professional and technical services based on the emerging and existing strengths of each region.*
- *Improve access to jobs closer to where people live. Support rural economies to grow and diversify.*

The use and development of a renewable energy facility within the Mildura Rural City will promote an opportunity for a regional municipality to transition toward renewable energy and a sustainable energy future.

17.01-1R Diversified economy – Loddon Mallee North

In addition to the State policy for a diversified economy, the proposal is supported by the regional policy which outlines the relevant Strategies of planning to:

- *Support emerging and potential growth sectors such as nature-based tourism, mining and renewable energy generation and protect these activities from urban encroachment.*
- *Support investment in infrastructure, freight and logistics and increased access to natural gas*

17.01-2S Innovation and Research

- *To create opportunities for innovation and the knowledge economy within existing and emerging industries, research and education.*

The proposal represents a significant opportunity for a low-impact, sustainable diversification of the municipality's economic base, through the facilitation of investment in an emerging industry.

19.01 Energy Supply

- *To facilitate appropriate development of energy supply infrastructure.*

The proposed facility would be located within close proximity to the nearby substation – providing an excellent location for essential infrastructure to provide a significant proportion of the Shire's population and economic base with a low-carbon energy source. This is supported by the following strategies to:

- *Support the development of energy facilities in appropriate locations where they take advantage of existing infrastructure and provide benefits to industry and the community.*
- *Support transition to a low-carbon economy with renewable energy and greenhouse emission reductions including geothermal, clean coal processing and carbon capture and storage.*
- *Facilitate local energy generation to help diversify the local economy and improve sustainability outcomes.*

19.01-2S Renewable Energy

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

State planning policy seeks to support renewable energy in appropriate locations. The proposed facility is a result of months of planning and assessment of potential candidate sites.

The proposed facility will provide approximately 5MW directly to the Mildura community where it is needed. Further, the regional policy for renewable energy with the Loddon Mallee North region, Clause 19.01-2R, stipulates that planning should:

- *Support and facilitate renewable energy generation and protect these activities from urban encroachment.*

In response, the site observes suitable separation from nearby urban areas, which combined with environmental consideration is unlikely to be subject to future urban encroachment.

10.2 Local Planning Policy Framework

21.01 Municipal Profile

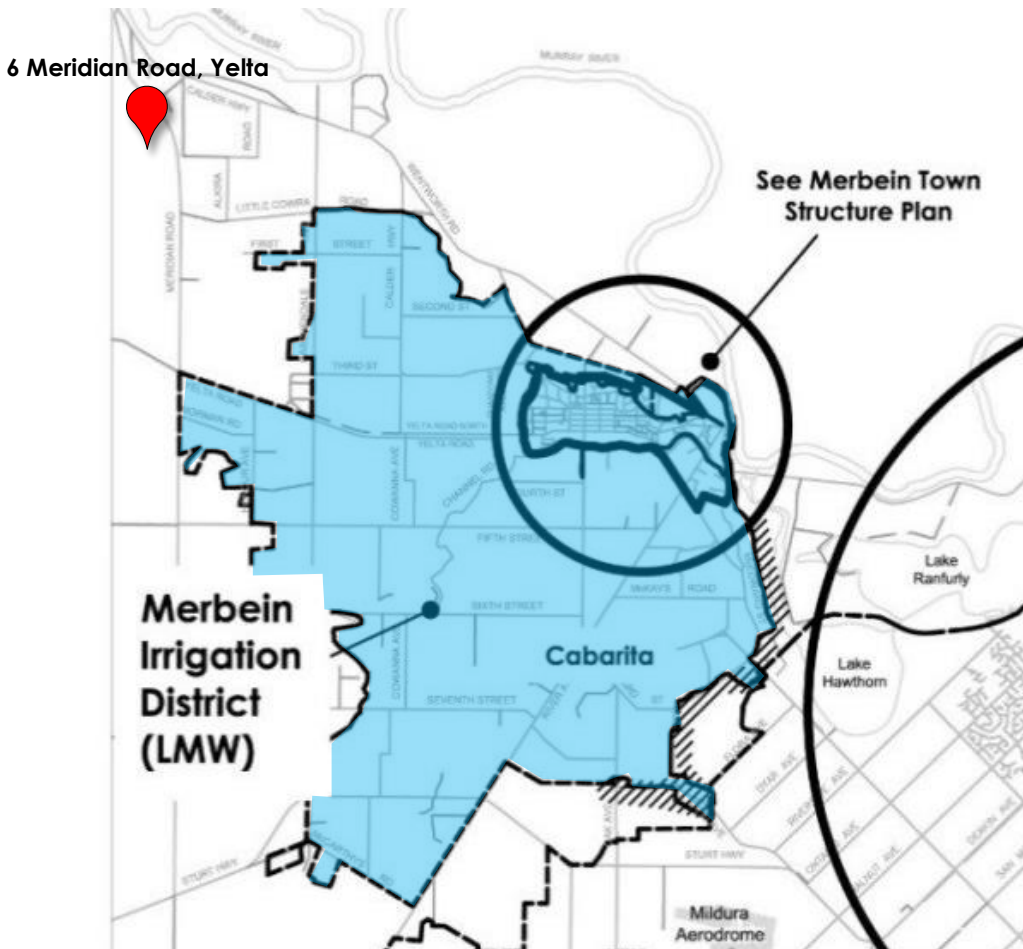
The protection of agricultural and horticultural land is important, particularly in the Mildura Older Irrigated Areas (MOIA) and Newer Irrigated Areas (NIA). The economic base is diversifying with emerging industries such as mineral sands, salt extraction, boat building, packaging and solar power generation.

The proposed facility has been sited proximate to established regional centres that are within the nearby irrigation districts; however, the site itself is outside of the irrigation district – providing for generation of renewable energy whilst also preserving the integrity of the nearby irrigation district.

21.03-2 Strategic framework plans

The regional and sub-regional framework plans provide a broad overview of the general strategic directions for the municipality. Town structure plans are located in the local areas section at Clause 21.10.

The Mildura Sub-Regional Framework Plan is provided below, which illustrates the locational context of the subject site within the Mildura municipality.



Extract of Mildura Sub-Regional Framework Plan
Subject Site denoted by red pin; Merbein Irrigation District shaded blue

The site is in close proximity to the NSW-Victoria border and is largely separated from any urban areas that would encroach up on the proposal facility.

Accordingly, the site represents a balance of a site that is suitably connected to infrastructure, with adequate separation to urban settlement and manageable environment constraints.

21.05-1 River and wetland health

Objective

- *To improve river and wetland health within the Rural City of Mildura.*

The development of the subject site for a solar energy facility represents a minor development in terms of impact on the river and wetlands. The development will not generate emissions, nor will it lead to substantial staffing during operation that could impact the nearby river.

The proposed development site has historically been used for agriculture and does not exhibit any notable environmental features of indicate any wetland or riparian habitat.

21.05-2 Flora and fauna

Objective

- *To protect flora and fauna within the Rural City of Mildura.*

The vegetation proposed to be removed as a result of the application does not include any trees, nor any habitat vegetation that would contribute to viable local fauna habitat. The site is an agricultural paddock that has largely been unimproved for some time, and although some grasses have regenerated, it is considered to be low-value biodiversity that does not contribute to any biolink and would therefore be appropriate to be removed and accordingly offset. Accordingly, the proposal is considered to uphold the relevant Strategies to:

- *Encourage the retention and regeneration of native flora.*
- *Discourage native vegetation removal, stock grazing and urban development in or adjoining riparian areas.*
- *Reinforce existing wildlife corridors along road and railway reserves with supplementary revegetation in adjacent private lands.*
- *Protect and reinforce significant environmental nodes or biolinks on private land.*
- *Maintain and improve the condition of waterways and wetlands in support of flora and fauna habitats.*
- *Encourage the location of services on private cleared land in both dryland and irrigated areas, rather than on vegetated roadsides.*
- *Support common management techniques along public land boundaries for the protection of native vegetation and the control of fire, pest plants and animals and erosion.*

21.05-3 Flooding

Objective 3

- *To reduce the impacts of flooding within the Rural City of Mildura.*

Local policy states that:

The Murray River has a history of flooding of low lying areas. Flooding has the potential to cause significant property and agricultural damage. Floodplains should be protected from inappropriate development to ensure their capacity to convey

and store floodwaters is unhindered. Flooding also has a significant environmental benefit for the redgum forests and fauna that rely upon it.

Despite being with the sizeable floodplain for the Murray River, the nature of the development – being an unmanned facility of permeable construction and bulk – represents an appropriate development that is responsible to the applicable Strategies that state planning is to:

- *Discourage further development, particularly residential development, within areas on the floodplain.*
- *Restrict further development on land liable to flooding.*

21.05-4 Public land

- *To improve the interface between public and private lands.*

The proposal incorporates landscaping along the adjacent frontage to Hoyle Road, which will provide for an attractive interface between the public and private realm. Landscaping will incorporate indigenous species to the area that will be readily established and endure with limited maintenance.

The actual development site observes a sizeable separation distance to other privately-held land, as Hoyle Road has a 100 metre wide reserve, that includes vegetated areas that provide a physical separation to the properties opposite.

- *Discourage urban or other intensive forms of use or development adjacent to public land that could have a negative impact on that land*

As set out in other parts of this report, the proposal is considered as being highly unlikely to cause negative impact to nearby public land.

21.06-1 Protection of rural land

Objective 1

- *To protect rural land for agriculture and horticulture.*

Clause 21.06 is primarily centred around the preservation of land within the irrigation district being preserved for continued agricultural uses to capitalise on the existing irrigation infrastructure that serves much of the district.

The site is outside the irrigation district and proposed use and development of land for a solar energy facility, being an expectant use in the Farming Zone.

21.07-1 Avoiding land use conflicts

Objective 1

- *To minimise the potential for future land use conflicts.*

The subject site is suitably distanced from any perceivably sensitive land uses that would create a land use conflict. As the site will be largely unmanned, there would be no risk to the proposal being unduly impacted, and in considering that nature of the use, there are unlikely to be any off-site impacts as a result of the solar energy facility.

21.08-1 Agriculture

Objective 1

- To support the continued development of sustainable agricultural and horticultural industries as the foundation of a strong and prosperous economy.

Strategies

- Support the development of new horticultural areas.
- Support horticultural and agricultural diversification and value adding.
- Protect rural and agricultural infrastructure such as roads, drainage and water supply.
- Support agricultural and horticultural production and transport that are environmentally responsible and “clean and green”.

Local policy identified two broad agricultural areas in the municipality. They are identified as:

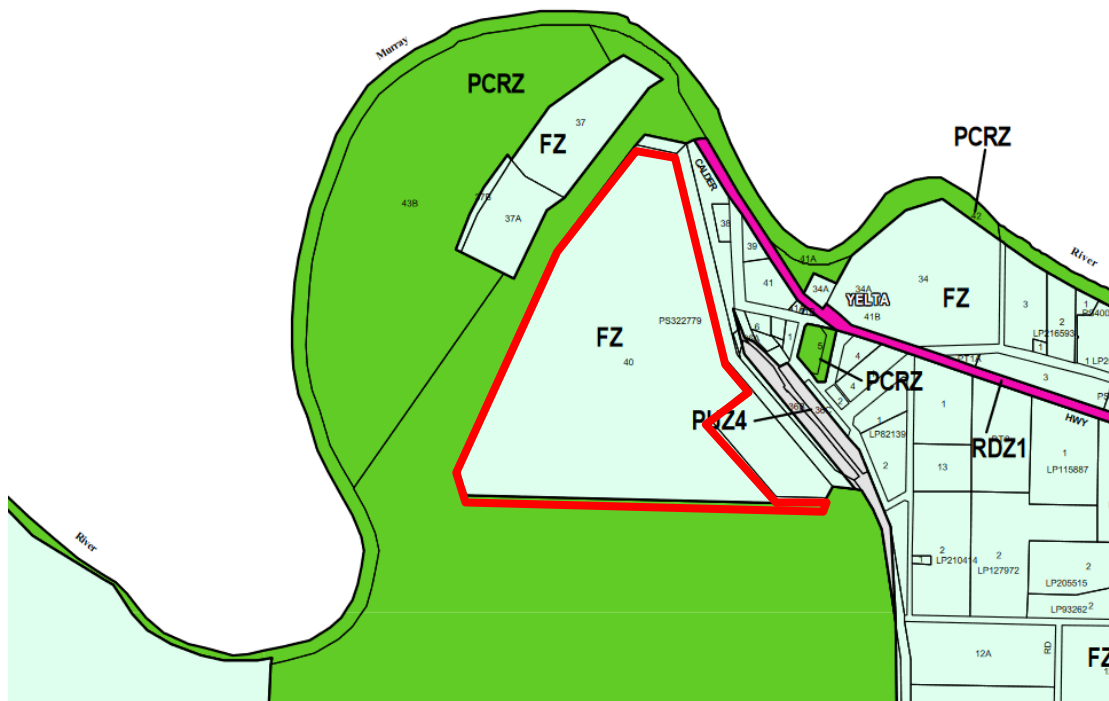
Horticultural Areas Located in the northern irrigated areas (Mildura Older Irrigation Area and Newer Irrigation Areas) consisting mainly of dried vine fruit, wine grapes, table grapes, citrus and vegetable production.

Dryland Agricultural Area Located to the south and north of the Murray Sunset National Park, consisting mainly of mixed cereal, sheep, some grain and pasture legumes, wool and beef production.

Given the subject site’s disconnection from formal modern irrigation infrastructure, it is considered to fall into the **Dryland Agricultural Area**. As a consequence, non-agricultural rural uses such as a solar energy facility are considered to be an appropriate use of the land.

10.3 Farming Zone (FZ)

The subject site is located within the Farming Zone. Pursuant to the relevant provisions of Clause 35.07, a permit is required to both use and develop the land for Renewable Energy Facility (Solar Energy Facility) and Utility Installation in the Farming Zone.



Zone Map (Map No. 21 Mildura Planning Scheme)

In considering the proposal to use agricultural land for a Solar Energy Facility, the relevant purposes of this zone 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.*

Whilst the proposed land use and development is for a “Solar Energy Facility”, which requires a permit within the Farming Zone, the use of the land for renewable energy production is consistent with Agricultural production – as defined under Clause 73.01 of the VPPs as “any form of primary production of renewable commodities.”

The above definition is quite explicit as to what does and does not constitute agricultural production, with the operative wording being renewable commodities (as highlighted above) which includes electricity from renewable sources.

Accordingly, the Farming Zone quite clearly supports the proposed use – subject to consideration of the relevant Decision Guidelines of the Farming Zone:

Farming Zone Decision Guidelines	
<p>General issues</p> <ul style="list-style-type: none"> • Any Regional Catchment Strategy and associated plan applying to the land. • The capability of the land to accommodate the proposed use or development, including the disposal of effluent. • How the use or development relates to sustainable land management. • Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses. • How the use and development makes use of existing infrastructure and services. 	<p>The subject land is affected by the LSIO – indicating potential flood hazard in the area; however, the nature of a solar energy facility as an unmanned facility of largely permeable construction, it is considered to represent an appropriate response to the risk of flooding at the site.</p> <p>By siting the facility in close proximity to existing Powercor infrastructure (being the overhead 22kV power lines along the northern side of Hoyle Road, the proposal reduces the requirement for extensive overhead lines that could further impact productive agricultural uses or landscape amenity, either on the subject land or off-site.</p>
<p>Agricultural issues and the impacts from non-agricultural uses</p> <ul style="list-style-type: none"> • Whether the use or development will support and enhance agricultural production. 	<p>The proposal has been carefully designed to ensure that it will not impede existing agriculture within the surrounding area. The use of the land for a solar energy facility will be a low-impact use and has been carefully sited to avoid any adverse impact upon</p>

<ul style="list-style-type: none"> • Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production. • The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses. • The capacity of the site to sustain the agricultural use. • The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure. • Any integrated land management plan prepared for the site. 	<p>rural infrastructure – notably the existing rural roads that runs along the western and southern boundaries of the site.</p> <p>In considering the site’s agricultural capacity, whilst conducive to a limited range of agricultural pursuits, is not deemed be highly-productive agricultural land.</p> <p>Solar Energy Facilities are considered to be relatively benign in terms of their potential off-site impacts and it would be highly improbable that any existing and/or future farmers would be impacted by the proposal. This has been established by previous VCAT precedent.</p> <p>The design of the facility is such that decommissioning of the facility will ensure that the land is capable of being returned to conventional agricultural land uses.</p>
<p>Environmental issues</p> <ul style="list-style-type: none"> • The impact of the proposal on the natural physical features and resources of the area, in particular on soil and water quality. • The impact of the use or development on the flora and fauna on the site and its surrounds. • The need to protect and enhance the biodiversity of the area, including the retention of vegetation and faunal habitat and the need to revegetate land including riparian buffers along waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area. • The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation. 	<p>Topographically, the subject land is relatively flat. Additionally, the natural features of the site are largely limited due to the site’s history for agricultural uses.</p> <p>The proposed solar energy facility has been sited to avoid impacts on any native vegetation, either directly or indirectly. The site has been an agricultural paddock for an extended period of time and is not identified as being within a biodiversity corridor. There are some isolated remnant trees; the site is otherwise cleared of native vegetation and the proposal does not seek the removal of any native vegetation.</p> <p>Suitable drainage conditions can be imposed at the permit stage.</p> <p>The proposal is intended to facilitate the transition toward the State government’s 25% renewable energy target by 2020. To this end, the proposed facility will contribute 5MW of renewable energy into the Victorian grid.</p>
<p>Design and siting issues</p> <ul style="list-style-type: none"> • The need to locate buildings in one area to avoid any adverse impacts 	<p>The facility is to be landscaped around the perimeter to reduce any potential visual impact of the facility from any nearby public</p>

<p>on surrounding agricultural uses and to minimise the loss of productive agricultural land.</p> <ul style="list-style-type: none"> • The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts. • The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance. • The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities. • Whether the use and development will require traffic management measures. 	<p>land; all equipment will be located within the compound – behind the proposed landscaping – which will consist of native vegetation.</p> <p>The site will be accessed from the northern boundary from a local road managed by the Mildura Rural City Council – providing access to equipment with the facility compound for maintenance and emergency purposes.</p> <p>During operation, the facility will be unmanned and would generate minimal traffic, with the peak traffic periods to be during the construction phase – as outlined within the relevant construction section of this report.</p>
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10.4 Environmental Significance Overlay (ESO1)

The subject site is affected by Schedule 1 of the Environmental Significance Overlay, which provides for the protection of the **Murray River Corridor**.

Pursuant to Clause 42.01-2, a permit is required to Construct a building or construct or carry out works.

The stated Purpose of the Environment Significance Overlay is:

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

Specific to the local ESO1, the complimentary stated environmental objective to be achieved is:

- *To protect the environs of the Murray River recognising its importance for nature conservation, flooding, economic development, recreation and tourism.*
- *To prevent use and development of land adjoining the river from degrading water quality.*
- *To promote consistent planning and management along the River corridor.*
- *To prevent the loss of riparian flora and fauna, biodiversity, habitat and wetland environments.*

- *To protect the values and role of the Murray River reserves and other public land as floodplains and as buffer areas for nutrients and other pollutants.*
- *To restrict inappropriate use and development on land adjoining and near the River.*
- *To assess the use or development of land adjoining the Murray River corridor according to the capacity of the proposal to protect the environmental and landscape qualities of the River environs in accordance with sustainable development principles.*
- *To specifically address land degradation processes including erosion, native vegetation decline, pollution of ground or surface water, groundwater accession, salinisation and soil acidity, and adverse effects on the quality of land and water habitats.*
- *To ensure that buildings are sited a sufficient distance from the Murray River so as to:*
 - *maintain and improve water quality;*
 - *minimise hazard risk and the redistributive effect on floodwater associated with the erection of buildings on the floodplain;*
 - *protect the scenic landscape of the riverine corridor;*
 - *improve bank stability; and*
 - *protect biodiversity and conserve wildlife habitat*

Although the proposal includes removal of native vegetation; however, this is limited to the removal of sparse groundcover that is largely removed from the established biodiversity corridors proximate to the Murray River. Accordingly, the loss of this groundcover would not have any significant impacts on the environmental value of the Murray River corridor.



Overlay Map – Environmental Significance Overlay 1 Extents

From a floodplain perspective, a more detailed assessment of flood impacts is undertaken against the provisions of the Land Subject to Inundation Overlay.

10.5 Land Subject to Inundation Overlay

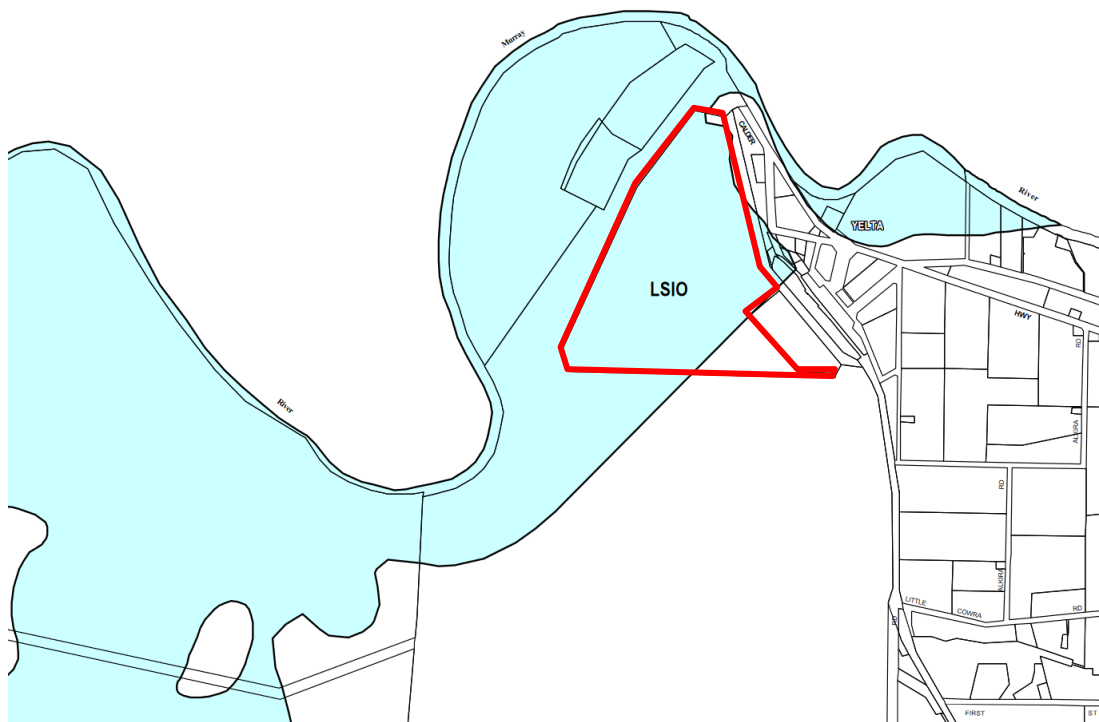
The subject site is largely within the Land Subject to Inundation Overlay (LSIO) – reflecting the floodplain of the Murray River – noting that the extent of the LSIO corresponds to the ESO1.

Accordingly, a planning permit is triggered for the proposed building and works – including the fencing around the perimeter of the facility. The proposal has been considered against the relevant purposes of the LSIO, which seeks to:

- *“To identify flood prone land in a riverine or coastal area affected by the 1 in 100 (1 per cent Annual Exceedance Probability) year flood or any other area determined by the floodplain management authority.*
- *To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, responds to the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.*
- *To minimise the potential flood risk to life, health and safety associated with development.*
- *To ensure that development maintains or improves river, marine, coastal and wetland health, waterway protection and floodplain health.”*

Based on the scale of the development, we submit that the proposed works would be unlikely to adversely impact floodplain integrity as the actual footprint of the development is generally minor – i.e. the fence would be permeable to floodwater and the panels themselves are elevated on a series of single post footings.

All ‘sensitive’ equipment (inverters and transformer) is located away from the Murray River and can be constructed so that it is above the 1-in-100-year flood level.



Overlay Map – Land Subject to Inundation Overlay Extents

Further, we are advised that the electrical componentry is designed to endure weather conditions, including inundation and would not be detrimentally affected in the unlikely event of inundation, should it occur.

Accordingly, there are no additional considerations in these two documents or any of the 'relevant documents' listed at Section 9 that are relevant to the proposal or have not been considered within the application.

10.6 Native Vegetation (Clause 52.17)

The proposed development would impact some remnant patches of native vegetation, as illustrated in the below figure. The proposed vegetation removal would equate to an area as described in the following extract:

*"The losses were calculated to be **3.187 ha of native grassland** across one Location Category. **One-hundred and seventy-two (172) patches** of highly modified chenopod shrubland vegetation will be lost, however no native trees are to be affected by the development" ~ Red-Gum Environmental Consulting*

Despite being mapped as native vegetation, the 'real-value' of this vegetation is such that it is highly unlikely to be capable of providing habitat value for any native species. The on-site vegetation is incapable of supporting even low intensity stock grazing without being heavily supplemented by off-site organic waste (refer to appended agricultural assessment by Cadeema).



Photo of subject site illustrating Native Vegetation conditions
Source: Red-Gum Environmental Consulting

The groundcover of the development site being identified as being designated as passing the native vegetation threshold by Red-Gum Consulting as part of their site assessment. The appended Ecological Assessment contains the Avoid and Minimise

Statement required by Clause 52.17 and the *Guidelines for the removal, destruction or lopping of native vegetation*.

10.7 Car Parking (Clause 52.06)

Pursuant to Clause 52.06-1, planning must consider the provision of car parking for all new land uses. The relevant purposes of this provision of the Scheme is:

- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The provisions of Clause 52.06 do not prescribe a standardised car parking requirement for renewable energy facilities. Accordingly, Clause 52.06-6 defers car parking to be provided to the satisfaction of the responsible authority.

The proposed facility will be largely un-manned – capable of operating with irregular staffing that would be largely limited to maintenance and site inspections.

The most heavily staffed period of the site will be during the construction phase – where various contractors and machinery will be required for the construction duration.

Upon completion and establishment of the facility, persons accessing the site will typically be contractors with purpose-built vehicles and equipment, which would be driven directly to the point of work, rather than being parked in a designated space with the contractors walking to the work site.

Notwithstanding this, once construction is completed, the site amenities and storage area – just inside the front entrance gate – provides a logical and convenient location for periodical visitors to the site can park, if required.

This provision of car parking spaces would provide adequate car parking in scenarios where multiple contractors are required on the site concurrently. However, for the vast majority of the operation of the solar energy facility, the demand for car parking spaces would be zero.

In considering the relevant Decision Guidelines of Clause 52.06-10, and the information provided in this report, the provision of a designated car parking area is comfortably in excess of what would reasonable be required for an un-manned facility.

10.8 Renewable Energy Facility (Clause 53.13)

The provisions of Clause 53.13 apply where it is proposed to use and develop land for a renewable energy facility. Consequently, the following application requirements are set out, as appropriate:

- **A site and context analysis, including:**
 - *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.
- **A design response, including:**
 - Detailed plans of the proposed development including, the layout and height of the facility and associated building and works, materials, reflectivity, colour, lighting, landscaping, the electricity distribution starting point (where the electricity will enter the distribution system), access roads and parking areas.
 - 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.
 - Written report and assessment, including:
 - 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.
 - 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 Environment Protection and Biodiversity Conservation Act 1999.
 - A statement of why the site is suitable for a renewable energy facility including, a calculation of the greenhouse benefits.
 - An environmental management plan including, a construction management plan, any rehabilitation and monitoring.

The above application requirements (where appropriate) are addressed at length within the relevant parts of this report. Clause 53.13 is a general provision that encompasses all renewable energy facilities, which includes solar energy facilities, but also extends to other renewable energy facilities. Consequently, not all provisions of this Clause are necessarily pertinent in all instances. For instance, a works approval is not required for a solar energy facility.

As a point of reference, various sources stipulate that the energy requirements to create a single MW of energy via conventional coal power can be as high as half a tonne per hour – representing a significant consumption of natural resources and carbon emissions where the proposed solar facility will continue to operate with zero emissions and only replacement of equipment being the major determinant of waste; however, these are dismantled, and all recoverable material separated and recycled.

The proposed site is flat, and the proposed landscaping (when mature) will be comfortably higher than the proposed solar panels and other installations, which will appropriately mitigate any siting and visual amenity concerns.

10.9 General Provisions

The holistic considerations of the proposed renewable energy facility and the primary considerations of the proposal, including the merits of both preserving agricultural land against promoting renewable energy have been addressed at length in the various sub-sections of this report and the appended documentation.

Similarly, the orderly planning of the area, effect on the amenity of the area and other matters set out at **Clause 65.01** of the Mildura Planning Scheme for the **Approval of**

an application or plan are addressed throughout various sections of this report. Accordingly, it is submitted that the proposal has been assessed against and deemed as being appropriate in terms of all relevant considerations.

11 Conclusion

The proposal is for a new solar energy facility within the Mildura Rural City municipality that will provide affordable clean energy for the local community, effectively contributing to the implementation of Victoria's transition to renewable energy.

The 5MW output will supply local businesses, industry and houses and will produce enough energy to contribute to the transition of the Mildura Rural City into a renewable municipality.

The panels would have a maximum height of approximately 2.6 metres – however for most of the day will be well below this height, as they track at right-angle to the sun, to maximise solar irradiation. The arrays are to be mounted on a light-weight rail and post system that would require limited earthworks and enables ease of decommissioning and conversion back to farming use (if appropriate at the end of the facility's design life).

The proposal will generate local employment opportunities for electrical and construction workers to build and install the facility; operations, maintenance and security jobs will be required ongoing.

It has been demonstrated in this report that the proposal meets the application requirements for a solar energy facility, including relevant sections of the Mildura Planning Scheme - particularly **Clause 53.13**; the ***Solar Energy Facilities Design & Development Guidelines, August 2019*** and the ***CFA Guidelines for Renewable Energy Installations, March 2021***.

It is submitted that the information provided within this report and various supporting documents demonstrate that the proposal warrants planning approval.