



Faraday Solar Farm Planning Application Report

For Tetris Energy Pty Ltd

September 2021

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Prepared for Tetris Energy

Version	Author	Date	Description of changes
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EXECUTIVE SUMMARY

This report is provided in support of a planning permit application for Faraday Solar Farm, a proposed 5MW solar energy facility located at 3040 Harmony Way, Faraday, 6km north-east of Castlemaine in Central Victoria.

The project is proposed by Australian developer Tetris Energy, who have helped to deliver over 400 MW of renewable energy projects now connected and operational in Australia.

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

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

Flora and fauna impacts

An Ecological Assessment has been prepared by Ecology Heritage and Partners and is included at Appendix A.

The study confirms that most of the study area consisted of paddocks, which contained improved exotic pastures, likely to be used as a foraging resource by common generalist bird species that are tolerant of modified open areas.

As a result of the further work associated with the updated ecology assessment undertaken after lodgement of the application, the native vegetation to be removed has been further reduced from 0.328ha to 0.195ha **which falls within the Basic Assessment Pathway.**

The offset requirement for the removal is 0.022 General Habitat Units with a minimum Strategic Biodiversity Value of 0.279 in the North Central CMA/Mount Alexander Shire Council.

Heritage

The site is not affected by any Heritage Overlay, Areas of Cultural Heritage Sensitivity or registered heritage sites.

Geotechnical and hydrology

A Geotechnical Investigation was completed by Geotechnical Testing Services (GTS) to accompany the application, included at Appendix B.

The investigation included involved the drilling boreholes to assess general subsurface conditions with a view to providing comments and design parameters for the proposed construction of a solar farm.

The report found that the site is suitable for construction of a solar energy facility subject to recommendations as outlined in the report. Some subsurface rock may be encountered.

Agricultural impacts

An Agricultural Impact Assessment prepared by Page Street Services Pty Ltd accompanies this report at Appendix C.

The report outlines that the subject site is a sub-commercial and low productive grazing property with limited potential for agricultural development. Cropping is not a realistic option. Grazing by

sheep can continue between solar panels. The allocation of approximately 12 hectares of this 21 hectare property to a solar development will have no significant impact on the agricultural capability of the property or surrounding properties.

Nearby horticulture (typically vineyards and orchards) will be at least 100m from any proposed infrastructure.

The land is not in an irrigation district.

The proposal is consistent with policies that seek to protect valuable agricultural land.

Noise impacts

A Noise Impact Report prepared by ARUP is included at Appendix D.

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

- Noise from the combined transformer and inverter units (Sungrow 4950)
- Battery storage system (Sungrow)
- Tracking solar panel motors (Nextracker NX)

The nearest sensitive receivers were identified to the north at 3060 Harmony Way and 67 & 49 Musselwhite Drive.

The results from the report are replicated below, presenting the predicted noise levels at the nearest affected residential receivers, for the night-time, reduced capacity, period. Compliance with the night-time limit means compliance with all other limits/times of day under the NIRV.

Visual amenity and landscape impacts

Viewpoints from all around the site, including private dwellings, were assessed with three main views considered representative to assess visual impact. Photomontages were also prepared and are included in Appendix E.

The proposed design of solar panel banks is considered to be befitting of the undulating landscape where a range of built and natural forms existing, including pasture, rural dwellings and structures and patches of remanent forest vegetation.

Glint and Glare Impacts and Aviation Safety

An Aeronautical Impact Assessment and Glare Analysis was completed by Chiron Aviation Consultants and is included at Appendix F.

The only aerodrome within 16km of the facility is Castlemaine airstrip 8.36nm (15.8km) to the southwest.

The facility will have No Impact (no mitigation required) on aviation facilities, roads and dwellings. One shed/outbuilding will be subject to moderate impact that can be mitigated by the inclusion of landscaping/screening along the boundary between the shed and solar array.

The report demonstrates that the facility will not cause unreasonable adverse impacts on surrounding aviation facilities, nor on surrounding residences or roads in terms of glare and glint.

Traffic Impacts

A Traffic and Transport Assessment prepared by Impact Traffic Engineering is attached at Appendix G.

The assessment concludes that the traffic and transport impacts of the operation and construction of the facility will be comfortably accommodated by the existing road network and will not cause any unreasonable impacts to road infrastructure or to road safety, in accordance with Clause 18.02-3S Road System, Clause 21.06-4 Transport and the DELWP Solar Guidelines

at Clause 53.13 Renewable Energy Facility.

Recommendations for inclusion in a suitable Traffic Management Plan that may be conditioned on any permit that may issue are included on page 20 of the Traffic and Transport Assessment.

Conclusion

The balance of policies under the Mount Alexander Planning Scheme supports the proposal, with particular reference to key provisions of Clause 35.07 (Farming Zone), Clause 52.13 (Renewable Energy Facility) and the Solar Energy Facilities Design and Development Guideline.

1 INTRODUCTION

This report has been prepared for Tetris Energy and accompanies a planning application to use and develop a solar energy facility at 3040 Harmony Way, Faraday, known as Lot 4 TP8623 and Lot 3 TP6612 and Lot 1 TP952275 and the road reserve in front of the subject site.

The facility will comprise up to 5MW ac solar array with allowance for battery storage.

The subject site is a largely cleared with some scattered trees, and under agricultural use for grazing. The site fronts Harmony Way with an existing dwelling and associated outbuildings located at the front of the site. Similar properties about the site, with some vineyards and orchards in the vicinity.

The land is within the Farming Zone where a permit is required for the use and development of a solar energy facility.

This report outlines the proposal, permit triggers and how the proposal complies with the relevant provisions of the Mount Alexander Planning Scheme including the Guidelines for Renewable Energy Facilities (DELWP).

Table 1 Site summary

PROJECT TITLE:	Harmony Way Solar Farm
ADDRESS	3040 Harmony Way, Faraday
REAL PROPERTY DESCRIPTION	Lot 1 TP952275 Lot 4 TP8623 Lot 3 TP6612 Road reserve Harmony Way
TENURE	Agriculture and associated dwelling
REGIONAL GROWTH PLAN	Loddon Mallee South
LOCAL GOVERNMENT	Mount Alexander Council
PLANNING SCHEME	Mount Alexander Planning Scheme
ZONING	Farming Zone Road Zone Category 1
OVERLAYS	None

2 THE PROPONENT

Tetris Energy is a specialist renewable energy development company, developing a range of energy and storage projects in Australia and providing energy solutions for social infrastructure projects (schools, hospitals, transport) for its sister company Tetris Capital. Tetris Energy is headquartered in Melbourne with offices in Sydney and South Australia.

Tetris Energy have collectively delivered over 400 MW of energy projects that are now connected and operational in Australia. Recent projects include:

- South Australia: Mannum, Streaky Bay and Coonalpyn Solar Farms
- Northern Territory: Batchelor and Manton Dam Solar Farms

3 THE PROPOSAL

3.1 DEVELOPMENT SUMMARY

SOLAR ARRAY

Details of the facility are shown on the Layout Plan accompanying the application, and include:

- Approximately 15,176 low reflectivity single axis tracking photovoltaics panels rotating through 120 degrees from east to west.
- Three inverter locations, including battery storage area in the centre of the site.
- Battery storage and site facilities area.
- Chain mesh perimeter fence around the entire facility to minimum 1.8m in height, inclusive of 3m wide landscaping buffer.
- Access track through the centre of the site, utilising the existing crossover to Harmony Way.
- Approximately 50m of new power line to connect to the facility to the national electricity grid directly west.
- 10m fire break around the perimeter of the solar facility.

The facility will have an AC capacity of 4.95 MW.

All proposed infrastructure will be set back 10m or greater from the title boundary.

The layout of the proposal is shown in Figure 3.1 on the following page.

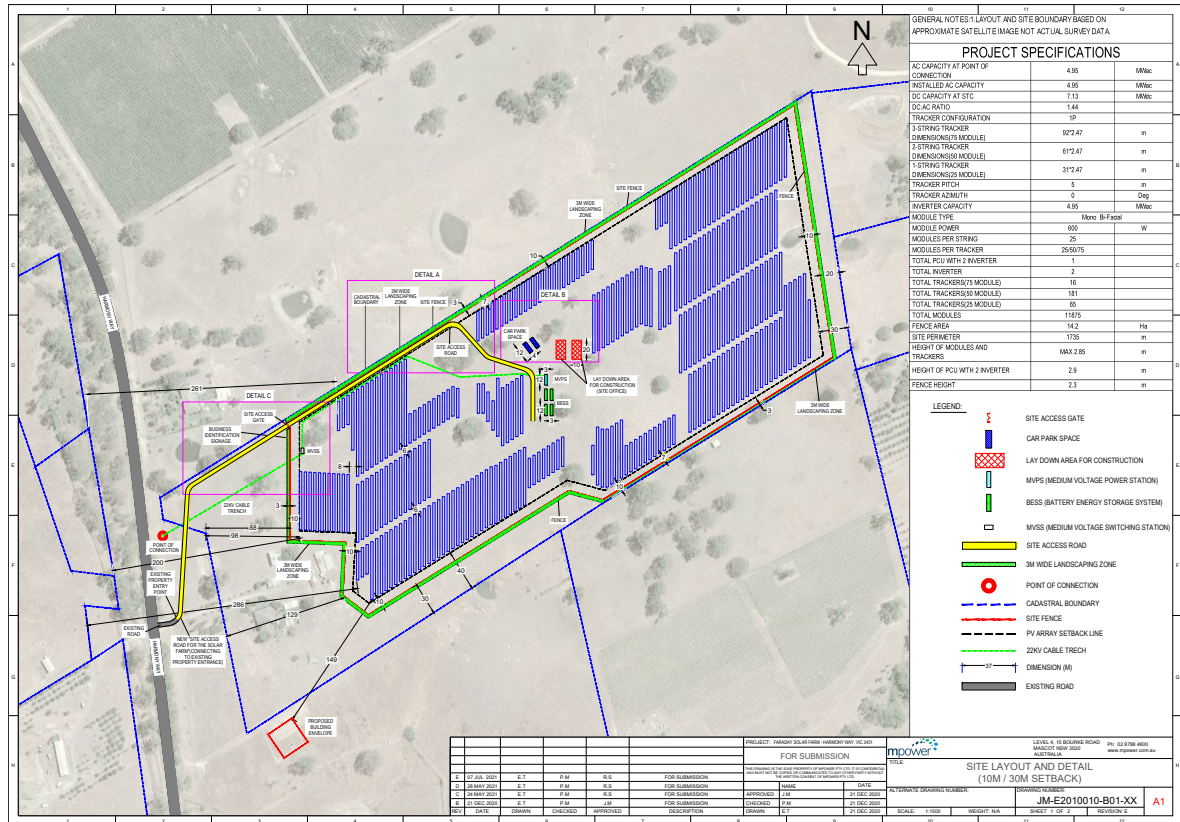


Figure 3-1 Site layout plan

GRID CONNECTION

An existing Powercor power line is located directly west of the site within the Harmony Way road reserve and will be used for point of connection to the national electricity grid, resulting in construction of approximately 50m of new power line.

ACCESS AND PARKING

The site design will utilise the existing crossover to Harmony Way that services the dwelling on site. A new internal accessway will be built centrally to provide access to the site infrastructure.

Parking required through the life of the facility will be minimal and limited to maintenance and operations staff. Ample parking for these activities will be able to be provided alongside relevant site facilities on site.

SIGNAGE

Business identification signage of no greater than 3sqm will be installed at the site entrance to Harmony Way.

SETBACK/BUFFER AREAS

The following setbacks are associated with the solar farm site plan.

Table 2 Setbacks associated with the proposal

Renewable Energy Facility Component	Distance to Nearest Neighbour Property Boundary (m)	Distance to Nearest Road (m)
Solar modules	10m or more	140m plus road reserve
Battery and inverter	>100m	140m
Proposed Delivery Station, control Room and Site Office	>400m	200m
Fencing	>3m	>100m

3.2 CONSTRUCTION PROCESS AND COMMISSIONING

CONSTRUCTION TIMELINE

It is expected that the construction of the solar farm will commence within 12 months of securing a planning permit, with the construction expected to take 6 months to complete.

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

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

The workforce will be made up of up to 80-workers.

The construction stages are:

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

NUMBER OF OPERATIONS STAFF

Monthly or quarterly routine operations and maintenance on-site is to be carried out by up to two people as required. Service providers will be contracted for operations and maintenance of the energy facility.

The solar farm will be managed remotely and with regular service crews.

OPERATION AND MAINTENANCE

The solar farm will be monitored remotely 24 hours per day under an agreement with an operations and maintenance service provider. Under a long-term maintenance agreement, routine scheduled maintenance will be undertaken every six months.

The condition of the grassland underneath the solar panels will change in response to high and

low rainfall years, drought and other climate drivers. Keeping grass and vegetation low around panels (100mm) is a necessity as the smallest overshadowing can cause significant reductions in efficiency and create a potential bushfire risk.

Predominant vegetation control measures will be both grazing and mowing.

3.3 DECOMMISSIONING

The Lease Agreement in place with the landowner requires the owner of the solar energy facility to remove the solar PV arrays from the land at the end of the 35-year lease period.

However, depending upon the landowner's acceptance or otherwise of a new agreement, the following options may also be available:

- Continue maintaining and operating of the solar facility to produce renewable energy.
- Upgrade the solar facility to more current technology and generate higher levels of renewable energy into the future.
- Remove the solar facility in accordance with the Landowner Lease Agreement.

It is expected a continuation or upgrade of the solar farm at the end of the lease period will require new permits and conditions.

4 SUBJECT SITE AND SURROUNDS

4.1 SUBJECT SITE ANALYSIS

The subject site is an irregular shaped property comprised of three parcels formally known as Lot 1 TP952275, Lot 4 TP8623, Lot 3 TP6612, otherwise known as 3040 Harmony Way, Faraday. The road reserve of Harmony Way also forms part of the proposal for construction of the transmission connection.

Topography is gently undulating, with a fall towards Harmony Way in the west.

The site fronts Harmony Way to the west which is a major state road. Agricultural properties abut all other site boundaries. The site has a total area of approximately 19.18ha.

The site is currently under low intensity agricultural use in the form of sheep grazing, with an existing dwelling and associated outbuildings also located on the site fronting Harmony Way. Topography is generally flat with a fall to the south. Soil is sandy clay loam. There is no irrigation infrastructure on or associated with the land.

Native vegetation includes approximately 15-20 scattered trees. A farm dam is located in the eastern part of the site.

4.2 TITLE RESTRICTIONS

There are two easements on the titles, one which relates to an access easement and the other which relates to a pipeline easement in favour of Coliban Water. There are Coliban water easement areas (E-2) located at the front of the Lot 4 where it fronts Harmony Way.

4.3 SURROUNDING AREA

The surrounding area is typified by small scale agricultural operations, lifestyle properties and vineyards. Topography is gently undulating with a general rise toward Mount Alexander Regional Park in the north.

The nearest proposed or approved wind or solar facility is Ravenswood solar farm (under consideration) located 13km to the north west.

Nearby population centres include Castlemaine 6km west, Harcourt 4.6km north and Elphinstone 7.5km south.

A moderate concentration of dwellings (greater than 15) are located within a 1km radius of the site boundary. Nearest sensitive receivers in each direction include:

- Dwelling at 3060 Harmony Way, 50m north
- Dwelling at 3039 Harmony Way, 150m west
- Dwelling at 3003 Harmony Way, 200m south
- Dwelling at 69 Faraday-Sutton Grange Road, 250m south
- Dwelling at 49 Musselwhite Drive, 100m east
- Dwelling at 55 Musselwhite, 190 east
- Dwelling at 67 Musselwhite Drive, 115m east

The potential impacts on these properties and any mitigation measures are discussed in the assessment section of this report.

5 PLANNING PROVISIONS

5.1 PERMIT TRIGGERS

A permit is required under the following provisions of the Mount Alexander Planning Scheme:

- Clause 35.07 Farming Zone (FZ)
 - Use and development of a solar energy facility, and associated earthworks
 - Use and development of a utility installation
- Clause 36.04 Road Zone, Category 1
 - Use and development of a utility installation
- Clause 52.05 Signs
 - Business identification signage
- Clause 52.17 Native vegetation
 - Removal of native vegetation
- Clause 52.29 Land adjacent to a Road Zone Category 1
 - Create or alter access to a Road Zone Category 1

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

5.2 REFERRALS

The following referral provisions apply:

- Clause 66.02-2 Native vegetation – Applications to remove vegetation under the Detailed Assessment Pathway must be referred to the Secretary to the DELWP as a recommending referral authority.
- Clause 66.02-4 Major electricity line or easement – Applications to construct a building or construct or carry out works on land within 60 metres of a major electricity transmission line (220 Kilovolts or more) or an electricity transmission easement, must be referred to the relevant electricity transmission authority as a determining referral authority.
- Clause 66.03 & 52.29 Create or alter access to road – Applications to create or alter access to a road declared as a freeway or an arterial road under the *Road Management Act 2004*, land owned by the Roads Corporation for the purpose of a road, must be

referred to the Roads Corporation as a determining referral authority.

5.3 ZONING

CLAUSE 35.07 FARMING ZONE (FZ)

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

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

The relevant objectives of the Farming Zone are:

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To provide for the use of land for agriculture.

To encourage the retention of productive agricultural land.

To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.

To encourage the retention of employment and population to support rural communities.

To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.

To provide for the use and development of land for the specific purposes identified in a schedule to this zone.

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

General issues

The Municipal Planning Strategy and the Planning Policy Framework.

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

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

How the use or development relates to sustainable land management.

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

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

Agricultural issues and the impacts from non-agricultural uses

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

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

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

The capacity of the site to sustain the agricultural use.

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

Any integrated land management plan prepared for the site.

Environmental issues

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

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

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

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

Design and siting issues

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

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

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

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

Whether the use and development will require traffic management measures.

CLAUSE 36.04 ROAD ZONE CATEGORY 1 (RDZ1)

Under the provisions of the Road Zone Category 1 at Clause 36.04 a permit is required to use and develop a utility installation. The proposal includes the construction of a power line over the road reserve west of the site, to connect to the existing power line.

The relevant objectives of the Public Use Zone are:

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To identify significant existing roads.

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

The Municipal Planning Strategy and the Planning Policy Framework.

The views of the relevant road authority.

The effect of the proposal on the operation of the road and on public safety.

5.4 OVERLAYS

There are no relevant overlays.

It is noted that the Environmental Significance Overlay Schedule 5 runs through the south east of the site where no infrastructure is proposed. The overlay is outside of the proposed development envelope and there are no relevant permit triggers.

5.5 PARTICULAR PROVISIONS

CLAUSE 52.05 SIGNS

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

CLAUSE 52.06 CAR PARKING

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

Clause 52.06-6 states that:

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

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

CLAUSE 52.17 NATIVE VEGETATION

A permit is required for the removal of native vegetation pursuant to Clause 52.17.

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

CLAUSE 53.13 RENEWABLE ENERGY FACILITY

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

The purpose of this clause is to facilitate the establishment and expansion of renewable energy facilities, in appropriate locations, with minimal impact on the amenity of the area. The following decision guidelines are relevant to the application and must be considered in deciding on the application:

The Municipal Planning Strategy and the Planning Policy Framework.

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

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

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

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

The impact of the proposal on the road network.

Solar Energy Facilities Design and Development Guideline (Department of Environment,

Land, Water and Planning, August 2019)

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

CLAUSE 52.29 LAND ADJACENT TO A ROAD ZONE CATEGORY 1

Construction of the facility is likely to require upgrades to the unsealed existing residential accessway from Harmony Way to the subject site. Pursuant to Clause 52.29-2 a permit will be required for any alteration of access to Harmony Way as a Road Zone Category 1.

The relevant purpose of this particular provision is:

To ensure appropriate access to identified roads.

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

The Municipal Planning Strategy and the Planning Policy Framework

The views of the relevant road authority.

The effect of the proposal on the operation of the road and on public safety.

Any policy made by the relevant road authority pursuant to Schedule 2, Clause 3 of the Road Management Act 2004 regarding access between a controlled access road and adjacent land.

5.6 GENERAL PROVISIONS

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

This includes:

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

The Municipal Planning Strategy and the Planning Policy Framework

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

The orderly planning of the area

The effect on the amenity of the area

The proximity of the land to any public land

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

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

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

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

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

5.7 PLANNING POLICY FRAMEWORK

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

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

MUNICIPAL STRATEGIC STATEMENT

Clause 21.01 outlines the municipal profile of Mount Alexander Shire, including an overview of main employment sectors and environmental challenges for the municipality. Among other goals, the municipal vision at Clause 21.02 seeks to build sustainable communities.

CLAUSE 11 SETTLEMENT

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

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

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

CLAUSE 11.02-1S SUPPLY OF URBAN LAND

Objective

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

Strategies

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

CLAUSE 12 ENVIRONMENTAL AND LANDSCAPE VALUES

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

CLAUSE 12.01-S PROTECTION OF BIODIVERSITY

Objective

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

Strategies

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

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

Ensure that decision-making takes into account the impacts of land use and development on Victoria's biodiversity, including consideration of:

Cumulative impacts.

Fragmentation of habitat.

The spread of pest plants, animals and pathogens into natural ecosystems.

Avoid impacts of land use and development on important areas of biodiversity.

Consider impacts of any change in land use or development that may affect the biodiversity value of national parks and conservation reserves or nationally and internationally significant sites; including wetlands and wetland wildlife habitat designated under the Convention on Wetlands of International Importance (the Ramsar Convention) and sites utilised by species listed under the Japan-Australia Migratory Birds Agreement (JAMBA), the China-Australia Migratory Birds Agreement (CAMBA), or the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

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

CLAUSE 12.01-2S NATIVE VEGETATION MANAGEMENT

Objective

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

Strategies

Ensure decisions that involve, or will lead to, the removal, destruction or lopping of native vegetation, apply the three-step approach in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017):

Avoid the removal, destruction or lopping of native vegetation.

Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.

Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

CLAUSE 12.05-2S LANDSCAPES

Objective

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

Strategies

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

Ensure important natural features are protected and enhanced.

CLAUSE 13 ENVIRONMENTAL RISKS AND AMENITY

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

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

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

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

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

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

CLAUSE 13.01-1S NATURAL HAZARDS AND CLIMATE CHANGE

Objective

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

Strategies

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

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

Integrate strategic land use planning with emergency management decision making.

Direct population growth and development to low risk locations.

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

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

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

CLAUSE 13.02-1S BUSHFIRE PLANNING

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

Objective

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

Strategies

Bushfire hazard identification and assessment

Identify bushfire hazard and undertake appropriate risk assessment by:

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

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

Considering and assessing the bushfire hazard on the basis of:

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

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

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

The site for the development.

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

CLAUSE 13.05-1S NOISE ABATEMENT

Objective

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

Strategy

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

CLAUSE 13.07-1S LAND USE COMPATIBILITY

Objective

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

Strategies

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

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

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

CLAUSE 14 AGRICULTURE

CLAUSE 14.01-1S PROTECTION OF AGRICULTURAL LAND

Objective

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

Strategies

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

Consider state, regional and local, issues and characteristics when assessing agricultural

quality and productivity.

Avoid permanent removal of productive agricultural land from the state's agricultural base without consideration of the economic importance of the land for the agricultural production and processing sectors.

Protect productive farmland that is of strategic significance in the local or regional context. Protect productive agricultural land from unplanned loss due to permanent changes in land use.

In considering a proposal to use, subdivide or develop agricultural land, consider the:

Desirability and impacts of removing the land from primary production, given its agricultural productivity.

Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.

Compatibility between the proposed or likely development and the existing use of the surrounding land.

The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas.

Land capability.

CLAUSE 14.01-2S SUSTAINABLE AGRICULTURAL LAND USE

Objective

To encourage sustainable agricultural land use.

Strategies

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

Support the development of innovative and sustainable approaches to agricultural and associated rural land use practices.

Support adaptation of the agricultural sector to respond to the potential risks arising from climate change.

Encourage diversification and value-adding of agriculture through effective agricultural 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 14.02-1S CATCHMENT PLANNING AND MANAGEMENT

Objective

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

Strategies

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

Require appropriate measures to restrict sediment discharges from construction sites.

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

CLAUSE 15 BUILT ENVIRONMENT AND HERITAGE

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

CLAUSE 15.02-1S ENERGY RESOURCE EFFICIENCY

Objective

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

Strategies

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

CLAUSE 17 ECONOMIC DEVELOPMENT

This clause seeks to provide for economic well-being.

CLAUSE 17.01-1S DIVERSIFIED ECONOMY

Objective

To strengthen and diversify the economy.

Strategies

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

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

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

Improve access to jobs closer to where people live.

Support rural economies to grow and diversify.

CLAUSE 17.01-1R DIVERSIFIED ECONOMY – LODDON MALLEE SOUTH

Strategies

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

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

CLAUSE 18 TRANSPORT

CLAUSE 18.02-3S ROAD SYSTEM

Objective

To manage the road system to achieve integration, choice and balance by developing an efficient and safe network and making the most of existing infrastructure.

Strategies

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

CLAUSE 18.02-4S CAR PARKING

Objective

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

Strategies

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

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

Design and locate local car parking to:

Protect the role and function of nearby roads.

Enable easy and efficient use.

Enable the movement and delivery of goods.

CLAUSE 19 INFRASTRUCTURE

CLAUSE 19.01-1S ENERGY SUPPLY

Objective

To facilitate appropriate development of energy supply infrastructure.

Strategies

Support the development of energy facilities in appropriate locations where they take advantage of existing infrastructure and provide benefits to industry and the community.

Support transition to a low-carbon economy with renewable energy and greenhouse emission reductions including geothermal, clean coal processing and carbon capture

and storage.

Facilitate local energy generation to help diversify the local economy and improve sustainability outcomes.

CLAUSE 19.01-2S RENEWABLE ENERGY

Objective

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

Strategies

Facilitate renewable energy development in appropriate locations.

Protect energy infrastructure against competing and incompatible uses.

Develop appropriate infrastructure to meet community demand for energy services.

Set aside suitable land for future energy infrastructure.

Consider the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.

CLAUSE 19.01-2R RENEWABLE ENERGY – LODDON MALLEE SOUTH

Strategy

Support and facilitate development in renewable energy, waste to energy, carbon sequestration and other new energy opportunities.

CLAUSE 21.00 MUNICIPAL STRATEGIC STATEMENT

CLAUSE 21.04-1 BIODIVERSITY

Objectives

To identify and protect remnant vegetation on privately owned land.

To identify and protect native fauna and its habitat.

To improve the conservation status of native fauna and flora in the Shire, especially the most threatened species.

CLAUSE 21.04-2 SIGNIFICANT LANDSCAPES

Objective

To recognise and protect landscapes of environmental, scenic, social and cultural heritage importance from inappropriate development.

Strategies

Discourage development on, or close to prominent ridges and hilltops.

Ensure the sensitive siting of buildings and other structures having regard to the protection of prominent ridgelines, significant views and areas of remnant vegetation.

CLAUSE 21.04-3 RURAL AND LANDSCAPE CHARACTER

Objective

To ensure the use and development of rural land does not detract from the appearance and character of the area.

Strategies

Discourage buildings close to roads in rural areas that will have a negative visual impact from the public domain unless specific measures to minimise those impacts are proposed.

CLAUSE 21.05-1 CLIMATE CHANGE

Objective

To increase the Shire's resilience to the adverse effects of climate change.

CLAUSE 21.05-4 NOISE AND AIR

Objective

To ensure that noise and air emissions do not affect the amenity of sensitive uses.

CLAUSE 21.06-1 PROTECTION OF AGRICULTURAL LAND

Objective

To protect the land and water resources relied upon by agriculture.

Strategies

Promote agriculture and horticulture as the primary land uses in the Shire unless other land uses are strategically justified.

CLAUSE 21.06-2 SUSTAINABLE AGRICULTURAL LAND USE

Objective

Diversify the agricultural base of the Shire to increase resilience to change.

Strategies

Encourage agricultural diversity.

Promote opportunities for new farming enterprises to incorporate innovative technologies and use of land.

Encourage farm management practices that are sustainable and reflect the optimal use of the land.

CLAUSE 21.06-3 WATER

Objective

To improve water quality and waterway health in the Shire.

Strategies

Protect native vegetation and encourage appropriate revegetation to prevent land degradation, maintain water quality and protect biodiversity of flora and fauna species.

Ensure that the maintenance of acceptable water quality standards and the natural

condition of watercourses are considered in the assessment of land use proposals.

CLAUSE 21.07-2 SUSTAINABLE ENVIRONMENTS

Objective

To reduce energy use and greenhouse gas emissions.

CLAUSE 21.11 INFRASTRUCTURE

Identifies Mount Alexander Shire as being well placed to take advantage of new renewable energy industries.

Objective

To protect and enhance existing infrastructure assets.

To provide infrastructure to meet the needs of the Shire's communities.

CLAUSE 22.04 USE AND DEVELOPMENT OF LAND IN THE FARMING ZONE AND RURAL LIVING ZONE

Objective

To ensure roads and other infrastructure are commensurate with the expected impacts of proposed uses and developments.

5.8 OTHER POLICIES AND GUIDELINES

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

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



This guideline provides:

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

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

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

- detailed plans and elevations of the proposed development including the layout and height of the facility and associated building and works, and their materials, reflectivity, colour, lighting and landscaping

- detailed plans and elevations of the proposed transmission infrastructure and electricity utility works required to connect the facility to the electricity network, access roads and parking areas
- accurate visual simulations illustrating the development in the context of the surrounding area and from key public viewpoints
- the extent and assessment of any vegetation removal
- a rehabilitation plan for the site.

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

- a description of the proposal including the types of process to be utilised, materials to be stored and the treatment of waste
- an explanation of how the proposed design derives from and responds to the site analysis including cumulative impacts with any other existing and proposed renewable energy facilities in the surrounding area
- an explanation of agricultural values and production including irrigation infrastructure impacts and whether any land is productive farmland of strategic significance
- whether a works approval or licence is required from EPA Victoria or another authority administering the regulatory requirements of the Dangerous Goods Act 1985
- a description of how the proposal responds to any significant landscape features for the area identified in the planning scheme.
- An assessment of:
 - the potential amenity impacts (such as noise; glint or glare; light spill; emissions to air, land or water; vibration; smell and electromagnetic interference): an assessment of potential noise impacts should have regard to EPA Victoria’s Noise from industry in regional Victoria guidelines
 - the effects of traffic to be generated on roads
 - the visual impact of the proposal on the surrounding landscape
 - the visual impact on abutting land that is described in a schedule to the National Parks Act 1975 and Ramsar wetlands and coastal areas
 - the impact of the proposal on any species (including birds and bats) listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999
 - the impacts on Aboriginal or non-Aboriginal cultural heritage

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

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

- whether the impact is acceptable or can be managed in accordance with relevant Australian and New Zealand standards or other regulatory requirements.
- if the assessment was undertaken by a suitably qualified person
- the spatial extent, length and duration of the impact and whether it is for a limited or extended period

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

The impact on significant views including visual corridors and sightlines

- the amount of change proposed by works including earthworks, and the sensitivity of the landscape features to that change
- the visibility of the solar energy facility from vantage points accessible to the public and the ability to screen areas of development from view
- the locations and distances from which a solar energy facility can be viewed from a sensitive land use
- the significance of the landscape as described in the planning scheme including in an overlay, a relevant strategic study or by landscape features referenced in the planning scheme
- landscape values associated with nearby land such as specified areas of landscape and environmental significance, specified coastal locations and areas identified to accommodate future population growth of regional cities and centres.

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

- the impact on (including numbers of) irrigators downstream of the proposed site that depend on the ongoing operation of irrigation assets traversing the site
- the usage level of water compared to the actual capacity of the irrigation infrastructure servicing the site, based on rural water corporation mapping
- whether or not the irrigation infrastructure servicing the site has benefitted from Commonwealth or state government investment in infrastructure modernisation
- whether the proposed site is connected to the modernised irrigation infrastructure and is integral to the rural water corporation's current and/or future planning for the viability of the irrigation district
- whether or not the overall change in land use at the site aligns with a rural water corporation's asset management planning strategy for the viability of the irrigation district
- whether the change in land use closes off any future opportunities for a rural water corporation to make irrigation footprint adjustments identified under a plan or strategy.

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

- how any onsite earthworks, buildings or other works will alter the natural processes occurring on land
- whether the removal, lopping or destroying of any vegetation can be avoided or minimised through alternative design arrangements
- proximity to natural and man-made water courses and the establishment of appropriate setbacks from these to maintain habitat and natural processes
- impacts on landscape values associated with nearby public land described in a schedule

to the National Parks Act 1975 or with Ramsar wetlands

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

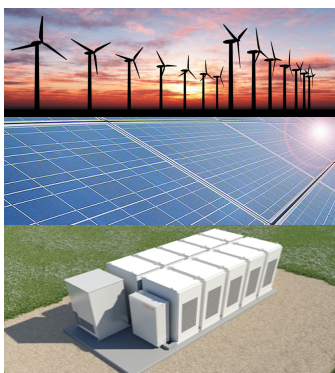
The impact of a proposal on the local road network.

- whether access to and from the site meets requirements established by the relevant road management authority
- the impact of traffic movements to and from the site with the road network operating normally
- the impact of traffic movements causing wear and tear on the road network.

Guidelines for Renewable Energy Installations



CFA GUIDELINES FOR RENEWABLE ENERGY INSTALLATIONS (CFA 2019)



The purpose of these guidelines is to provide details about standard measures and processes in relation to fire safety, risk and emergency management that should be considered when designing, constructing and operating new renewable energy facilities, and upgrading existing facilities.

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

CFA requires that facility operators develop an emergency management plan consistent with the requirements of Australian

Standard 3745: *Planning for emergencies in facilities*. It is expected this to be a condition of any planning permit that may issue.

There are certain access requirements some of which include:

Adequate access to and within the facility will assist CFA in responding to and managing fires on-site. To enable access for fire vehicles, CFA requires that the following provisions be considered:

3.1.1 A four (4) metre perimeter road should be constructed within the ten (10) metre perimeter fire break.

3.1.2 Roads are to be of all-weather construction and capable of accommodating a vehicle of 15 tonnes.

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

Specific guidelines for solar energy facilities include:

6.1.1 Solar facilities are to have a 6 metre separation between solar panel banks/rows.

6.2.1 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.

6.3.1 Solar arrays are to have grass vegetation maintained to 100mm under the array installation or mineral earth or non-combustible mulch such as stone.

6.3.2 Where practicable, solar energy installations can be sited on grazed paddocks. In this case, vegetation is to be managed as per the requirements of this guideline, or as informed through a risk management process.

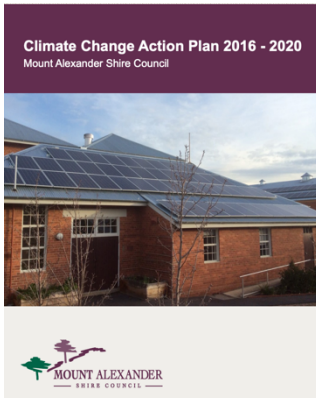
Whilst the subject site is not within a Bushfire Management Overlay (BMO) the recommendations for fuel management will be considered and contained in any Fire Management Plan that may be required.

LODDON MALLEE SOUTH REGIONAL GROWTH PLAN

The Loddon Mallee South Regional Growth Plan provides a regional context for planning decisions.

Various Future Directions are provided to guide growth. Relevant Future Directions from within the plan include:

- Support and develop emerging and potential growth sectors such as tourism, renewable energy, resource recovery and other green industries
- Encourage and facilitate development in renewable energy, other new energy opportunities and in carbon sequestration activities
- Facilitate ongoing agricultural productivity and investment in high value agriculture



CLIMATE CHANGE ACTION PLAN 2016-2020, MOUNT ALEXANDER SHIRE

The Mount Alexander Shire Council Climate Change Action Plan 2016-2020 outlines more than 60 actions that Council will take to radically reduce its greenhouse gas emissions and address climate change vulnerability, and was adopted by Council on the 14 June 2016.

Mount Alexander Shire Council has committed to become carbon neutral between 2025 and 2040, with intent to achieve this target in 2025.

Relevant actions within the plan include:

- Action 10 Transition to renewable electricity for Council's electricity requirement, beginning with 10% GreenPower, and investigate sourcing this power from local renewable energy production and/or a retailer with excellent green credentials.

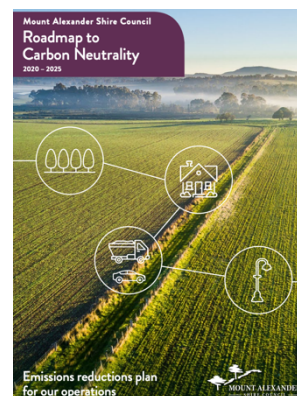
ROADMAP TO CARBON NEUTRALITY 2020-2025, MOUNT ALEXANDER SHIRE

The Roadmap to Carbon Neutrality is Council's emissions reduction plan for reducing greenhouse gas emissions in its own operations. This includes vehicle fleet, buildings, street lighting, procurement, waste management and more. Actions will lead to meeting the target of zero net emissions by 2025 outlined in the Climate Change Action Plan 2016-2020.

Council adopted the Roadmap at the Ordinary Meeting of Council on Tuesday 18 August 2020.

Key actions include:

- 1.1 Local Government Power Purchase Agreement for 100% renewable electricity supply



5.9 LEGISLATION

PLANNING AND ENVIRONMENT ACT 1987 (VIC)

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

The Planning and Environment Act 1987 objectives are:

- a) to provide for the fair, orderly, economic and sustainable use, and development of land
- b) to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity
- c) to secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria
- d) to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value
- e) to protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community
- f) to facilitate development in accordance with the objectives set out in paragraphs (a), (b), (c), (d) and (e)
- g) to balance the present and future interests of all Victorians.

ENVIRONMENT PROTECTION ACT 2018 (VIC)

The Environment Protection Act establishes the legislative framework for protecting the environment in Victoria. It regulates certain activities with the potential to impact on the environment and prohibits the occupier of 'scheduled premises' from doing any act or thing (installing any plant, equipment or process) that is likely to cause the discharge or emission of waste to the environment unless authorized to do so.

A number of State Environment Protection Policies (SEPPs) have been prepared under this Act, which typically set standards, guidelines and environmental quality objectives and indicators to protect beneficial uses of the environment, including noise surface and groundwater, land contamination and air quality. SEPPs express in law the community's expectations, needs and priorities for using and protecting the environment.

The EPA and the legislation it administers is currently undergoing a transformation:

- The EP Act 1970 is in force and contains all currently operational substantive provisions and some currently operational procedural provisions.
- The Environmental Protection Act 2017 (2017 Act) is in force and contains currently operational procedural and administrative provisions. The 2017 Act establishes the EPA and sets out its objectives.
- The Environment Protection (Amendment) Act 2018 (2018 Act) received assent on 28 August 2018 but most provisions will commence on the earlier of a day to be declared or 1 December 2020. The Victorian Government's intention is that the Act will commence on 1 July 2020. The 2018 Act introduces substantive provisions into the 2017 Act and repeals the EP Act 2017. Many aspects of the 2018 Act require regulations to activate the substantive provisions.
- The 2017 Act as it will be amended by the 2018 Act (New EP Act) takes a fundamentally different approach to environmental regulation from the approach taken in the former Act.

The focus moves from protecting the environment per se, to preventing pollution and waste. At the highest level, prescriptive offences will be replaced by duties, most prominently the general environmental duty.

The general environmental duty applies to any person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste, and requires such a person to minimise those risks, so far as reasonably practicable (New EP Act, s 25(1)). 'Reasonably practicable' places a limit on what needs to be done, balancing risk and cost. A failure to comply with the general environmental duty is an indictable offence (proof beyond reasonable doubt- a higher standard), and civil penalties (proof on the balance of probabilities – a lower standard) are also available for breach.

This project, if approved will be developed under the provisions of the new Act.

ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (AUS)

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

- To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- To promote the conservation of biodiversity;
- To provide for the protection and conservation of heritage;
- To promote a cooperative approach to the protection and management of the environment involving governments, the community, landholders and Indigenous peoples;
- To assist in the cooperative implementation of Australia's international environmental responsibilities;
- To recognise the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- To promote the use of Indigenous peoples' knowledge of biodiversity with the

involvement of, and in cooperation with, the owners of the knowledge.

FLORA AND FAUNA GUARANTEE ACT 1988 (Vic)

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

A permit is required to remove species protected under the Act from public land and may also be required to remove protected species from private land in certain circumstances.

CLIMATE CHANGE ACT 2017 (Vic)

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

Section 20 states:

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

RENEWABLE ENERGY TARGET (RET) LEGISLATION

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

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

ABORIGINAL HERITAGE ACT 2006 (Vic)

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

No part of the activity area is in an area of cultural heritage sensitivity therefore a mandatory CHMP is not required.

6 PLANNING ASSESSMENT

This section outlines how the proposal responds to the provisions and guidelines of the Mount Alexander Planning Scheme. Matters are addressed thematically.

Clause 53.13 Renewable Energy Facility provides a framework for assessing amenity and design themes relevant to a solar renewable energy facility. The *Solar Energy Facilities Design and Development Guideline* as directed by Clause 53.13 form an integral part of assessment.

6.1 SITE ANALYSIS AND DESIGN RESPONSE

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

- Direct proximity to the electricity grid for connection to the national electricity market.
- Being set within an area that has substantial remnant vegetation and variation in topography, screening views from sensitive receivers.
- Low agricultural value of the land.
- Direct access to major road for construction, operations and maintenance.
- Close proximity to major population centres for efficient electricity consumption.

The design responds to the site by:

- Designing around remnant native vegetation that is scattered throughout the site and avoiding removal.
- Incorporating substantial landscape screening around the perimeter of the facility to mitigate visual impacts on the surrounding area and on sensitive receivers.
- Having regard to the CFA guidelines for renewable energy facilities, including the provision of a 10 metre fire break around the perimeter of the facility.

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

- Maintaining soil permeability
- Avoiding fertilisers or herbicides
- Avoid bringing 'alien' soil to the site
- Monitoring activities across the year.

Tetris Energy takes community consultation and engagement very seriously. Every project has a different consultation approach and is influenced by the landlord and the local community. For the Faraday project, it was agreed with the landlord that the initial introduction on the project would be undertaken by them, and that Tetris Energy undertake any follow up actions. Below is a summary of the consultation dialogue.

- 28th March – Landlord consulted with two of the three direct north/south neighbours. Both informed landlord that they had no concerns with the array.
- 29th March – Landlord consulted with two of the three eastern neighbours. Appeared to be ok with the solar array.
- 31st March - Landlord consulted with property on opposite side of the subject site (western). No concerns raised on the solar array.
- 3-4th April – Landlord consulted with family member of a southern neighbour. During a follow up, the neighbour raised concerns about the visual impact to their proposed building site. The landlord connected the neighbour directly with Tetris to discuss.
 - Follow up call had on 9th April to introduce project and understand concerns.

Tetris emailed copy of plan.

- Follow up call on 11th April to have more detailed discussion.
 - Received a copy of the proposed house location
 - Site meeting on the 26th April. Discussed project location in relation to proposed house site. Walked onto the subject land to determine ideal setback from array to house site. Discussion about vegetation types. Tetris agreed to review layout options and the preference to increase the setback.
 - Tetris back and forth on design iterations to settle on a satisfactory outcome for both parties on 31st of May.
- 12th April – Tetris received some Q&A from one of the eastern neighbours. Initial response from Tetris on the same day and detailed follow-up on the 16th April. Tetris offered to meet on 26th April but did not receive a response.
 - 26th April – southern neighbour connected Tetris to a resident up on Sutton Grange Faraday Road. Tetris met with this resident on 26th April and also drove them to the solar array area to look back to their property. Possible visual amenity was the main concern raised. No subsequent consultation dialogue.
 - 15th June – Landlord had a follow up consultation with the three eastern neighbours. One of them raised new concerns about property devaluation, they did not wish to engage in further consultation.

The final project design is an outcome of the genuine approach to consultation and engagement between the community and Tetris Energy. Key changes to the layout design as a result of the consultation include:

- increased setback from a proposed dwelling location
- variable boundary setbacks to maximise distance from existing and proposed dwellings
- locating the vegetation screening on the outside of the fence
- shifting the inverter and battery equipment into the centre of the array
- enhancing the tree protection zones to retain all trees across the subject site.

Tetris Energy remains open to working with the local community and mitigating any genuine concerns they may have.

6.2 PROTECTING ENVIRONMENTAL VALUES AND FLORA AND FAUNA

A full description of the ecological values of the site is included in the report “*Biodiversity Assessment for the Faraday Solar Farm: 3040 Harmony Way, Faraday*”, prepared by Ecology Heritage and Partners, April 2021 and is contained in Appendix A.

This assessment was undertaken in December to March 2020 and the objective was to determine the extent of native vegetation and ascertain the presence of any threatened flora and fauna species or associated habitats within the project area.

The key findings of that assessment are as follows:

Several patches of native vegetation and scattered trees were recorded in the study area. The remainder of the study area comprised introduced pasture grass, planted eucalypts and ornamental gardens.

A summary of the biodiversity values of this site is as follows:

- *Low rises Grassy Woodland (EVC 175_61) is modelled to occur within the study area. Low Rises Grassy Woodland is characterised by open woodland with eucalypts to 15 metres tall. The ground layer contains a diverse assortment of grasses and herbs, with shrub layer typically being diverse but sparse (DELWP 2021c).*

- *Low Rises Grassy Woodland occurred as two habitat zones of differing quality.*
- *Six Large Trees in Low Grassy Woodland patches were present, all of which were Yellow Box.*
- *A total of 24 scattered trees were recorded within the study area, which consisted of 23 large trees and one small scattered tree. These trees would have once formed part of the Low Rises Grassy Woodland EVC; however, the understorey vegetation contained predominantly introduced species (mainly exotic pasture grasses) and the trees no longer formed a patch of native vegetation.*
- *A large majority of the study area (>95%) contained exotic pasture grass, with the main species being Rat's tail fescue *Vulpia myuros*, Barley *Hordeum vulgare* and Perennial Rye-grass *Lolium perenne*. Other less common species included Brown-top Bent *Agrostis capillaris*, Bearded Oat *Avena barbata* and Clustered Dock *Rumex conglomeratus*. Scattered native grasses and rushes were sometimes present in these areas, however they did not have the required 25% relative cover to be considered a patch.*
- *Ornamental gardens encircle the existing dwelling and sheds, while a stand of planted River-Red gum saplings is located at the entrance of the property along the study area's south-western boundary.*
- *Most of the study area consisted of paddocks, which contained improved exotic pastures, likely to be used as a foraging resource by common generalist bird species that are tolerant of modified open areas.*
- *The native vegetation proposed to be removed is 0.195 hectares. within Location 1 which falls within the Basic Assessment Pathway.*
- *The offset required is 0.022 General Habitat Units with a minimum Strategic Biodiversity Value of 0.279 in the North Central CMA/Mount Alexander Shire Council.*

A permit is triggered for the removal of native vegetation pursuant to Clause 52.17. As stated in the report the principles of avoid and minimise were applied during the planning phase of the project.

The Ecology Assessment clearly states:

The development footprint has been specifically designed to avoid and/or minimise the loss of native vegetation through the following measures:

- *All eucalypts, including dead stags, have been retained as part of the development by placing the solar panels entirely within the grassed areas. Where a block of solar panels comes within close proximity of a tree, the area of solar panels has been indented to ensure the tree is retained (for example, Tree 3 and 6 on Figure 2a). Furthermore, where there are trees in the centre of potential blocks of solar panels, the solar panels have been omitted along the whole length to avoid tree loss (for example, Tree 2 and Trees 8 to 12 on Figure 2a). Similarly, the access road leading in from the existing property driveway and between the solar panels has been positioned to avoid the loss of all trees within the study area;*
- *The construction method used to install the solar panels is expected to have minimal physical impact on the patches of native grasses (i.e. GW1) and tree roots. The steel posts on which the solar panels are mounted are driven into the ground using a pole driver attached to the back of a soft-tyred vehicle. The only physical impact to the ground is therefore the width of the poles, with each one being approximately 10*

centimetres in diameter.

- *There will be no indirect construction impacts to native vegetation associated with the development, as the solar arrays, access road and MV cable trench can all be constructed within the extent of their final footprint. The width of the MV cable trench will be a maximum width of 50cm and filled in to allow grasses to recolonise the area.*
- *Once installed, there will be approximately 5.4-metre separation distance between each solar array, which will allow sunlight to reach all the native grass as the sun moves across the sky. Appendix 2 provides a detailed discussion as to the solar array angle implications for the native grass.*
- *The location of the battery/power storage cells in the middle of the study area, temporary laydown area (which will only be used during the construction phase and includes the site office during that time) and carparking space have all been designed to avoid impacts to all trees and patches; and.*
- *The coverage of mid and upper-level native vegetation within the study area will increase as a result of this development as the trees and shrubs being planted as part of the landscaping ring around the impact area will be entirely composed of indigenous trees and shrubs.*

In order to manage the protection of any ecological attributes on the land the report recommends Best Practice Mitigation Measures should be prepared and include the following:

- Minimise impacts on native vegetation and habitats through micro-siting techniques.
- All contractors should be made aware of ecological values within the project area.
- Tree Protection Zones (TPZ's) to be implemented to prevent indirect losses of native vegetation during construction activities
- Designated 'no go' zones to avoid any disturbance or damage to native vegetation adjacent to construction areas. No go zones should be fenced with para-webbing or similar material prior to construction.
- The location of construction stockpiles, machinery, and other infrastructure should be away from native vegetation
- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings that are undertaken as part of the proposed works are conducted using indigenous species sourced from a local provenance, rather than exotic deciduous trees and shrubs. (Page 21)

As a result of the further work associated with the updated ecology assessment undertaken after lodgement of the application, the native vegetation to be removed has been further reduced from 0.328ha to 0.195ha. The offset requirement for the removal is 0.022 General Habitat Units.

The ecology assessment demonstrates that there will not be any unreasonable impacts on the flora and fauna in this area or on site. The project meets the key objectives of Clause 12.01-S Protection of biodiversity, Clause 12.01-2S Native Vegetation Management and the purpose of Clause 52.17 Native Vegetation as the siting and design is such that it avoids removal of the high-value vegetation. The proposal also meets the provisions of the Farming Zone as it will have minimal impact on the flora and fauna on the site and surrounds.

6.3 GEOTECHNICAL AND HYDROLOGY

Geotechnical investigations were conducted by Geotechnical Testing Services and involved drilling of boreholes to assess general subsurface conditions with a view to providing comments

and design parameters for the proposed construction of a solar farm. Full details of the investigation are contained in at Appendix B.

The report found that the site is suitable for construction of a solar energy facility subject to recommendations as outlined in the report. Groundwater inflow was not encountered over the investigated depths.

The main conclusions of the report are:

- The field investigation indicated that the soil profile is relatively uniform across the site.
- Groundwater inflow was not encountered over the investigated depths.
- Depth to granite rock varied across the site from 0.5 to 2.7 metres. In addition, there are several areas of exposed granite rock at the surface.
- It may be difficult for driven piles to be driven or founded at the required depths. Large conventional earthmoving equipment (i.e >10 tonne excavator) with a ripper or pneumatic hammer attachment may be required excavate the foundations to design levels.

The site is generally suitable for a solar energy facility, with no undue geotechnical risks that would affect the viability of the project. Salinity, landslip or erosion risks are minimal, in accordance with the Solar Farm Guidelines and General Provisions at Clause 65.01. Any potential for adverse impacts may be suitably managed through appropriate permit conditions.

6.4 AGRICULTURAL IMPACT

An Agricultural Impact Assessment prepared by Page Street Services Pty Ltd accompanies this report at Appendix C.

The report concludes that the proposal will have no significant impact on the agricultural capability of the property or surrounding properties, supporting policies that seek to protect valuable agricultural land.

The report outlines that the subject site is a sub-commercial and low productive grazing property with limited potential for agricultural development. Cropping is not a realistic option. Grazing by sheep can continue between solar panels. The allocation of 12 hectares of this 21 hectare property to a solar development will have no significant impact on the agricultural capability of the property or surrounding properties.

Nearby horticulture (typically vineyards and orchards) will be at least 100m from any proposed infrastructure.

The land is not in an irrigation district.

The main conclusions of the report as relevant to this application are:

- *Due to the water logging in the front area, the number of boulders and orientation of the property it is not considered to be suitable for grape production. (page 14)*
- *Due to its heavy soil type the current property is limited to grazing enterprises. (page 25)*
- *It is considered that the land would be categorized as Class 4 – land that is not inherently capable for intensive soil-based agriculture. (page 25)*

Given the site is not highly productive or strategic agricultural land, is not under irrigation, and does not have any other unique agricultural characteristics for consideration, it is appropriate to redirect the sunlight resource from agricultural use to energy production.

The provisions of the Farming Zone require consideration of agriculture in any alternate proposed use. The solar farm will remove the land from its current agricultural capacity, however, will still

allow for the co-location of sheep grazing through the array.

With suitable ground cover and water management the land will be able to be returned to agricultural use would this be the requirement at the end of the life of the project. It is expected that such a condition would be on any permit and address decommissioning requirements. This will enable the land to be protected for future agricultural use.

A detailed assessment against the relevant provisions of the Mount Alexander Planning Scheme, including Clause 14.01-1S is provided at page 25 of the Agricultural Impact Assessment report.

The proposal is consistent with policies that seek to protect valuable agricultural land and support agriculture generally. There will not be any significant adverse impact on agricultural productivity, locally or regionally.

6.5 AMENITY IMPACTS

6.6.1 NOISE

A Noise Impact Report prepared by ARUP forms part of the application and is included at Appendix D. The report includes an assessment of the proposal against the requirements of EPA's Noise from Industry in Regional Victoria Publication 1411 (NIRV).

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

- Noise from the combined transformer and inverter units (Sunny Central 2500- EV inverter/transformer)
- Battery storage system (SMA 4.5 MWh Energy Storage Station)
- Tracking solar panel motors (NEXTracker motor)

The nearest sensitive receivers were identified to the north at 3060 Harmony Way and 67 & 49 Musselwhite Drive.

The results from the report are replicated below, presenting the predicted noise levels at the nearest affected residential receivers, for the night-time, reduced capacity, period. Compliance with the night-time limit means compliance with all other limits/times of day under the NIRV.

Table 3 Predicted noise levels at residential receivers table from Noise Impact Report prepared by ARUP

Location	Noise limit Night, Leq dB(A)	Predicted noise level, Leq dB(A)	Complies
3060 Harmony Way	36	34	✓
67 Musselwhite Drive	36	29	✓
49 Musselwhite Drive	36	29	✓

The results listed in the report represent the most affected locations, and therefore infer compliance at all other sensitive receivers.

The proposal therefore complies with the relevant noise requirements of the planning scheme, including the requirements of the DELWP Solar Guidelines at Clause 52.13.

The surrounding area will continue to be farmed and therefore there will continue to contribute to seasonal machinery noises and dust.

6.6.2 VISUAL AND LANDSCAPE IMPACTS

GbLA have prepared photomontages of the proposed facility which are included in Appendix E. The photomontages have been prepared following site visits inspecting the site and surrounds to understand where key views may be to the facility. The subject site is located on the eastern side of Harmony Way which is two lane bitumen road with verges on both sides. There are scattered native trees and a limited understory along the roadside. Agricultural landscapes are visible through the trees. Most travellers would travel Harmony Way by vehicle. There would be limited cyclists and pedestrians utilising this road. Due to the relatively straight alignment of the road combined with the trees, views to the subject site, and the potential views to the facility will only become apparent approaching the site from a few hundred metres away.

There are dwellings located proximate to the site, the closest of which is to the north at 3060 Harmony Way. There are a number of dwellings directly to the east of the site in Musselwhite Drive. There are also dwellings located along Faraday-Sutton Grange Road.



Figure 6-1 Location of dwellings

Photomontage 1 is taken from Harmony Way from the south from the side of the road looking toward the facility. As the photomontage shows, the solar array and infrastructure will be barely visible between the roadside vegetation combined with the setback from the frontage. The visibility of the solar array from a moving vehicle would even be less than that shown in the photomontage.

View 2 is taken from the perspective of the adjacent dwelling to the north (3060 Harmony Way) looking towards the facility. The solar array, whilst visible from this location, sits low in the landscape and rolls away with the hill toward the rear of the site.

View 3 is taken from the rear of the site looking toward the solar farm. The solar array is visible between the trees that are located in the foreground. This view is generally representative of the

view that may be obtained from the front of the three dwellings located in Musselwhite Drive located to the rear of the subject land.

6.6 ELECTROMAGNETIC INTERFERENCE

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

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

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

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

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

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

6.7 AVIATION AND GLINT AND GLARE

An Aeronautical Impact Assessment and Glint and Glare Analysis has been undertaken by Chiron Aviation Consultants and is included at Appendix F.

The report utilised the Sandia National Laboratories Solar Glare Hazard Analysis Tool (SGHAT) and notes that the Australian Civil Aviation Safety Authority (CASA) accepts these results.

The report demonstrates that the facility will not cause unreasonable adverse impacts on surrounding aviation facilities, nor on surrounding residences or roads in terms of glare and glint.

A summary of the main conclusions from the report are provided below. The criteria for glint and glare effects outlined in the report are:

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

The definition of each of these impact criteria are further explained in the report.

AIRCRAFT SAFETY

In relation to the impacts of the solar farm on aircraft safety, the report concludes that:

- The Harmony Way Solar Farm is not a hazard to aviation safety.
- The only aerodrome within 16km is Castlemaine airstrip. At 8.36nm (15.8km) southwest the airstrip is considered sufficiently distant for there to be no safety hazard to aircraft operations from glare or glint.

- **No Impact.**

ROAD IMPACTS

In relation to impacts on nearby roads:

- There are two roads considered in this analysis. They are Harmony Way and the Faraday – Sutton Grange Road. Both roads are shielded from possible solar reflection from the FSF by tree lined road verges.
- **No Impact.**

DWELLING AND OUTBUILDING AMENITY

In relation to impacts on nearby dwellings and associated structures:

- Most of the houses are surrounded by trees which provide a visual barrier to any geometrically possible reflection. The SGHAT analysis predicts no glare or glint for any of the houses which equates to **No Impact for dwellings.**
- One shed (S1) associated with Dwelling 1 is predicted to receive 25 days of green glare and 4 minutes of yellow glare, which equates to a **Moderate Impact for Shed 1.**

The glare to Shed 1 can be mitigated by the inclusion of screening and/or landscaping along the solar farm boundary between this shed and the solar array. Given the shed is a non-habitable building, and within the context of the overall project outcomes facilitating renewable energy, this is a minimal impact and an acceptable outcome in accordance with the purposes of Clause 53.13.

It is also noted that Shed 1 is situated on land and associated with a dwelling that will be leased as part of the project, and effectively will not have any unreasonable adverse impacts on non-associated landholders.

6.8 NATURAL HAZARD MANAGEMENT

BUSHFIRE

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

The proposal provides the following response to bushfire safety:

- A 10m fire break will be maintained around the entire facility, allowing emergency access around the perimeter of the facility.
- At least 2 access points will be provided. A secondary access gate will be provided near main site facilities.
- A minimum 6m separation between panel banks is provided as per 6.1.1 of the CFA guidelines.
- Grass no longer than 100m will be maintained beneath the panels in accordance with 6.1.1.

Appropriate fire management, including emergency information, will be included in a Fire Management Plan for the project which would be expected to be a condition on any permit that

may issue. This would include maintenance of grass beneath the panels and other ongoing obligations.

FLOOD

The relevant planning controls (the absence of any overlay) together with the technical reports demonstrate that flooding is not a significant risk for the development. No flooding overlays apply.

The Geotechnical report demonstrates there is no significant impacts on groundwater. Groundwater inflow was not encountered over the investigated depths.

There is no significant impact on overland flows due to the open nature of the solar panel structures themselves and the minimum of site infrastructure and buildings required for the facility.

6.9 CUMULATIVE IMPACTS

There are currently no other existing, proposed or approved solar energy facilities in the area that would result in a significant cumulative impact, either in terms of noise, visual impacts, electromagnetic impact, or cumulative impacts on agriculture in the area.

6.10 TRAFFIC AND TRANSPORT

A Traffic and Transport Assessment prepared by Impact Traffic Engineering provides a detailed assessment of the impact of the proposal on traffic and the road network and is attached at Appendix G.

In relation to operation of the use of a solar energy facility at the site:

- There will be negligible impact on the traffic of the local road network, which is typical of solar energy facilities in general. Routine operation and maintenance work is to be carried out on a six-monthly basis by up to four people, which is a maximum of four vehicle movements per year. Other potential maintenance work such as replacement of solar panels or cleaning will have no discernible impact outside of this.

In relation to construction impacts:

- The facility is expected to take 4 months to complete, with an estimated average one-way peak impact of 25 light vehicle and 5 heavy vehicle movements per day.
- The proposed development is projected to generate up to 30 additional movements per day during peak construction activities.
- This volume of traffic is not expected to have any material impact on the operation of these roads.
- It is noted that vehicles larger than a single trailer vehicle (e.g. 26m B-doubles) will not be required during the construction phase and thus all activity will be managed to avoid using these vehicles.
- North of the site access, Harmony Way is relatively straight and flat. In addition, the trees at the proposed access are set back from the road carriageway as to not impede on sight distances.
- By virtue of the abovementioned conditions, sightlines to and from the north are relatively unrestricted and any additional measures may be implemented through development of an appropriate Traffic Management Plan.
- The access point into the site will be designed to accommodate vehicles up to 26m long as a contingency.
- Due to the short-term nature of the construction period (4-month construction period)

and the low construction volumes, it is recommended to utilise the full width for passing if required in place of a more formal BAL and BAR treatment.

- The Traffic and Transport Assessment recommends that a Traffic Management Plan is developed and should include details as outlined on page 20 of that report.

The traffic and transport impacts of the operation and construction of the proposal will be comfortably accommodated by the existing road network and will not cause any unreasonable impacts to road infrastructure or to road safety, in accordance with Clause 18.02-3S Road System, Clause 21.06-4 Transport and the DELWP Solar Guidelines at Clause 53.13 Renewable Energy Facility.

CAR PARKING

The proposal will provide ample areas for on-site parking through the operation of the facility.

Detailed design has not yet been determined for car parking; however, it is expected that during operation of the facility, all staff vehicles will be accommodated on-site within a vehicle parking area located adjacent to the site office/site facilities area that is shown adjacent to the south-western facilities section of the site.

It is expected that staff will be present on the site regularly for maintenance and operational activities, as is typically the case with small utility scale solar facilities.

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

7 CONCLUSION

The proposed solar energy facility has been assessed against the relevant sections of the Mount Alexander Planning Scheme, with particular reference to key provisions of Clause 35.07 (Farming Zone), Clause 52.13 (Renewable Energy Facility) and the *Solar Energy Facilities Design and Development Guideline*.

The balance of policies strongly supports the solar energy facility at the proposed location. The land is of low-agricultural significance and is not within an irrigation district. Ecological impacts are minimal and acceptable.

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

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

There will be no significant impact on aircraft safety.

The impact to local roads will be minimal due to the short construction period and limited construction workers on site, with ongoing impacts from operation of the facility being negligible.

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

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