Planning and Environment Act 1987

Panel Report

Baringhup Solar Farm Permit Call-in

5 September 2019

VICTORIA State Government | Planning Panels Victoria

Planning and Environment Act 1987

Panel Report pursuant to section 25 of the Act

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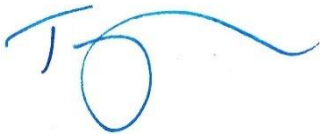
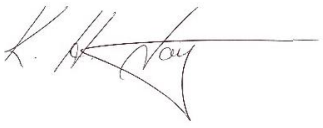


Trevor McCullough, Chair



Ken Joyner, Member

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Contents

List of Tables

Page

List of Figures

Page

Glossary and abbreviations

ACMA	Australian Communications and Media Authority
Act	*Planning and Environment Act 1987*
BMO	Bushfire Management Overlay
CEMP	Construction Environment Management Plan
CFA	Country Fire Authority
Council	Mount Alexander Shire Council
CSMP	Construction Site Management Plan
dB	decibels
DELWP	Department of Environment, Land, Water and Planning
DELWP (Planning)	DELWP in its role representing the Minister as responsible authority
DELWP (Environment)	DELWP as land manager and referral authority
EE Act	*Environmental Effects Act* 1978
EES	Environmental Effect Statement
EMC	electromagnetic compatibility
EMC Labelling Notice	Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017
EMC Standard	Radiocommunications (Electromagnetic Compatibility) Standard 2017
EOMP	Environmental and Operations Management Plan
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act* 1999
ESO	Environmental Significance Overlay
EVC	Ecological Vegetation Classification
FFG Act	*Flora and Fauna Guarantee Act* 1988
FZ	Farming Zone
GMW	Goulburn Murray Water
HO	Heritage Overlay
kV	kilovolts
MNES	Matters of National Environmental Significance
MW	megawatt
MWh	megawatt hours
Native Vegetation Guidelines	*Guidelines for the removal, destruction or lopping of native vegetation,* DELWP, 2017
NCCMA	North Central Catchment Management Authority
RDZ	Road Zone
SLO	Significant Landscape Overlay
Solar Guidelines	*Solar Energy Facilities Design Guidelines*, DELWP, July 2019
TIA	Traffic Impact Assessment
VCAT	Victorian Civil and Administrative Tribunal

Overview

Permit summary	
The permit application	Baringhup Solar FarmPlanning Permit Application 297/2018
Subject land	137 Baringhup West Road, Baringhup
The applicant	RES Australia Pty Ltd
Responsible Authority	Minister for Planning (determining) Mount Alexander Shire Council (referring)
Submissions	Number of Submissions: 29
Panel process	
The Panel	Trevor McCullough and Ken Joyner
Directions Hearing	Castlemaine, 13 June 2019
Panel Hearing	15 and 16 July 2019 in Maldon 23 July 2019 in Baringhup
Site inspections	Unaccompanied: 13 June, and 16 & 23 July 2019
Appearances	RES Australia Pty Ltd represented by Mr Tim Power of White & Case LLP, who called the following expert evidence: - Mr Graeme Taylor of Fire Risk Consultants Pty Ltd on Fire Risk - Mr Tony Pitt of Ag Challenge on Agriculture - Mr Harden Burge of Jacobs on Landscape and Visual Impact Mount Alexander Shire Council represented by Ms Maria Marshall of Maddocks Department of Environment, Land, Water and Planning, represented by Ms Louise Smith (Planning) and Ms Amanda Johnson (Environment) North Central Catchment Management Authority represented by Ms Camille White Mr Ross Dohnt Ms Anne Hayes Mr John Couch Mr Robert Wilson Mr Shane Baker who call expert evidence from Mr Paul Foreman of Bush Heritage Trust on Ecology Ms Rory Baker Mr Peter Baker and Ms Maree Baker
Citation	Mount Alexander Permit Application: 297/2018
Date of this Report	5 September 2019

Executive summary

The proposal

The Baringhup Solar Farm permit application seeks approval for: the use and development of a Renewable Energy Facility (Solar and Energy Storage); the use and development of a Telecommunications facility (in association with a renewable energy facility); Utility Installation (powerlines and substation); associated buildings and works; removal of native vegetation; and installation of business identification signage.

The proposed solar farm (the Project) comprises approximately 260,000 solar photovoltaic panels with an installed capacity of up to 75 megawatt (MW) over 237 hectares. This is sufficient to supply power to up to 44,000 homes.

The site of the Project is located 1.3 kilometres west of Baringhup and approximately 25 kilometres north-west of Castlemaine in the Mount Alexander Shire.

The Project site is almost entirely in the Farming Zone and is currently primarily used as agricultural land with basalt outcrops and boulder fields in the eastern section of the site.

On 24 June 2019 the Applicant sought to amend the permit application by adding the abutting road reserve of Baringhup Road into the description of the land to which the application applies. This is to include the use and development of utility installation, being the powerlines to connect the facility to the existing 66kV transmission line.

Submissions

A total of 26 objections were received that raised concerns about the following issues:

- loss of productive agricultural land
- landscape and visual impacts
- ecological impacts, in particular to bird life
- amenity impacts (glint and glare, noise, traffic, dust)
- potential to increase ambient temperatures
- increased fire management and response risks
- chemical use and weed control
- impacts to individual and communal wellbeing
- impact on property values.

Three letters of support were received.

The key issues to be considered in determining whether a permit should issue for this application are:

- environmental issues
- visual amenity impacts
- impacts on agriculture
- bushfire risk.

Other issues raised in submissions including noise, traffic, glint and glare, dust, erosion, electromagnetic interference and heat island effects are considered by the Panel to be less significant and either not considered to be a significant concern (traffic, dust,

electromagnetic interference, heat island) or relatively easy to manage through permit conditions (noise, glint and glare, erosion).

Environmental issues

The Panel is comfortable that the requirements of Clause 52.17 and the Native Vegetation Removal Guidelines can be met through minimising removal of native vegetation in the design and providing offsets for the relatively small amount of native vegetation to be removed.

The design of the Project adequately protects habitat for identified endangered species. The Panel, however, concluded that a review of the ecological assessment may be warranted, particularly with respect to identification of species, given the evidence of Mr Foreman that other species may be present and may be identified if further studies are undertaken at appropriate times of the year. In particular, the presence of Golden Sun Moth should be critically reviewed. The outcome of the review will determine whether a referral to the Commonwealth Department of Energy and Environment should occur.

The proposed buffers to the habitat areas and the wetlands on or adjacent to the site are sufficient subject to the controls proposed in the permit conditions.

Landscape values and visual amenity

The Panel concluded that views from Mt Tarrengower, nearby tourism locations, the Baringhup township and nearby residences (apart from 135 Baringhup-Havelock Road) are sufficiently distant, or screened by the landscape, so that they experience only minor impacts.

If the Project proceeds, there will be a high level of visual impact on the dwelling at 135 Baringhup-Havelock Road. This can be mitigated by the proposed set back (of panels) of approximately 70 metres from the boundary in the vicinity of 135 Baringhup-Havelock Road with a 50 metre wide landscape buffer.

Agricultural impacts

The Panel concludes that the Project meets the decision guidelines of Clause 35.07-6 *Farming Zone:*

- The subject land is not permanently lost to agricultural uses and will not adversely affect land used for agricultural purposes.

The Project meets the objectives of Clause 14.01-1S *Protection of agricultural land*:

- The subject land is not of strategic significance in a local or regional context.
- The overall economic impact is offset by the additional income generated by the Project and the employment of staff for operations and maintenance as well as the initial construction of the Project.
- Offsite impacts related to construction, operation and decommissioning of the Project can be appropriately managed via permit conditions.

Bushfire risk

The Project site is likely to be susceptible to the risk of grass fires. The planning permit conditions proposed in relation to bushfire management, including the requirement for an Emergency and Fire Management Plan, adequately address the fire risk of the Project.

The proposal meets the objective of Clause 13.01-1S *Natural hazards and climate change* to minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.

Overall assessment

On balance, the Panel considers that a permit should be granted. The critical issues of environmental and visual impact can be managed through the facility design and planning permit conditions can be employed to ensure appropriate outcomes. Impacts on agriculture are not considered significant and bushfire risk can be appropriately managed.

Renewable energy has strong State legislative and policy support, along with very strong statements of policy support for renewable energy in the planning scheme at Clauses 19.01-2S and 53.13.

The Panel believes that the proposal represents a net community benefit, balancing the benefits of providing a renewable energy facility against the (largely manageable) negative impacts.

Planning permit conditions

The Panel requested Council to provide a set of draft permit conditions on a 'without prejudice' basis to aid the discussion of appropriate conditions through the Panel process.

The Panel has considered responses to the draft conditions and has proposed its own preferred planning permit conditions as shown in Appendix C to this report.

Recommendations

The Panel makes the following recommendations in relation to further ecological assessment of the Project site:

1. **The applicant should undertake a survey for Golden Sun Moth at an appropriate time of the year to determine whether the species is present on the site.**
2. **The applicant should review the ecological assessment of the site, particularly with respect to identification of species, in the light of the information of Mr Foreman that other species may be present.**
3. **Depending on the outcome of the survey and review noted in recommendations 1 and 2, the applicant should review whether a referral to the Commonwealth Department of Energy and Environment under the *Environment Protection and Biodoversity Conservation Act 1999* is required.**

Based on the reasons set out in this Report, and the Panel makes the following recommendation in relation to the Baringhup Solar Farm Permit Call-in:

4. **The Minister for Planning issue planning permit 297/2018 for: the use and development of a Renewable Energy Facility (Solar and Energy Storage); the use and development of a Telecommunications facility (in association with a renewable energy facility); Utility Installation (powerlines and substation); associated buildings and works; removal of native vegetation; and installation of business identification signage, subject to the permit conditions contained in Appendix C of this report.**

1 Introduction

1.1 The planning permit application summary

Table 1 **Summary of permit application and permit requirements**

Item	Details
Responsible Authority	Minister for Planning (determining) Mount Alexander Shire Council (referring)
Council	Mount Alexander Shire Council
Address	137 Baringhup West Road, Baringhup
Proposal as exhibited	Use and development of a Renewable Energy Facility (solar and energy storage) and associated buildings and works, removal of native vegetation and business identification signage for the proposed Baringhup solar farm
Land Area	Approximately 297 hectares
Zone and overlay	The subject land is mainly in the Farming Zone (FZ), with a small part in the Road Zone Baringhup township is in the Township Zone and the surrounding area is predominantly in the Farming Zone No overlays apply to the site Land abutting the site is affected by the Heritage Overlay (HO369 for a ruined residence on Baringhup-Eddington Road) The Environmental Significance Overlay Schedule 2 (ESO2) applies to the nearby Lake Cairn Curran Catchment. The Land Subject to Inundation Overlay Schedule 2 for flooding from waterways, and Significant Landscape Overlay Schedule 1 Area Maldon Landscape Area apply in the surrounding area The site is in a designated bushfire prone area
Permit requirements	A permit is required to: - Use land for a Renewable Energy Facility, Telecommunications facility and Utility installation (clause 35.07 Farming Zone) - Construct a building or carry out works for a section 2 use (Clause 35.07-4) - Use land for a Utility installation (Clause 36.04-1 Road Zone) - Construct a building or constructor carry out works for a use in Section 2 (Clause 36.04-1) - Display a business identification sign, which must not exceed three square metres (Clause 52.05 Signs) - Remove, destroy or lop native vegetation, including dead native vegetation (Clause 52.17 Native Vegetation) - Construct a building or construct or carry out works for a Telecommunications facility (Clause 52.19-1). Sets out application requirements as well as decision guidelines - Use or develop land for a Renewable energy facility. (Clause 53.13). Sets out application requirements (including a design response) as well as decision guidelines

1.2 The Project

(i) Site location

The site of the proposed solar farm (the Project) is located 1.3 kilometres west of Baringhup and approximately 25 kilometres north-west of Castlemaine in the Mount Alexander Shire. The total site area is 297 hectares.

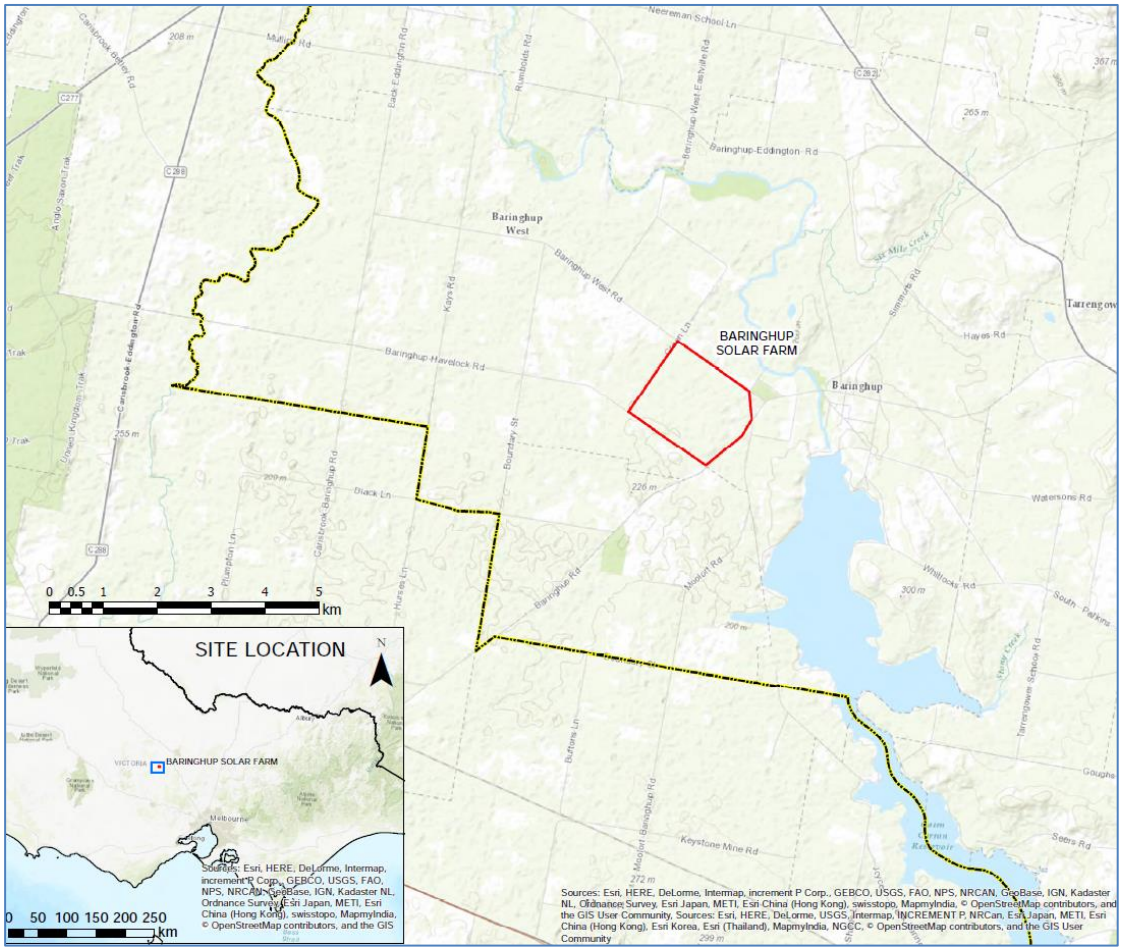

Figure 1 Site context[1]

(ii) Project description

The Project comprises approximately 260,000 solar photovoltaic panels with an installed capacity of up to 75 megawatt (MW) over 237 hectares. This is sufficient to supply power to up to 44,000 homes. The development cost is estimated to be in the order of $195 million.

The Project also includes:

- approximately 320 electrical control cabinets (combiner boxes or similar)
- approximately 16 power conversion units (inverter buildings with hard stand)
- DC, AC, earthing and communications and control cabling
- hard stand areas and 8.5 kilometres (approx.) of access track on private land
- a Utility Zone including:

[1] Source: Baringhup Solar Farm Planning Report, AECOM, 23 November 2018

  - construction and laydown areas of approximately 2 hectares, 1 hectare within the utility zone and 1 hectare as a temporary satellite construction compound on the north-west boundary of the project area adjacent to Green Lane
  - operations and maintenance buildings within a compound of approximately 1 hectare
  - on-site wastewater disposal/septic tanks
  - a battery storage facility of up to 37MWh capacity comprising 2 40-foot containers (similar to shipping containers) adjacent to either side of each power conversion unit
- removal of native vegetation including 14[2] scattered Buloke trees
- landscaping to protect sensitive views surrounding the project area
- security fencing of up to 2 metres in height, and possibly CCTV cameras and infrared lighting depending on the solar farm's insurance requirements (details of the fencing will be determined during the detailed design phase to the satisfaction of the responsible authority)
- business identification signage (details of the signage are not confirmed at this stage and will be determined during the detailed design phase to the satisfaction of the responsible authority)
- a telecommunications tower of between 20 to 30 metres in height and of an undefined type of structure
- a 66kV electrical sub-station with an area of approximately 1 hectare within the utility zone
- a 33kV overhead double circuit transmission line to the point of connection with the 66kV grid transmission line along Baringhup West Road
- access tracks on the Project site.
- a new vehicular access point into the utility zone area from Baringhup Road, with secondary access for emergency purposes from an upgraded access from Baringhup West Road into the unmade government road.

Figures 2 and 3 show the proposed site infrastructure layout.

[2] Note that this was amended during the course of the hearing – see section 3.3

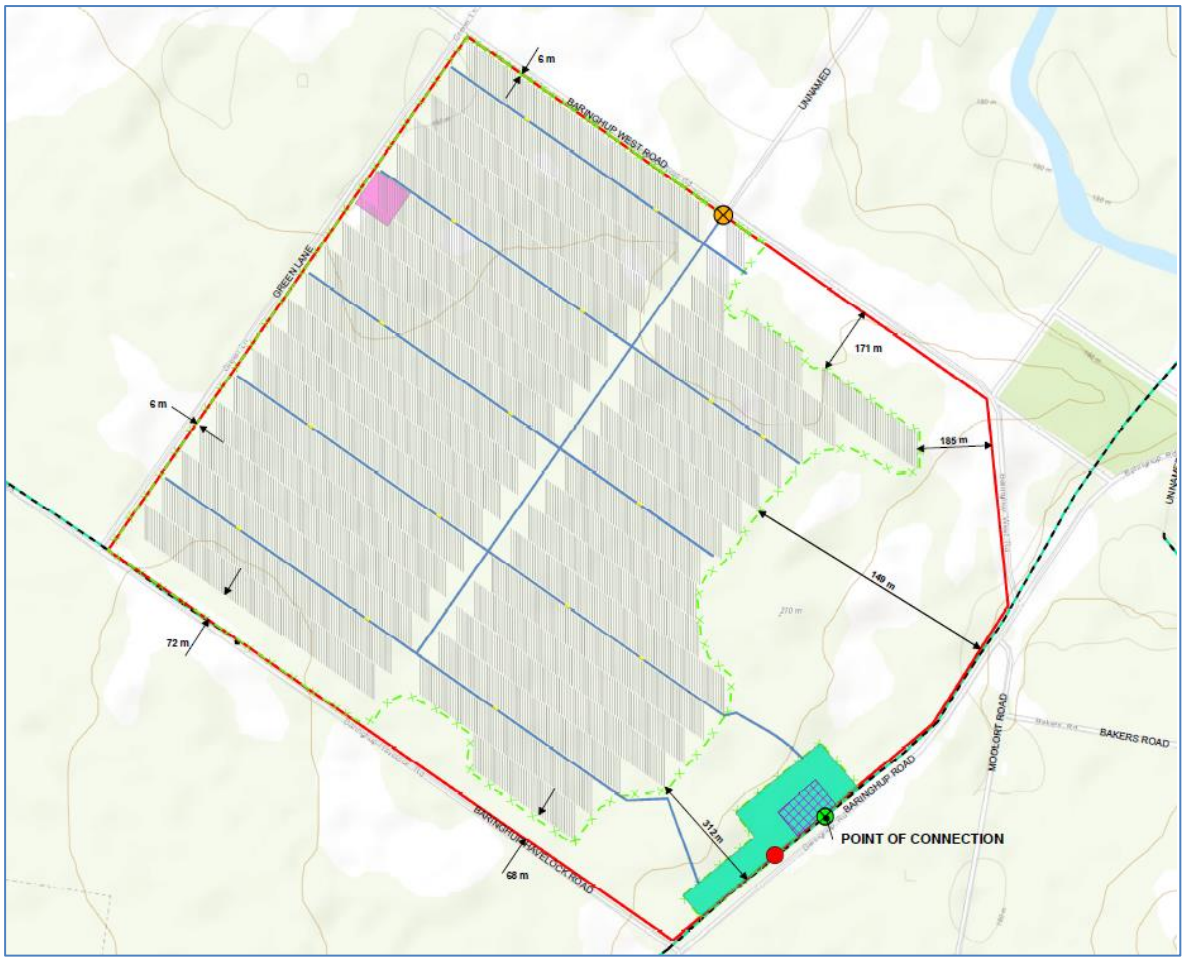

Figure 2 **Site infrastructure layout**

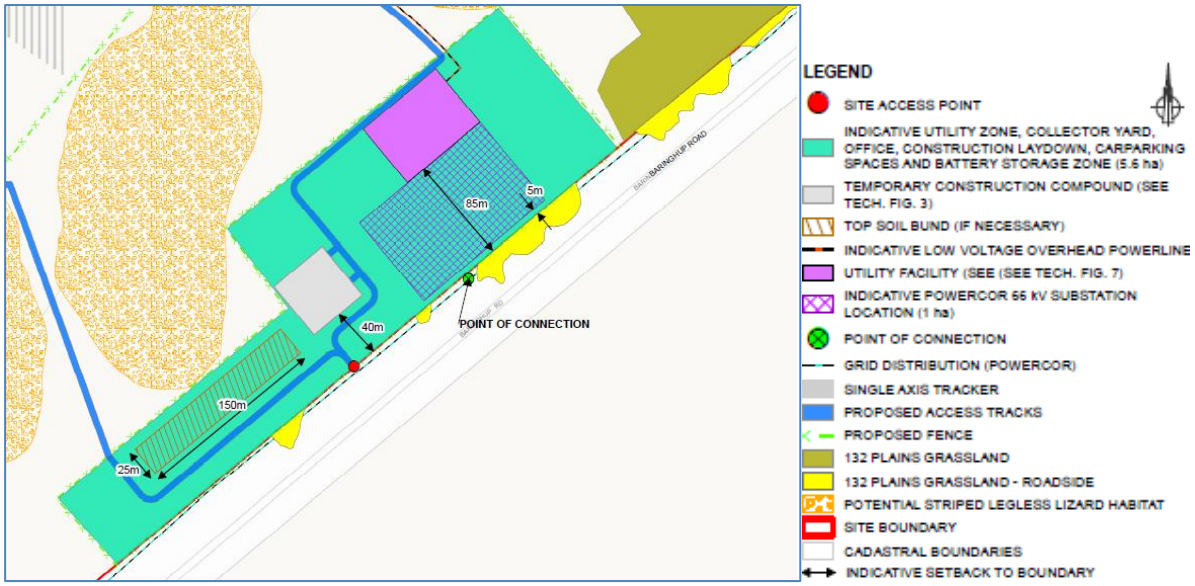

Figure 3 **Utility area layout**

(iii) Site description

The Project site is currently primarily used as agricultural land with basalt outcrops and boulder fields in the eastern section of the site. Some boulders are present in other areas of the site, both undisturbed and in piles. There are 14 scattered Buloke trees on the site and two mapped 'current wetlands' immediately abutting or intersecting the site.

The site is bound by local roads – Baringhup West Road to the north-east, Green Lane to the northwest, Baringhup-Havelock Road to the south-west and Baringhup Road on the south-east. Baringhup Road is a Road Zone, Category 2 (RDZ2) road for the purposes of the planning scheme.

The site sits within the Victorian Volcanic Plains Bioregion in the Loddon catchment of North Central Victoria. The area is generally referred to as the Moolort Plains of which a key feature is a chain of approximately 60 swamps. Cairn Curran Reservoir is approximately 1.4 kilometres south-east of the site and Frogmore Swamp Wildlife Reserve is approximately 1.9 kilometres south of the site.

The site is located within the Loddon River (Lannecoorie) special water supply catchment listed in Schedule 5 to the *Catchment and Land Protection Act 1994*.

A 66kV transmission line runs along Baringhup Road, the south-east boundary of the site.

The nearest approved (but not yet constructed) solar farm is 50 kilometres to the south-east near Carisbrook.

There are 3 'non-stakeholder' dwellings with 500 metres from the site's boundaries (see Figure 4 below):

- 135 Baringhup-Havelock Road, Baringhup (approximately 50 metres to the south-east)
- 51 Dudleys Road, Baringhup (approximately 150 metres to the north)
- 625 Baringhup Road, Baringhup (approximately 400 metres to the east).

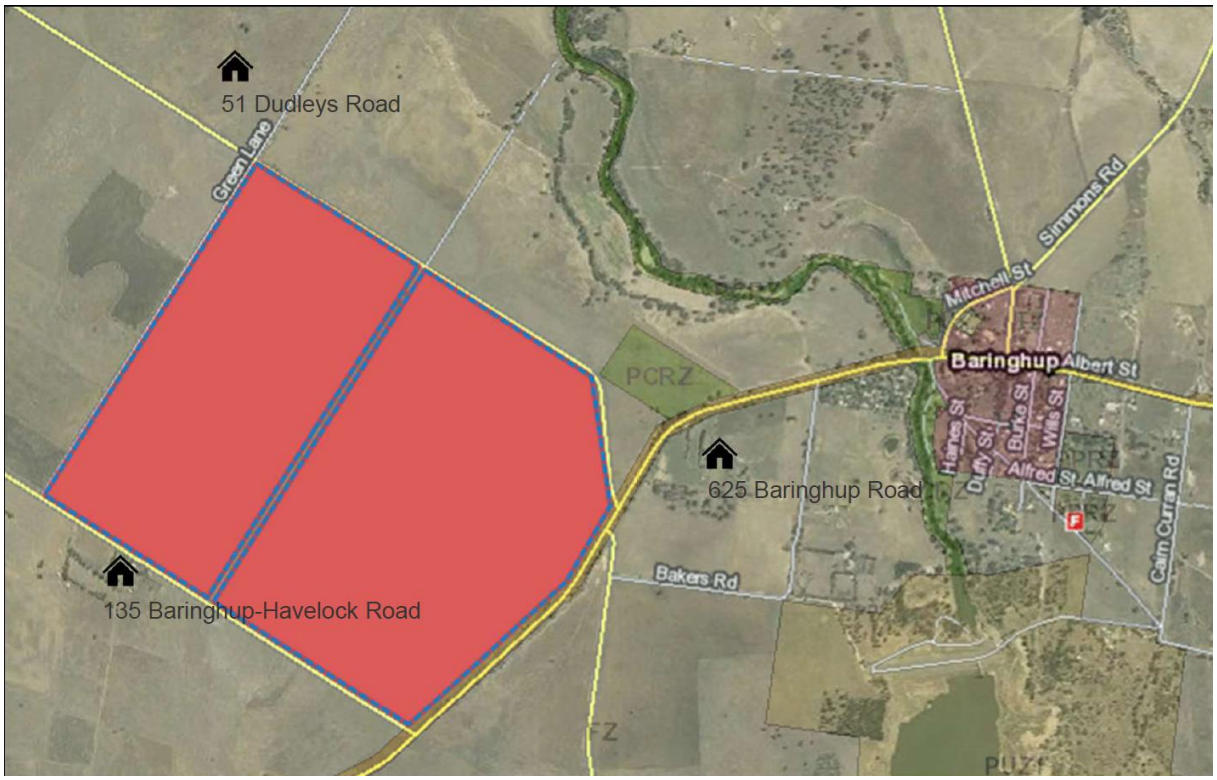

Figure 4 **Project site showing closest dwellings**

1.3 The planning permit application process

(i) Receipt and referral of the permit application

Mount Alexander Shire Council received Planning Application No 297/2018 (the permit application) on 22 October 2018. Following a request from Council, the Minister for Planning agreed on 19 May 2019 to the request of the Council that he decide the application, and the application be referred to the Minister under section 97C(2) of the *Planning and Environment Act* 1987 (the Act). The Ministerial call in occurred prior to Council's planning officers assessing and making recommendations to Council on the proposal. Council has elected to take a neutral position in respect of the proposal.

Under sections 97E(1)(a) and 97E(1)(b) of the Act, the Minister has referred objections and submissions, including late objections and submissions, to the Panel appointed under Part 8 of the Act.

Under section 97E(4) of the Act, the Panel must report its findings to the Minister, setting out its recommendations on the application. The Minister will then determine the application.

Once the application is determined, if a planning permit is issued, the Mount Alexander Shire Council will be responsible for administration and enforcement of that permit. The Minister for Planning remains responsible under section 97H of the Act for four types of matters in relation to any permit that may issue:

- any matters which the permit specifies to be done by, approved by or done to the satisfaction of the Minister
- extension of time under section 69
- correction of the permit under section 71
- amendment of the permit under section 97J.

(ii) Amendment to the permit application

On 24 June 2019 the applicant sought to amend the permit application by adding the abutting road reserve of Baringhup Road into the description of land to which the application applies. This is to include the use and development of utility installation, being the powerlines to connect the facility to the existing 66kV transmission line.

This amendment to the permit application became necessary following the gazettal of Amendment VC157 on 15 March 2019 (after the application was lodged). Amendment VC157 changed the Victoria Planning Provisions so that a planning permit was required for all power lines to connect energy generation facilities to electricity network. Prior to this, only power lines that were designed to operate at greater than 220,000 volts required a planning permit.

The responsible authority agreed to the amendment but required the applicant to provide further notice of the application to the land and road manager of Baringhup Road (Council) for the inclusion of the road reserve.

The applicant advised the Minister on 1 July 2019 that notice was given to the land and road manager and made a declaration that the landowners were informed about the amendment to the application.

(iii) Communications tower

There was correspondence during the panel process from the applicant and from DELWP (in its role representing the Minister) regarding the applicability of Clause 52.19 *Telecommunications facilities* for the communications tower proposed as part of the Project.

Mr Power, on behalf of the applicant submitted that:

- The permit application does not seek planning permission for a telecommunications facility, but rather a permit for a *Renewable energy facility*.
- The proposed telecommunications facility is to be used solely in connection with the generation of energy and forms part of the substation infrastructure.
- In any case, if the tower was to be treated as a Telecommunications facility it is exempt from the need for a planning permit on the basis that it will be operated by an 'electricity supply body' to manage the generation and supply of electricity.

He concluded that "*put simply, Clause 52.19 does not apply to the Permit Application*".

Notwithstanding this position, Mr Power provided an assessment carried out by AECOM of the telecommunications tower against Clause 52.19 (Telecommunications facility). The assessment responded to each of the application requirements of Clause 52.19-4 and an assessment against each of the principles in *A Code of Practice for Telecommunications Facilities in Victoria, July 2004*.

DELWP made the following submission to the Hearing on this matter:

> It is maintained that the telecommunications tower is a Telecommunications Facility and that Clause 52.19 applies to the application. Furthermore, the exemption to in correspondence to date does not provide for works 'on behalf of' a listed body under the *Telecommunications Act 1997* (Cth).
>
> This view is consistent with a separate planning permit being granted by Central Goldfields Shire Council for a Telecommunications facility associated with the solar farm located near Carisbrook and is comparable to the designation of powerlines and substations as Minor utility installation and Utility installation pre and post Amendment VC157.

DELWP clarified that it highlighted the Central Goldfields application not because it was a separate application but for its land use designation as a Telecommunications facility.

DELWP clarified in its closing remarks that it is not suggested or considered that a separate application for the Telecommunication facility is required in this case. The application has been advertised with reference to the telecommunications tower. Further, the applicant has provided the information requirements for Clause 52.19 during the process (assessment dated 10 July 2019 and the landscape expert evidence responding to the objectives set out in the Code of Practice for Telecommunications Facilities in Victoria).

DELWP concluded that:

> It is considered that Clause 52.19 applies and therefore the use and development of a Telecommunications facility (in association with a renewable energy facility) should be referenced in the draft permit preamble.

Clearly there is a difference in opinion in relation to the application of Clause 52.19. The Panel accepts the advice of DELWP (Planning) (as the representative of the responsible authority) in this regard that Clause 52.19 does apply. The Panel agrees that the applicant has provided a response to the application requirements of Clause 52.19-4 and provided a thorough assessment against each of the principles in *A Code of Practice for Telecommunications Facilities in Victoria, July 2004*. The Panel agrees with the course of

action suggested by DELWP that a Telecommunications facility (in association with a renewable energy facility) should be referenced in the draft permit preamble.

(iv) Notification

Following receipt of responses from the applicant to its requests for further information, Council gave notice of the permit application under section under section 52 of the Act on 29 January 2019.

Council gave notice to owners and occupiers of land immediately adjoining the site, by display of notices on the site, by placing a notice in the Tarrengower Times and Midland Express newspapers. Notice under section 52 was also given to the Country Fire Authority (CFA), North Central Catchment Management Authority (NCCMA) and Council's internal Infrastructure and Environment portfolios.

Council referred the application under section 55 of the Act to Goulburn Murray Water (GMW) and the Secretary to DELWP (as constituted under Part 2 of the *Conservation, Forests and Lands Act* 1987*)*.

The CFA, NCCMA and GMW did not object to the granting of a permit for the proposal subject to conditions.

DELWP (Environment) requested further information, including a more detailed assessment from the applicant against the native vegetation provisions at Clause 52.17 of the Planning Scheme. Initially DELWP were not satisfied with the response and lodged an objection to the permit. Following further correspondence and discussions between the applicant and DELWP, DELWP advised at the Hearing that all of the matters it raised have now been responded to. There are a number of issues that DELWP has provided submissions or comment on that are addressed in turn under each section of this report.

Mr Shane Baker raised concerns with the Panel following the Directions Hearing that:

- at least one (possibly two) of the properties to which notice was given have been sold since notice was given
- a deceased estate has been finalised since the notification period and these land holders are yet to be notified, and
- a parcel of land was incorrectly indicated as being owned by him.

Council reviewed the notification process and responded that it was satisfied that proper notice had been given in accordance with section 52(1)(a) of the Act and that there is no requirement under the Act or *Planning and Environment Regulations 2015* for applications to be re-notified on change of ownership or occupation. Council further submitted that the broader advertising in local papers provided more general notice of the application.

Council noted that whilst the land at 69 Bakers Road may have been incorrectly shown on a map as belonging to Mr Baker, the correct owner had been notified.

The Panel accepts Council's advice that the permit application was correctly notified in accordance with the Act.

(v) Revised plans

Several of the plans submitted as part of the application were amended by the applicant in response to submissions or further information.

This led to some confusion about which version of plans were the latest and which should be considered in determining the permit application.

DELWP (Planning) (in its role as representative of the responsible authority) advised:

> To ensure the process is fair and transparent the application will be decided against the advertised plans and description of the application, in conjunction with the amendment to the application by the applicant on 12 June 2019 to include and a 66kV electrical sub-station with an area of approximately 1 hectare within the utility zone; and a 33kV overhead double circuit transmission line to the point of connection with the 66kV grid transmission line along Baringhup Road.

The applicant provided a list (Document 39) of all plans that had been provided throughout the course of the application process including details of three plans that were modified during the panel process.

Council advised that on 29 January 2019 it made all plans available for inspection that had been submitted by the Applicant with the exception of:

- Plan 7A 'Indicative Utility Facility Layout Double Transformer' dated 7 January 2019 (Plan 7A)
- Plan 7B 'Indicative Utility Facility Layout Double Transformer' dated 7 January 2019 (Plan 7B).

Council confirmed that both plans 7A and 7B were made available for inspection on Council's website and at Council offices on 7 February 2019.

Council further advised that no objections were lodged prior to 7 February 2019 and the majority of objections were received after 7 March 2019.

The Panel concludes that submitters would have had a reasonable opportunity to examine all plans that made up the application prior to making their submission.

The Panel agrees with DELWP (Planning) that the permit application should be assessed against the advertised plans as set out in Document 39, with the following observations:

- One plan was modified in response to the permit amendment application (Technical Figure 7A). Given that this makes up part of the amended application the permit application should be assessed against the modified version.
- Further versions of two plans (Project Figures 5 and 6) were provided by the applicant for information purposes only to demonstrate that changes that had been discussed could be accommodated. In these cases, any permit conditions should refer to the advertised versions and any required changes should be set out in permit conditions.

(vi) Summary of issues raised in submissions

Council received 29 submissions, including several late submissions. There were 26 objections, including one petition with approximately 250 signatures opposing the proposal.

The objections raise concerns over the following issues:

- loss of productive agricultural land
- landscape and visual impacts
- ecological impacts, in particular to bird life
- amenity impacts (glint and glare, noise, traffic)
- potential to increase ambient temperatures
- increased fire management and response risks

- chemical use and weed control
- impacts to individual and communal wellbeing
- impact on property values.

Three letters of support were received.

(vii) Project consultation

Several submitters raised concerns about the level of consultation undertaken by the applicant on the Project prior to lodgement of the planning permit application. The applicant acknowledged that there could have been better notification of the first public meeting but submitted that a second meeting was held and that there have also been numerous meetings with individual landowners in an attempt to understand and resolve issues.

Other than noting the above submissions, the Panel makes no comment on the consultation carried out by the applicant prior to the permit application being lodged.

1.4 The Panel process and report structure

Hearings were held over three days in July 2019 in Maldon and Baringhup. The Panel undertook several unaccompanied site visits to the Project area to review issues as they arose.

The Panel considered all written submissions made in response to the exhibition of the Amendment, observations from site visits, and submissions, evidence and other material presented to it during the Hearing. It has reviewed a large volume of material and has had to be selective in referring to the more relevant or determinative material in the Report. All submissions and materials have been considered by the Panel in reaching its conclusions, regardless of whether they are specifically mentioned in the Report.

The Panel has assessed the Amendment against the principles of net community benefit and sustainable development, as set out in Clause 71.02-3 (Integrated decision making) of the Planning Scheme.

This Report deals with the issues under the following headings:

- Planning context
- The suitability of the site
- Project design issues
- Construction, operation and decommissioning
- Panel conclusions and planning permit conditions.

The approach that the Panel has taken is to structure the report to generally align with the heading structure of the *Solar Energy Facilities – Design and Development Guidelines*, July 2019 (the Solar Guidelines). The Panel acknowledges that while the Solar Guidelines have not yet formally been incorporated into the planning scheme, they provide a useful approach to assessing solar energy facilities. The Panel has used the Solar Guidelines as a checklist to identify the range of issues to be assessed and as a general guide to good practice.

2 Planning context

2.1 Planning permit requirements

The Project site is almost entirely within the Farming Zone, with a small part in the Road Zone.

The purposes of the Farming Zone include:

- 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.

A Renewable energy facility (other than Wind energy facility) is a Section 2 use in the Farming Zone and requires a permit. Any facility must meet the requirements of Clause 53.13.

A permit is also required under Clause 35.07-1 to use the land for:

- a Telecommunications facility (does not meet the condition of a section 1 use in Clause 35.07-1 for 'Any use listed in Clause 62.01', therefore it is a section 2 use).
- and Utility Installation (a Section 2 use)

A permit is required under Clause 35.07-4 to construct a building or carry out works associated with a Renewable energy facility, Utility Installation and Telecommunications facility, given that all uses are Section 2 uses in Clause 35.07-1.

A permit is required in the Road Zone (Clause 36.04-1) to use land for Utility installation. A permit is required under Clause 36.04-2 to construct a building or construct or carry out works for a use in Section 2 of Clause 36.04-1.

Permits are also required for:

- Signs – Clause 52.05
- Native vegetation removal – Clause 52.17
- Telecommunications facility – Clause 52.19.

2.2 Planning policy framework

State Planning Policy Framework

The following State policies are relevant to the Panel's consideration of the permit application:

<u>11 Settlement</u>
- 11.01-1S Settlement
- 11.01-1R Settlement Loddon Mallee South
- 11.03-6S Regional and local places

<u>12 Environmental and landscape values</u>
- 12.01-1S Protection of biodiversity
- 12.01-2S Native vegetation management
- 12.03-1S River corridors, waterways, lakes and wetlands
- 12.05-2S Landscapes

13 Environmental risks and amenity
- 13.01-1S Natural hazards and climate change
- 13.02-1S Bushfire planning
- 13.05-1S Noise abatement
- 13.07-1S Land use compatibility

14 Natural resource management
- 14.01-1S Protection of agricultural land
- 14.02-1S Catchment planning and management

15 Built environment and heritage
- 15.01-6S Design for rural areas
- 15.02-1S Energy and resource efficiency
- 15.03-1S Heritage conservation
- 15.03-2S Aboriginal cultural heritage

17 Economic development
- 17.01-1S Diversified economy
- 17.01-1R Diversified economy - Loddon Mallee South
- 17.04-1S Facilitating tourism

18 Transport
- 18.01-2S Transport system
- 18.02-3S Road system

19 – Infrastructure
- 19.01-1S Energy Supply
- 19.01-2S Renewable Energy
- 19.01-2R Renewable Energy – Loddon Mallee South.

Council, in its submission to the Panel, highlighted the significance of the following provisions to the application:

> Clause 11 (Settlement) recognises, among other things, the role which planning has to play in preventing environmental and amenity problems by siting incompatible land uses close together.
>
> The Subject Land is within a Bushfire Prone Area and therefore is subject to the provisions of Clause 13.02-1S (Bushfire planning). Clause 13.02-1S operates under the objective of strengthening the resilience of settlements and communities to bushfire by employing risk based planning that prioritises the protection of human life.
>
> The built environment and heritage is covered by Clause 15 which provides that, among other things:
>
> - Planning should ensure all land use and development appropriately responds to its surrounding landscape and character, valued built form and cultural context.
> - Planning should protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.
> - Planning should promote development that is environmentally sustainable and should minimise detrimental impacts on the built and natural environment.
>
> Clause 17.01-1R (Diversified economy – Loddon Mallee South) provides for the following relevant strategies, in pursuit of the objective to strengthen and diversify the economy.
>
> In particular, Council draws the Panel's attention to Clause 19.01-1S (energy supply) which seeks to facilitate the appropriate development of infrastructure for the supply of energy. It employs the following strategies in pursuit of this objective:
>
> - 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) seeks to promote the provision of renewable energy. However, the provisions goes on to temper this objective by requiring that such infrastructure is appropriately sited and meets certain design considerations.

The following strategies are employed in clause 19.01-2S:

- 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.
- Recognise that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year.

The Panel agrees that these are relevant PPF policies. The general thrust of these policies is to encourage renewable energy facilities in suitable locations that do not result in unacceptable impacts on high quality agricultural land, visual or other amenity, environmental, landscape or cultural values or create incompatible land uses.

Clause 14.01-1S Protection of agricultural land is also relevant. This Clause includes the following objective:

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

It includes the following strategies:

> 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.
>
> Protect strategically important agricultural and primary production land from incompatible uses.

The DELWP (Planning) submission relevantly noted that:

> Clause 71.02 for operation of the PPF of all planning schemes requires consideration of broad principles for decision making. This includes balancing different and sometimes conflicting objectives in favour of net community benefit.
>
> Clause 71.02-3 states that planning authorities should identify the potential for regional impacts in their decision making and coordinate strategic planning to achieve sustainable development and effective and efficient use of resources.

Local Planning Policy Framework

A range of local policies within the scheme which are relevant to the proposal, including clauses:

21 Municipal Strategic Statement

21.02 Vision and Framework

21.03 Settlement

21.04 Environmental and Landscape Values
21.05 Environmental Risks
21.06 Natural Resource Management
21.07 Built Environment and Heritage
21.09 Economic Development
21.10 Transport
21.11 Infrastructure.

22 Local Planning Policies
22.04 Use and Development of Land in the Farming Zone and Rural Living Zone.

Clause 21.04 Environmental and Landscape Values recognises the following relevant key issues in relation to environmental and landscape values within the Shire:

- Balancing the competing interests of protecting existing habitat and facilitating development.
- Arresting the decline in the extent and quality of indigenous vegetation and a consequent decline in native fauna.
- […]
- Protecting scattered native vegetation, which has important biodiversity value but is often more difficult to manage and protect than large patches of native vegetation.
- […]

Clause 21.06 Natural Resource Management provides local content to Clause 14 (Natural Resource Management) and provides that:

- Council has prepared the Rural Land Study (2014) to guide future planning in the Shire's rural areas. The Shire's Agricultural Land Quality is represented in Figure 6. The best quality agricultural land in the Shire is rated 'moderate': the lowest quality land is rated 'very low'. The largest areas of 'moderate' quality land exist in the north west of the Shire and along waterways in the other parts of the Shire.

The Project site is within an area of moderate agricultural quality (Class 3) and within the bounds of the Mid-Loddon Groundwater Management Area.

Clause 21.06 identifies that the following key issues:

- Protecting the future of agricultural land of local and regional strategic significance.
- Controlling the unplanned loss of agricultural land to rural living and residential uses.
- Managing the future use and development of small lots in fragmented ownership.
- Protecting the irrigation and groundwater resources that support intensive agriculture and horticulture.
- Restructuring old and inappropriate subdivisions.

In terms of renewable energy facilities, Clause 21.11 recognises that:

- The Shire is well placed to take advantage of new renewable energy industries, particularly wind energy.

2.3 Other planning scheme provisions

(i) Overview

The following clauses are relevant to assessing the planning permit application:

Table 2 Relevant zones, particular provisions and general provisions

Clause	Provisions
35.07 Farming Zone	Sets out application requirements and decision guidelines
36.04 Road Zone	Sets out application requirements and decision guidelines
52.05 Signs	Sets out requirements and decision guidelines
52.17 Native vegetation	Sets out permit requirements, exemptions and refers to the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017)
52.19 Telecommunications facility	Sets out permit requirements, exemptions, application requirements and refers in the decision guidelines to *A Code of Practice for Telecommunications Facilities in Victoria*, July 2004
53.13 Renewable energy facility	Sets out application requirements and decision guidelines (see detail below)
65.01 Approval of and application or plan	Specifies that before deciding on an application the responsible authority must consider, as appropriate, various matters – including section 60 of the Act, the Municipal Planning Strategy and the Planning Policy Framework, the purpose of the zone, overlay or other provision, the orderly planning of the area, and the effect on the amenity of the area
66 Referral and notice provisions	Sets out requirements to refer the application

(ii) Clause 35.07-6 Farming Zone

The decision guidelines at clause 35.07-6 relevantly include:

> **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.

(iii) Clause 53.13 Renewable energy facility

Clause 53.13 applies to all land used and developed or proposed to be used and developed for a renewable energy facility (other than a wind energy facility). The purpose of the clause is:

> To facilitate the establishment and expansion of renewable energy facilities, in appropriate locations, with minimal impact on the amenity of the area.

Clause 53.13 decision guidelines are particularly relevant to the application:

> **Decision guidelines**
>
> Before deciding on an application, in addition to the decision guidelines of Clause 65, the responsible authority must consider, as appropriate:

- 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 the natural environment and natural systems.
- Whether the proposal will require traffic management measures.

2.4 Relevant legislation, strategies and policies

(i) Commonwealth legislation

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) aims to provide for the conservation of biodiversity and the protection of the environment, particularly those aspects that are considered to be Matters of National Environmental Significance (MNES). Under the EPBC Act, actions that are likely to have a significant impact upon MNES are required to be referred to the Commonwealth Environment Minister for approval.

Listed and threatened species and ecological communities that may be present on the site, as well as migratory species protected under international agreements, are MNES that may be relevant to the Project.

(ii) Victorian legislation

The Victorian *Climate Change Act 2017* recognises that climate change is inevitable and sets the scene for long-term action to reduce greenhouse gas emissions. The *Climate Change Act 2017* defines a greenhouse gas emissions target of net zero by 2050. The applicant submitted that it is not conceivable that this target could be met without extensive and continued development of renewable energy generation.

The Victorian *Renewable Energy (Jobs and Investment) Act 2017* defines renewable energy targets of 25 percent of Victoria's electricity generation is to come from renewable sources by 2020, and 40 percent by 2025.

(iii) Victoria's Renewable Energy Action Plan

The *Renewable Energy Action Plan* 2017 outlines Victorian Government actions to encourage investment in the energy sector and to ensure Victorians benefit from a renewable, affordable and reliable energy system. The Renewable Energy Action Plan sets out a long-term renewable energy policy agenda and pathway.

(iv) Victoria's Renewable Energy Roadmap

In August 2015 the Victorian Government released Victoria's Renewable Energy Roadmap: Delivering jobs and a clean energy future. It is the Victorian Government's objective to accelerate development of renewable energy generation in Victoria to reduce emissions, create jobs, and put downward pressure on energy prices.

(v) Solar Energy Facilities Design and Development Guidelines July 2019

The modified Solar Guidelines were released on 24 July 2019 but existed in a similar draft form for some time before that. The Solar Guidelines set out a useful approach to identifying suitable locations and designing a facility to best practice standards.

The applicant assessed the proposed Project against the draft Solar Guidelines. This was included in Section 5.10.5 of the Planning Report accompanying the planning permit application.

The Panel has used the format of the Solar Guidelines to structure this report.

(vi) Loddon Mallee South Regional Growth Plan 2014

The Loddon Mallee South Regional Growth Plan provides broad direction for land use and development across the Loddon Mallee region.

The applicant submitted that the proposal supports the Regional Growth Plan because:

- it accords with the future directions of supporting and developing potential growth sectors such as renewable energy
- it will lead to a more diversified economy in the region
- the proposed siting represents a very small percentage of productive agricultural land in the region, and the benefits of its use as a solar farm will outweigh considerations of lost agricultural land.

(vii) Other policies

The following additional documents are relevant to the Panel's consideration of the permit application:

- Rural Land Study (2014)
- CFA, Guidelines for Renewable Energy Installations (2019)
- Mount Alexander Shire Municipal Fire Management Plan, 2012-2014.

The Rural Land Study provides particular guidance on the significance of the land in terms of agricultural land capability.

2.5 Alignment of the Project with policy

(i) Submissions

DELWP provided a useful summary of relevant legislation and policy, as well as a summary of relevant planning considerations.

The applicant submitted that the strong State legislative and policy support, combined with the "*powerful statements of policy support for renewable energy*" in the planning scheme at Clauses 19.01-2S and 53.13, mean that support for renewable energy is "*emphatic*".

Further support is provided at the regional level through the Loddon Mallee South Regional Growth Plan and through Clause 19.01-2R.

The applicant fairly noted that "*strong planning policy support for renewable energy development isn't an excuse to make bad planning decisions. Renewable energy facilities still need to be developed at 'appropriate locations' and have a minimal impact on amenity*". The applicant suggested that there are three considerations that need to be considered,

viewed through the lens of the relevant planning policies, controls and relevant decision guidelines[3]:

- whether the Project would undermine or be fatally inconsistent with other planning outcomes or objectives, notable among those being policies aimed at protecting high value agricultural land;
- whether there are constraints or characteristics at the Project site or its locality that make it inherently unsuitable for a solar energy facility; and
- whether the Project would have unacceptable adverse impacts on local amenity that outweigh the benefits of the Project.

The applicant concluded that "*If a site is found to be 'appropriate' by reference to each of these three matters, then the only decision open to a responsible authority is to approve the Application*".

Council agreed in its submission that renewable energy has a very high level of national, state and local policy support. Council submitted:[4]

> Council acknowledges there is strong policy and legislative support to reduce Victoria's greenhouse gas emissions and significantly increase availability of renewable energy. If approved, this proposal will make a positive contribution to meeting these targets, with the Applicant projecting the facility will eventually provide electricity for up to 44,000 homes and reduce carbon emission by 170,000 tonnes a year. The proposal also has the potential to deliver economic value to the Shire and the region.

Council did not however agree with the applicant's assessment that if the site is found to be suitable then the application should be approved. Council suggested that a more 'nuanced' approach is required.

Council submitted that:[5]

> The Panel must determine whether this proposal in this location strikes an appropriate balance between policy support for renewable energy facilities and other policies in the Scheme which seek to protect productive agricultural land, ensure there are no adverse amenity impacts, and protect significant landscapes and ecologically significant flora and fauna. The decision maker's task is to determine whether the proposed Solar Farm will result in an acceptable planning outcome that achieves a net community benefit.

(ii) Discussion and conclusion

It is common ground that there is a very high level of legislative and policy support of renewable energy projects. This extends, as noted by the applicant and Council, through national, state and regional policy and is strongly reinforced in planning policy. The Panel agrees. The Panel also agrees that strong policy support is no substitute for poor planning decisions. The Panel agrees with the position put by Council and other submitters that it is essential to closely examine the suitability of the Project on this site.

The suggested approaches to assessing the application by the applicant and Council are not that much different. The difference is that the applicant essentially submitted that unless the application is fatally flawed it should be approved, whereas Council submitted that a

[3] Applicant hearing submission para 43
[4] Council hearing submission para 106
[5] Council hearing submission para 110

careful analysis of the key issues is required, and a "*more nuanced*" decision should be made on the basis of net community benefit.

The Panel believes that the key issues should be examined; any potential flaws in location or design identified and addressed if possible; and an overall assessment should be made of whether the Project an acceptable outcome based on net community benefit. Part of this assessment is necessarily to determine if there are changes that can be made to the design or operation of the Project that would render the Project acceptable and whether these changes can be reasonably included in planning permit conditions.

The following Chapters 3, 4 and 5 examine, in turn: the suitability of the site; project design issues and; construction, operation and decommissioning issues. Chapter 6 sets out the Panel's conclusions and provides comments on planning permit conditions.

All references to permit conditions in the report are to the Panel preferred version at Appendix C.

3 The suitability of the site

3.1 Introduction

In this Chapter the Panel examines issues relating to the suitability of the site for a large-scale renewable energy facility.

3.2 Proximity to electricity connection network

(i) The issues

The Guidelines state that ideally, a solar energy facility "*should be located close to the electricity grid network, to minimise the need for additional infrastructure and associated impacts*".

(ii) Submissions

The applicant advised that its intention is to connect the Project to the electricity grid at the adjacent 66kV transmission line in the Baringhup Road reserve, via a small substation on the Project site within the utility zone that would be owned and managed by Powercor. This eliminates the need for extensive additional transmission infrastructure.

The applicant further noted that the utility area can be located and screened so as not to be visible from any residential properties and can be screened from passing traffic on Baringhup Road.

No submissions raised specific concerns relating to the proposed connection to the electricity network.

(iii) Conclusion

The Panel notes the relatively direct connection to the 66kV transmission line on Baringhup Road and agrees that the Project is well located to access the existing electricity grid network.

3.3 Environmental issues

3.3.1 The issues

Based on the relevant legislation and policy and on submissions received, the issues are:

- Can the requirements of the Native Vegetation Guidelines be met?
- Has the proposal been properly assessed against other relevant legislation including the *Flora and Fauna Guarantee Act* 1988, *Environmental Effects Act* 1978?
- Has habitat for identified endangered species been adequately protected?
- Are the buffer distances to the habitat areas and the wetlands sufficient?
- If a permit is issued, what are appropriate permit conditions to address environmental issues?
- Should the proposal should be referred under the EPBC Act?

3.3.2 Relevant legislative and regional context

Native vegetation removal guidelines

The *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017) are incorporated into all planning schemes in Victoria. The Native Vegetation Guidelines provide instructions on how an application for a permit to remove native vegetation is to be assessed under the Act. This includes requirements to undertake a site assessment and methodology, and specific conditions that may form part of a granted permit, such as offsetting any removal of native vegetation.

Clause 52.17 of the planning scheme enacts the Native Vegetation Guidelines. Any removal of native vegetation associated with the Project is required to satisfy Clause 52.17 by submitting an application to the relevant planning authority for a permit to remove native vegetation.

The proposal as advertised requires the removal of 14 scattered trees, requiring an assessment under the Native Vegetation Guidelines.

Flora and Fauna Guarantee Act 1988

The Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) was established to provide a legal framework for enabling and promoting the conservation of all Victoria's native flora and fauna, and to enable management of potentially threatening processes. One of the main features of the Act is the listing process, whereby native species and communities of flora and fauna, and the processes that threaten native flora and fauna, are listed in the schedules of the Act.

An assessment provided by the applicant identified 16 FFG Act listed species within 5 kilometres of the Project site including four flora species and 11 fauna species.

Environment Effects Act 1978

Under Victoria's *Environmental Effects Act 1978* (EE Act), Projects that could have a 'significant effect' on Victoria's environment can require an Environmental Effect Statement (EES). This Act applies to any public works "*reasonably considered to have or be capable of having a significant effect on the environment*".

The applicant submitted that the EES referral criteria for impacts to ecological values were considered and concluded that:

> Avoidance of the most significant ecological values at the site (including habitat for Striped Legless Lizard and Golden Sun Moth as well as all patches of Plains Grassland) means that a referral under the EE Act is not necessary for the project.

Catchment and Land Protection Act 1994

The *Catchment and Land Protection Act 1994* is also relevant to the Project, particularly with respect to the management of pest plants and animals in Victoria.

Wildlife Act 1975

The *Wildlife Act 1975* is relevant to the Project for the protection and conservation of native wildlife.

During the removal of these trees, salvage works may be required under the Wildlife Act for these and other species. Salvage and translocation works, if undertaken, would be subject to a management authorisation under the Act.

Moolort Plains

Council submitted that, when considering the environmental impact of this proposal in this location, it is important to consider the Project site's context in the Moolort Plains region which accommodates the Moolort Wetlands complex, an area of recognised high conservation value.

Council further submitted that the Victorian Volcanic Plains is one of only 15 'National Biodiversity Hotspots' nationwide. According to the Commonwealth Department of the Environment and Energy, the region is nationally significant because it:

> … includes 65 species listed as nationally threatened and 173 threatened in Victoria. Nine lakes are recognised as internationally important under the Ramsar Convention on Wetlands.

The NCCMA noted that the Moolort Wetlands complex comprises approximately 60 wetlands.

NCCMA submitted that the Victorian Volcanic Plain is the only national biodiversity hotspot found entirely in Victoria and is classified as such due to a high number of native species that are unique to the region. A wide range of wetland types are represented in the wetland complex, that provide habitat for a large number of species, including threatened species such as Brolga, Australian Painted Snipe, Black Falcon, Legless Lizard and Growling Grass Frog.

3.3.3 The AECOM assessment

Prior to lodging the permit application, the applicant commissioned AECOM to prepare an ecological assessment of the site. The Panel was provided with a copy of the report dated 26 March 2019. AECOM conducted desktop and field surveys, identified the EPBC Act and State listed fauna and flora species and ecological communities on the site and made recommendations on further work required.

The report was prepared primarily to satisfy the requirements of the Native Vegetation Guidelines but also assessed other relevant environmental issues. The report addressed how the Project applied 'the three-step approach', confirmed the removal of 14 trees including 11 large Buloke trees, and addressed the availability of sufficient offsets.

The AECOM assessment identified:

- four habitat zones encompassing a single ecological community
- one FFG Act-listed threatened flora species
- moderate likelihood of the presence of three EPBC listed flora and fauna species
- the presence of one EPBC listed ecological community
- 15 scatted trees, comprising 12 large scattered trees.

Relevant to the EPBC Act and FFG Act, the assessment identified the following ecologically significant attributes of the site:

- two patches of natural temperate grasslands of the Victorian Volcanic Plain ecological community listed under the EPBC Act
- the presence of 11 mature Buloke trees, an ironwood native tree listed as threatened under the FFG Act
- a rocky outcrop that may provide habitat for Stripped-Legless Lizard which is listed under the EPBC Act
- a moderate likelihood of 6 flora and fauna species listed under the EPBC Act.

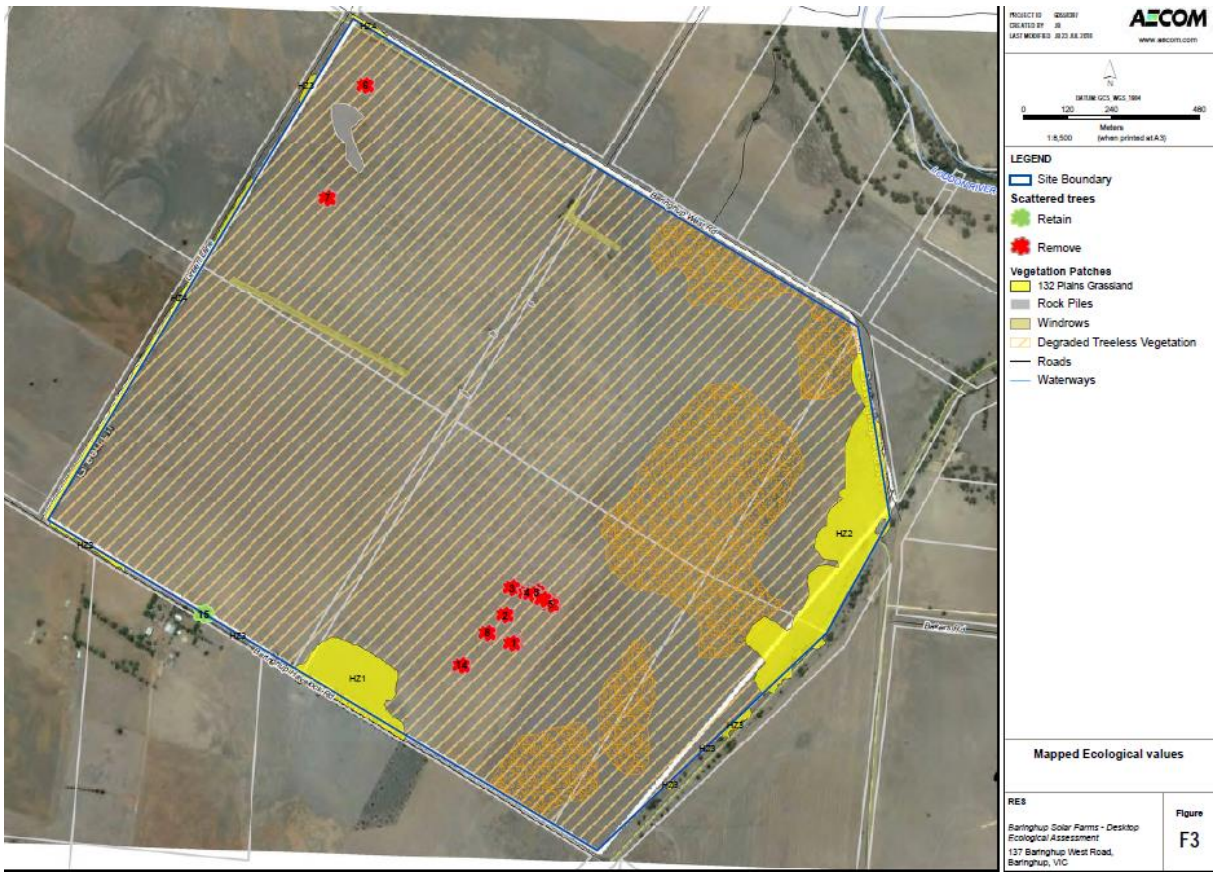

Figure 5 Mapped ecological values

AECOM noted that the quality of vegetation across the site varied from low (degraded treeless vegetation) to moderately-high (EVC 132_63 Plains Grassland). This variation was considered to be reflective of the varied land-use history of the site.

The Project site has almost entirely been cleared of native vegetation, although there are a total of 15 scattered Buloke and Grey Box trees, planted windrows of non-indigenous acacias and mixed indigenous and non-indigenous trees, and two separate clusters of 9 patches of low-rainfall Plains Grassland, with a total area of about 15.88 hectares.

Parts of Baringhup Road, Green Lane and the Baringhup-Havelock Road support native vegetation, in particular Plains Grassland.

The AECOM assessment noted:

> Assessment against the key diagnostic criteria and condition thresholds identified that the Plains Grassland assessed (provides that individual patches are over 0.05 hectares in size) is considered to be of sufficient quality to be considered as the nationally-listed EPBC ecological community Natural Temperate Grassland of the Victorian Volcanic Plains. This ecological community also provides potential habitat for the critically endangered and EPBC listed Golden Sun Moth, Plains Wanderer, and Striped Legless-lizard.

The assessment commented that "*through sensitive design of the solar farm, all significant impacts to these values have been avoided. No patches of native vegetation and no valuable habitat for significant flora or fauna species will be impacted*".

The Project proposal as advertised avoids the Plains Grassland remnants and potential Striped Legless Lizard habitat toward the southern end of the Project site.

The assessment noted the legislative implications of this assessment:

- a requirement under Clause 52.17 to offset native vegetation proposed to be impacted (14 scattered trees)
- a requirement to consider the *Catchment and Land Protection Act 1994* during development
- potential need for salvage works under the Wildlife Act.

The AECOM assessment made the following recommendations:

- Whilst the sensitive design of the proposed solar farm has avoided impacts to the most significant ecological values at the site, the construction of the facility (if and when approved) should be undertaken under the guidance of a detailed Construction Environment Management Plan (CEMP) or similar to ensure that there are no unintended impacts to the values that are to be protected at the site.
- Should the permit for the solar farm be granted, the native vegetation extents should be provided to DELWP for processing. DELWP will provide a Native Vegetation Removal Report that is required to meet the permit application requirements in accordance with the Guidelines.
- Should the current design be approved, an offset of 0.133 general habitat units is considered sufficient to compensate for the ecological impact of this project as per the Guidelines. A requirement for such an offset will likely become a condition on any future permit for the development.

3.3.4 Native vegetation and ecological assessment issues

(i) Revised Project proposal

DELWP (Environment) (as land manager and referral authority) requested further information on 25 April 2019 and objected to the Application until its requests were addressed. DELWP identified issues relating to: impacts of native vegetation removal; buffers around identified wetlands; and buffers to endangered species (Striped Legless Lizard) habitat. AECOM responded to these requests by further letter dated 12 June 2019 (Document 2).

After further exchange of correspondence between DELWP and the applicant, the applicant agreed to avoid the mapped wetlands at the northern and western edges of the Project site, but argued that the removal of 11 mature Buloke trees was appropriate and consistent with the Native Vegetation Guidelines due to the limited ecological value of the trees and the significant consequence to the Project of retaining them. Following further consultation, the applicant agreed to retaining a cluster of 5 of the Buloke trees at the northern end of the group of trees at the southern end of the Project site.

The revised proposal showing trees to be removed and retained is shown in Figures 6 and 7.

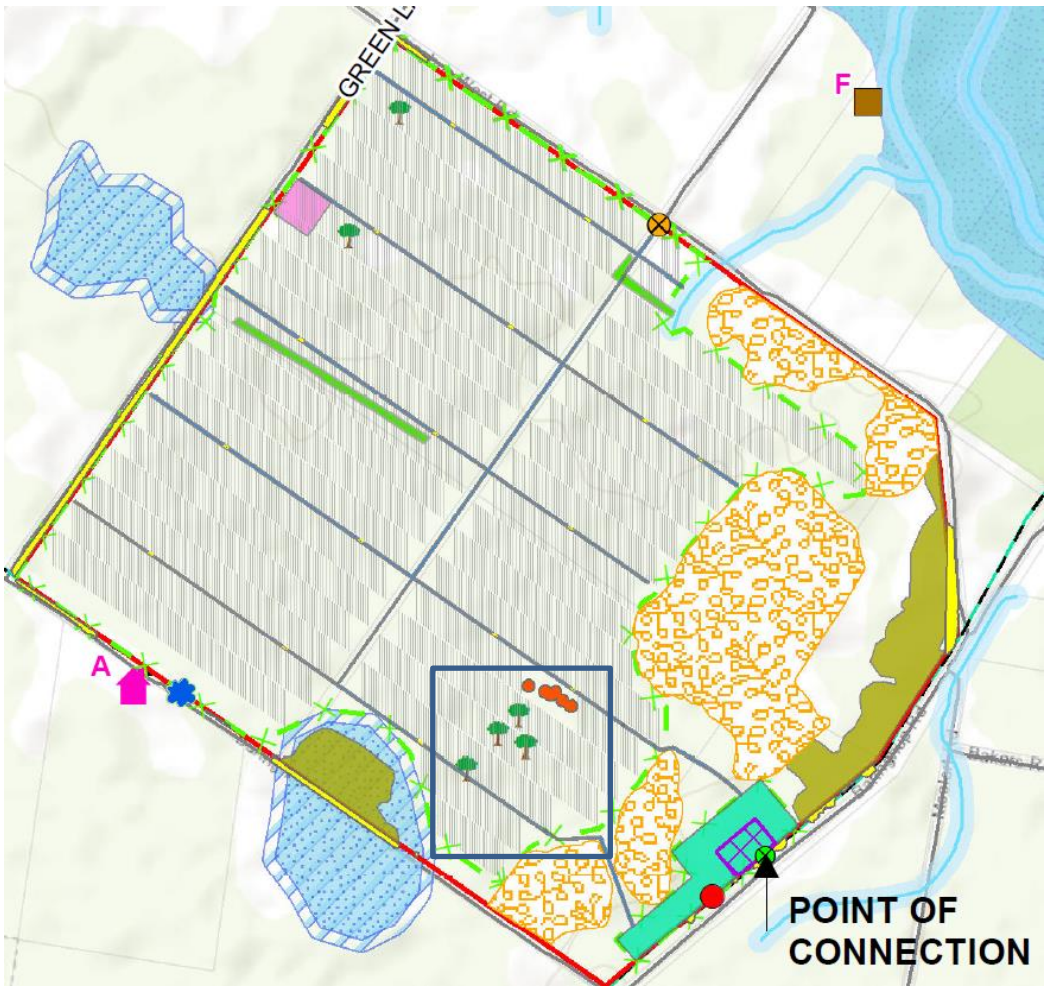

Figure 6 **Revised site response plan (Figure 6 in permit application documents) showing trees to be retained in red and trees to be removed in green**

Figure 7 **Inset from Figure 5 showing tree numbers (Trees 3, 4, 5, 9, 10, 11 to be retained)**

The applicant made reference to recent VCAT findings in *McDonald v West Wimmera SC* [2019] VCAT 70. In that case, VCAT made observations about the primacy of planning policy in determining applications to remove native vegetation, and the need to consider the biodiversity importance of large scattered paddock trees as 'stepping-stones'.

The applicant provided a revised Native Vegetation Removal Report (ACM_2019_006) dated 15 July 2019 (Document 50). The report is for the offset of the revised extent of 0.384 hectares of native vegetation removal.

(ii) Evidence and submissions

The applicant advised that, in accordance with the Native Vegetation Guidelines, the removal of 14 scattered trees (including 11 large trees) as proposed in the advertised proposal requires that the Project be assessed under the detailed pathway of assessment. The total extent of native vegetation recorded within the assessment area is 15.88 hectares contained within four Habitat Zones. The advertised design sought to avoid impacts to all patches of native vegetation, however all scattered trees located within the property boundaries were proposed to be removed.

DELWP (Environment) advised the Panel that it agreed to reduced native vegetation removal (by retaining five Bulokes) provided vegetation removal is minimised and offsets must be provided as a permit condition. It submitted "*the patch of trees (outlined in green on the aerial photo) will be retained and buffered at a distance of at least 15 metres from the trunk*."

In its closing submission, DELWP noted that mitigating the removal of six Buloke trees (and affording the wetlands a 30-metre setback, discussed below) as described in the draft permit conditions would result in DELWP no longer being a section 55 recommending referral authority. It also noted that the revised extent of proposed native vegetation removal in the revised Native Vegetation Removal Report shows it would no longer be a 'Detailed Assessment Pathway' as defined in the Native Vegetation Guidelines. It noted that the proposed conditions and comments provided by DELWP (Environment) are still considered relevant.

Draft planning permit condition 1(f) requires modified plans be submitted that show:

> all buildings and works set back at least 30 metres from the edge of the two wetlands depicted on Drawing No. 03879D2201-06 dated 15 May 2019

This condition was not opposed by the applicant.

DELWP (Environment) proposed a planning permit condition to support the protection of the Striped Legless Lizard habitat:

> *Protection of potential Striped Legless Lizard habitat.*
>
> Micro-siting of access tracks adjoining areas of Striped legless-lizard habitat must provide a buffer to these areas of at least 5 metres and, where possible, up to 15 metres.

This condition was not opposed by the applicant and has been included in the draft conditions as Condition 45.

The applicant noted that the AECOM desktop assessment identified 16 FFG listed species within 5 kilometres of the proposed site including four flora species and 11 fauna species. The ecological survey identified one FFG Act listed species that will be impacted by the proposal (Buloke).

The applicant submitted that "*there is the potential the proposed site will have an impact on the FFG Act listed species mentioned above, however as the area of impact is located solely on private land, a permit under the FFG Act is not required*".

Mr Shane Baker called Mr Foreman to provide expert evidence on ecology. Mr Foreman raised the following concerns about the ecology assessment undertaken by AECOM:

- The wetland area along Baringhup-Havelock Road is incorrectly classified as 'seasonal herbaceous wetland' and instead should be classified as 'seasonal herbaceous wetlands (freshwater) of the temperate lowland plains', a 'critically endangered' ecological community under the EPBC Act.
- The flora and vegetation assessment failed to identify all species present.
- The mapping of 'rocky rise' habitat (potential habitat for Striped Legless Lizard) is not accurate.
- These errors may have implications about whether an EPBC Act referral is required. Mr Foreman noted "*when considering whether or not to refer an action to Minister, the proposed action should be considered in its broadest sense, including indirect impacts, on MNES*".[6]

Mr Foreman gave evidence that the proposed 30 metre buffer to the wetlands is inadequate as the region of potential impact of the development on surface water run off extends over a much greater area.

DELWP (Environment) acknowledged Mr Foreman's expertise but noted he was not listed on DELWP's register of accredited assessors. It questioned his assessment of native vegetation areas noting that no supporting evidence was provided about areas Mr Foreman claimed to be additional areas of native vegetation. Mr Foreman acknowledged that his assessment was limited but stated that it "*was enough to identify that further work is required*".

Mr Power (on behalf of the applicant) also raised concerns in cross examination with the extent of analysis and survey work carried out by Mr Foreman in drawing his conclusions.

DELWP (Environment) noted Mr Foreman's comments about the classification of the Havelock Road wetland and his comments about indirect impacts but concluded that it was satisfied that a 30 metre buffer where no works or buildings are permitted will provide adequate protection. It noted that the Construction Environment Management Plan and the Environmental and Operations Management Plan required in the permit conditions add further controls on any matters that may affect drainage and sediment. These controls exceed any controls on many activities currently permitted within the Farming Zone.

NCCMA submitted that it had relied on Clause 14.02-1S in determining an appropriate setback from the wetlands:

> Retain natural drainage corridors with vegetated buffer zones of at least 30 metres wide along each side of a waterway to:
>
> - Maintain the natural drainage function, stream habitat and wildlife corridors and landscape values
> - Minimise erosion of stream banks and verges
> - Reduce polluted surface runoff from adjacent land uses"

NCCMA submitted:[7]

> Protecting the native flora species found within the wetland is the primary objective of the setback, and North Central CMA strongly recommends a minimum setback of 30

6 Mr Foreman's evidence para 25. Quoted from the Significant Impact Guidelines, Department of Environment 2013

7 NCCMA hearing submission para 15

> metres be required to minimise the potential for polluted or sediment laden runoff entering the wetland during the operation of the solar farm.

NCCMA generally agreed with Mr Foreman's depiction of the likely catchment area for the Havelock Road wetland. It did not contend that there should be no development in the catchment area but submitted that a more detailed survey of the catchment would be of value. It concluded:

> North Central CMA supports the draft planning permit conditions, however respectfully requests that if a permit is granted for the development that the following additional conditions be included in the permit:
>
> - Prior to the commencement of the development detailed survey of the site must be provided to the responsible authority and North Central Catchment Management Authority. The survey must be of sufficient quality to accurately delineate (within the development site) the existing catchment boundary to the wetland at Baringhup-Havelock Road.
> - Prior to the commencement of the development, plans must be submitted to the North Central CMA and the responsible authority demonstrating that the catchment area to the wetland will not be altered and that any development within the existing catchment area will not alter the volume or rate of flow of surface water to the wetland.

A condition reflecting this request (No 30) is included in the Panel preferred permit conditions (Appendix 3) and was supported by the applicant.

DELWP (Environment) noted Mr Foreman's comments about areas of rocky rise grassland (Striped Legless Lizard habitat) but advised that it is satisfied that the application meets the requirements of Clause 53.13 in relation to Striped Legless Lizard habitat:

> DELWP notes the applicant has avoided impacts to most areas of grassland and rocky rises (amounting to approximately one third of the subject land) which is most likely to provide [Striped Legless Lizard] habitat. DELWP has recommended conditions to protect SLL habitat, including micro siting access tracks at least 5m from [Striped Legless Lizard] habitat and understands the excluded land will be fenced.

DELWP (Environment) submitted that it did not believe that the assessment provided by Mr Foreman provided conclusive evidence, however it is likely that the Seasonal herbaceous wetlands EPBC community is present.

DELWP (Environment) noted that whether the potential indirect impacts to the wetland or direct impacts to potential Golden Sun Moth, Striped Legless Lizard, Spiny Rice Flower or the Seasonal herbaceous wetlands community should be referred under the EPBC Act is for the applicant to decide. However, DELWP recommended that the applicant undertake pre-referral discussions with the Commonwealth Department of Energy and Environment regarding potential impacts and proposed mitigation measures.

DELWP (Environment) recommended that a survey for Golden Sun Moth be undertaken to determine whether the species is present on the site. It noted that "*should the species be found a referral to the Department of Energy and Environment should occur*".

Other issues raised by DELWP (Environment) included:

- Planting of screening vegetation should be relocated out of the area assessed as Plains Grassy Woodland EVC.
- Fencing to enable kangaroos to escape (perhaps using fencing skirts) and management of any other wildlife on site post construction should be addressed through a Wildlife Management Plan. Management of cockatoos should also be included in a Wildlife Management Plan.

- Micro-siting of access tracks through the area of Striped Legless Lizard habitat will occur and the applicant will provide a buffer to these areas of at least 5 metres and, where possible, up to 15 metres. An appropriately trained and accredited person will be on site during the removal of any of the rock piles scattered across the site; this will enable capture and relocation to a suitable area if Striped Legless Lizards are disturbed.

Permit conditions have been included to address these issues and were not challenged by the applicant.

3.3.5 Discussion

The Panel is satisfied that the Project design is such that the impacts on native vegetation have been minimised. To require all scattered trees to be retained would have an unreasonable economic impact on the Project and provide only marginal additional habitat. The retention of the cluster of six Bulokes as agreed between the applicant and DELWP (Environment) is a sensible compromise and would likely assist biodiversity values by retaining a 'stepping stone' of habitat for fauna in the area.

The Panel accepts that the remaining native vegetation to be removed can be offset as proposed. The revised offset requirements are included in the Panel preferred version of the permit conditions (condition 48).

The Panel is satisfied that the Project design appropriately avoids potential habitat for endangered species including the Striped Legless Lizard by prohibiting development on the identified rocky rise areas to the east of the site. These areas should be appropriately fenced from the remainder of the site to prevent human and (if necessary) stock interference with the habitat areas.

The permit condition proposed by DELWP (Environment) in relation to micro siting of access tracks through Striped Legless Lizard habitat is supported, as are the other DELWP proposed permit conditions discussed above. The Panel notes that these conditions were not opposed.

The Panel agrees with the recommendation of DELWP (Environment) that a survey for Golden Sun Moth should be undertaken at an appropriate time of the year to determine whether the species is present on the site.

The Panel believes that the proposed 30 metre set back from the mapped wetlands is appropriate. The Panel notes the concerns raised by Mr Foreman and NCCMA regarding potential impacts on the wetlands of runoff from catchment areas. The Panel agrees that the Waterway and Floodplain Management Plan proposed permit condition tabled at the Hearing is appropriate and will address the issues raised in relation to volume, rate of flow and quality of runoff into the wetlands.

The Panel agrees that the question of whether the proposal should be referred under the EPBC Act is for the applicant to decide and not for the Panel to determine. The Panel notes the detailed assessment of the criteria for referral undertaken by the applicant, and the Panel was not provided with compelling evidence that the assessment is flawed. The Panel however notes the recommendation of DELWP that the applicant undertake pre-referral discussions with the Commonwealth Department of Energy and Environment regarding potential impacts and proposed mitigation measures.

In its concluding statement DELWP planning commented:

> Considering Mr Foreman's evidence, the responsible authority suggests the applicant considers whether its written report and assessment of the impact of the proposal on any species listed under the FFG Act or EPBC Act requires updating to meet the requirements of Clause 53.13.

Given that key habitat areas are to be avoided, the Panel is confident that a review of identified species is unlikely to result in significant changes to the Project design. It is nevertheless prudent that the applicant considers this advice and discusses the issue further with DELWP.

3.3.6 Conclusions

In relation to the key issues raised in submissions on environmental issues, the Panel concludes:

- The requirements of Clause 52.17 and the Native Vegetation Guidelines can be met through minimising removal in the design and providing offsets for the relatively small amount of native vegetation to be removed.
- The requirements of the relevant Acts are able to be met through project design and controls can be applied through permit conditions.
- The design of the Project adequately protects habitat for identified endangered species. The Panel agrees with DELWP that a review of the ecological assessment, particularly with respect to identification of species, may be warranted given the evidence of Mr Foreman that other species may be present.
- The buffers to the habitat areas and the wetlands are sufficient subject to the controls proposed in the permit conditions.
- The question of whether the proposal should be referred under the EPBC Act is for the applicant to decide.

On balance, the Panel concludes that if a permit is issued, the environmental impacts of the Project can be properly managed subject to the permit conditions proposed in the Panel preferred version shown in Appendix C of this report.

3.3.7 Recommendations

The Panel makes the following recommendations with respect to the ecological assessment of the site:

1. **The applicant should undertake a survey for Golden Sun Moth at an appropriate time of the year to determine whether the species is present on the site.**
2. **The applicant should review the ecological assessment of the site, particularly with respect to identification of species, in the light of the information of Mr Foreman that other species may be present.**
3. **Depending on the outcome of the survey and review noted in recommendations 1 and 2, the applicant should review whether a referral to the Commonwealth Department of Energy and Environment under the *Environment Protection and Biodiversity Conservation Act 1999* is required.**

3.4 Cultural heritage

(i) The issues

The issues are:

- impacts on Aboriginal cultural heritage values
- impacts on historic cultural heritage.

(ii) Relevant policies, strategies and studies

Clause 15.03 (Heritage) seeks to ensure the conservation of places of heritage significance and to protect and conserve places of Aboriginal cultural heritage significance.

The *Aboriginal Heritage Act* 2006 requires a Cultural Heritage Management Plan to be prepared for any project that is a high impact activity, or within an area of Aboriginal cultural sensitivity.

The Victorian Heritage Register protects built sites of state heritage significance and the Victorian Heritage Inventory protects archaeological sites of state heritage significance.

(iii) Submissions

The applicant advised that:

- there are no areas of cultural heritage sensitivity on the Project Site for the purposes of the *Aboriginal Heritage Act* 2006
- no Overlays apply to any part of the Project site, although there are Heritage Overlays to the immediate east (HO367 and HO369) in respect of historic residences.

DELWP Environment advised that: [8]

- DELWP had no objection to the use of the unused road for the proposed development.
- There are some administrative issues around the requirement for exclusive occupation of the site (including leasing and processes under the *Traditional Owner Settlement Act 2010*) that DELWP is currently pursuing and formal consent may be provided later. This consent will be dependent on formal agreement by the Dja Wurrung Clans Aboriginal Corporation.

(iv) Discussion

The Panel did not receive any evidence to contradict the statement from the applicant that there are no areas of cultural heritage sensitivity on the Project site for the purposes of the *Aboriginal Heritage Act* 2006 (Vic). Council acknowledged that there are no Overlays applying to any part of the Project site.

[8] Document 35 Baringhup Solar Farm (PA297/2018) Submission by DELWP as a referral authority, Paras 32 – 34 inclusive

(v) Conclusion

The Panel concludes that, subject to formal agreement by the Dja Wurrung Clans Aboriginal Corporation, there are no known cultural heritage reasons why a permit should not be granted.

3.5 Impact on agricultural production

(i) The issues

The issue is whether the solar farm development will result in an unacceptable impact on agricultural production in the region.

With respect to agriculture the main objections raised by submitters were:

- Removal of land from agricultural production.
- The impact on surrounding agricultural land uses.
- The industrial character of the use in an agricultural area.

(ii) Relevant policies, strategies and studies

State Planning Policy Framework

- Clause 35.07-6 *Farming Zone* and applicable decision guidelines which are detailed in Section 2.2(ii). An important consideration in this Clause is whether the proposal will adversely affect land used for agricultural purposes or permanently remove land from agricultural production.
- Clause 14.01-1S *Protection of agricultural land* and the associated strategies are detailed in Section 2.1. The objective of 14.01-1S of the Scheme is:

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

  Specific considerations include:
  - Is the land permanently removed from agriculture?
  - Is the land of strategic significance in a local or regional context?
  - What it the overall economic effect?
  - Are there unacceptable off site impacts?

Local Planning Policy Framework

- Clause 21 *Municipal Strategic Statement* recognises the importance of agricultural land to the Shire and supports the protection of agricultural land from inappropriate development.
- Clause 21.06 *Natural Resource Management* indicates agriculture is the major land use by area within the Shire and seeks to protect agricultural land of local and regional strategic significance. Clause 21.06 notes this is *"a key issue for the Shire*".

The *Loddon Mallee South Regional Growth Plan* and *Rural Land Study* (2014) are also relevant.

(iii) Evidence and submissions

The applicant presented a report on the Agricultural Assessment prepared by Mr Pitt, Principal Consultant from Ag-Challenge Consulting. The summary of Mr Pitt's evidence is:

- The Project site is mostly gently undulating cropping land with the dominant soils being well drained and structurally stable red gradational soils.

- The Project site is part of the extensive basalt plain that lies along the Great Dividing Range in this part of Victoria. It is an inherently stable landscape with a low risk of land deterioration.
- The solar energy facility (the Project) will occupy 230 hectares of this 297 hectare property. The balance of the property will continue to be available for use for grazing by sheep. The future use of the property will potentially be dual use for both agriculture and renewable energy production.
- "*In my opinion the land to be occupied for the Project is good quality broadacre cropping land but is not land of agricultural significance*". Mr Pitt adds on page 7 of his statement: "*It is also my opinion that the Project Site is not significant agricultural land, in that it is not unique, not highly productive, not highly versatile for a multiple range of uses, and not located within an irrigation district. It is currently part of the extensive land resource that supports the dryland cropping industries of northern Victoria*".
- Within the Mount Alexander Shire, land that is agriculturally significant is mostly confined to an area around Harcourt which is used for apple production. Elsewhere there are individual farms that have been developed intensively for pig and poultry production, but there are no special or unique land attributes that make these farms inherently suitable for this use.
- With the current farming system this farm should generate an annual gross farm income of between $100,000 and $250,000, with seasonal fluctuations due to prices and rainfall. The net income is much lower and highly variable and is inadequate to support one full time labour unit.
- This gross farm income would mostly be lost with the conversion to a solar energy facility, but the Project would also generate income and employ three labour units for operation and maintenance functions.
- "*In my opinion, the loss of gross farm agricultural income for the district is fully offset by the additional income generated by the Project and the employment of staff for operations and maintenance as well as the initial construction*".
- At a regional level, the statistical division of Bendigo region (Australian Bureau of Statistics) is a minor production area for grains, producing around 203,000 tonnes of wheat and 170,000 tonnes of barley for the 2017/18 financial year. This is about 8 percent of the grain production from Victoria. The Project will remove 230 hectares of land from cropping use, which is 0.17 percent of the cropping land resource within the Bendigo region.
- "*It is my opinion that this loss of land for future cropping use is not significant at either a State or regional level*".

Council pointed out in its submission that the Rural Land Study categorises farming areas in the Mount Alexander Shire based on geology and topography. The Rural Land Study noted that the best quality agricultural land in the Shire is rated 'moderate' and the lowest quality land is rated 'very low'. The Project site was identified as being of 'moderate' agricultural quality (Class 3) and in terms of non-agricultural developments, and is rated as 'moderate' and 'good' for installation of services. However, the Rural Land Study also indicates the Land Management Unit suffers from potential waterlogging/drainage issues and has limited landscape relief.

Council went on to say Class 3 Moderate land is deemed to be:

- Sound grazing and moderate cropping land but limited in versatility. Growing season can be limited to approximately 5-7 months due to dryness or wetness. With high inputs, moderate to high animal production may be achieved, and moderate cropping yields can be achieved using high inputs and minimum tillage techniques.

Clause 21.06 of the Scheme indicates the "*best quality agricultural land in the Shire is rated 'moderate'*" and acknowledges that the largest areas of moderate quality land exist in the north west of the Shire. It observes that the groundwater in the Mid Loddon Groundwater Management Area in the north west of the Shire is a valuable agricultural resource of regional significance.

Mr Baker disputed the evidence of Mr Pitt, in particular the statement "*the Project Site is not significant agricultural land, in that it is not unique, not highly productive, not highly versatile for a multiple range of uses, and not located within an irrigation district.*" Mr Baker submitted that the subject land is within an irrigation district and he tabled a map which showed the underground aquifers, with the main chalks lead running directly under the site.

Mr Baker went onto to state:

> In paragraph 7.4 Mr Pitt writes that water quality tested with salt levels of 1500-2000ppm, which is only acceptable for stock water. After having our bore tested yesterday at 900ppm that is situated around 15 metres from the proposed site, and on the same aquifer, this is more than acceptable for irrigating crops and in fact close to being acceptable for human consumption.

Several submitters argued that the Project was an industrial use not suitable for the Farming Zone. They submitted that such developments should be located in an industrial zone.

(iv) Discussion

The applicant has provided a decommissioning plan which states:

- At the end of its anticipated lifespan of about 30 years, the Baringhup Solar Farm will be decommissioned (the removal of all above ground infrastructure and any infrastructure within one metre of ground level) and rehabilitated to its pre-works state.
- Following decommissioning of the Project Area, rehabilitation of the Project Area will ensure that it continues to be viable for agricultural purposes.

On the question of whether or not the land could be available for sheep grazing during the life of the Project, Mr Power advised that the Panel should proceed on the (more conservative) basis that there will be no sheep grazing on the site and no agricultural land use for the 30 year term. He said that the use of sheep grazing would still, however, be trialled.

It was the opinion of Mr Pitt that the loss of gross farm agricultural income for the district is fully offset by the additional income generated by the Project (including land rental income) and the employment of staff for operations and maintenance as well as the initial construction.

Council submitted that whilst Mr Pitt had made an assessment of gross farm income compared to gross income associated with the solar facility, he did not take account of the effect of the loss of this land on the balance of the larger allotment under farm by the landowner.

Without any evidence to substantiate how the effect of the loss of the subject land would impact the balance of the larger allotment under farm by the landowner, the Panel accepts the opinion of Mr Pitt that the loss of gross farm agricultural income for the district is fully offset by the additional income generated by the Project and the employment of staff for operations and maintenance as well as the initial construction.

The issue of whether or not the ground water is suitable for agriculture is somewhat moot as the subject land is currently not irrigated using groundwater and the Panel was not presented with any evidence that it has been subject to irrigation in the past.

The Panel has placed more weight on the following two issues:

- the Rural Land Study categorized the subject land as 'moderate' agricultural quality (Class 3), i.e. sound for grazing and moderate cropping land but limited in versatility and in terms of non-agricultural developments, is moderate and good for installation of services.
- the fact that, according to Mr Pitt, the Project will remove 230 hectares of land from cropping use, which is 0.17 percent of the cropping land resource within the Bendigo region.

In relation to submissions that the Project should be located on industrial land, the Panel notes and agrees with the comments of the Shepparton Solar Farms Panel which concluded that "*the proposed facilities are of a scale which cannot be accommodated in existing industrial zoned areas*".

(v) Conclusions

In relation to agricultural impacts, the Panel concludes:

The Project meets the decision requirements of Clause 35.07-6 *Farming Zone:*

- The Project site is not permanently lost to agricultural uses and will not adversely affect land used for agricultural purposes.

The Project meets the objectives of 14.01-1S:

- The subject land is not of strategic significance in a local or regional context.
- The overall economic impact of the loss of agricultural land is offset by the additional income generated by the Project and the employment of staff for operations and maintenance as well as the initial construction.
- Offsite impacts related to construction, operation and decommissioning of the Project can be appropriately managed via the permit conditions. The Panel Preferred version are shown in Appendix C of this report.

3.6 Landscape values and visual amenity

(i) The issues

The issue is whether the Project will create unacceptable visual intrusion into the open and expansive landscape which characterises the Baringhup area. Most of the submitters listed visual amenity as a concern.

(ii) Relevant policies, strategies and studies

Relevant clauses in the Planning Scheme include:

- Clause 53.13 *Renewable Energy Facility (Other than Wind Energy Facility and Geothermal Energy Extraction)*. 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.
- Clause 21.04 *Environmental and Landscape Values*. This Clause provides local content to Clause 12 (Environment and Landscape Values) and Clause 12.05-2S Landscapes of the State Planning Policy Framework.
- Clause 21.04-3 *Rural Landscape Character*. This clause recognises the appearance and character of rural areas for residents and visitors to the area.

(iii) Evidence and submissions

Most of the objections received listed visual amenity as a concern and these concerns were highlighted in presentations to the Panel by Ms Hayes, Mr Couch, Mr Shane Baker, Ms Rory Baker and Mr Peter and Mrs Maree Baker. Specific comments included:

- Mr Couch stated "*I was horrified to hear there will be 750 acres of 3 metre high solar panels as my backdrop of my sunsets that I passionately photograph …*"
- Ms Rory Baker raised concern about *"… the loss of our beautiful view*."
- Mr Peter Baker and Mrs Maree Baker stated "*Our house was built on the higher part of the Moolort Plains at 210 meters above sea level. We have been very fortunate to have a spectacular view of the surrounding area for many kilometres*."

The applicant submitted an Expert Witness Statement 'Visual Impact - Landscape and Visual Impact Assessment' from Mr Hayden Burge of Jacobs Group (Australia) Pty Limited dated July 8, 2019.

In relation to views from the elevated and tourist locations, Mr Burge concluded:

> On a clear day the project may be visible from parts of the walking trail and pull-out bays on the approach to the Mount Tarrengower fire tower and lookout. From the fire tower, the Project would be visible from the second publicly accessible platform and in a narrow section of sweeping 360° views. In these views the Project is at such a distance that visually it would appear as part of the diverse agricultural landscape which changes seasonally depending on the agricultural regime. The Project would have limited to no visibility from Cairn Curran Reservoir and the Loddon House Holiday Park.

In relation to views from the road network, Mr Burge determined that the Project would be visible from a short section of Baringhup Road at the eastern edge of Baringhup approximately 2.7 kilometres from the nearest solar panel.

> At this distance the Project would sit low in the landscape and not a visually dominant element in views. The Project, which includes the proposed telecommunications tower, sub-station and maintenance buildings, will be visually noticeable from a short section of Baringhup Road between the intersection of Baringhup Road West and just south of Baringhup – Havelock Road. The speed zone along this section of road is 100 km. Views would be filtered or screened by roadside vegetation, topography or both. Views would include the proposed substation, maintenance facility and telecommunications tower. The proposed solar panels are set back from the boundary. Although visible, the Project would not impede views to significant features or locations such as Mount Tarrengower and Cairn Curran Reservoir.

Mr Burge's evidence was that views from the local road network are limited to a similarly short section of Baringhup-Havelock Road to the south, Baringhup West Road to the north and Greens Lane to the west. "*Although visible and highly noticeable due to the proximity of*

the panels to the roadway, these views would be experienced by few road users albeit local residents and for a short distance along these roads".

In relation to views from dwellings, Mr Burge concluded that there were no locations observed from publicly accessible locations within the residential areas of Baringhup where the Project would be visible or might have a visual impact greater than low. However, there was one dwelling where a high level of visual impact would likely occur (the dwelling at 135 Baringhup-Havelock Road). At this location the project is proposed to be set back approximately 70 metres from the boundary with a 50 metre wide landscape buffer. Mr Burge stated:

> Previous VCAT decisions, particularly that of the Glenrowan Solar Farm have considered landscape screening of such views to be an acceptable measure to manage these impacts, include locations that enjoyed views to elevated hills. There were several examples in the local area demonstrating that landscape screening can be implemented in the local area. There are also examples that have proven to be less successful. With a considered planting methodology which includes ground preparation, careful species selection, and care and maintenance, Mr Burge saw no reason why landscape screening would not be successful.

Mr Burge noted that there is a Significant Landscape Overlay (SLO) on the eastern side of Baringhup Road and near the Project, but the Project site is not within the area of the applied SLO. At Section 7.3.4 of his report Mr Burge discussed the view from south of the intersection of Baringhup Road and the Baringhup-Havelock Road near the south eastern project boundary. The proposed solar panels would be set back approximately 430 metres to the north of this intersection. The proposed substation, maintenance building and telecommunications tower would be located approximately 700 metres to the north. Views from this location include views over an areas subject to the SLO. Mr Burge presented photomontages demonstrating that the panels will sit low within the landscape and will not be visually prominent.

The proposed telecommunications tower, sub-station and maintenance buildings, although visible, will be located in proximity to an existing 66kV transmission line and will and also not prominent features in most views. This is due to the low-lying nature of the site and the low profile of the panels which mould to the contours of the land and the subject site. Further, the distance for any sensitive receptors or key views is at such a distance that the panels will not be a dominant feature in the view.

Mr Burge assessed the proposed telecommunication tower has against the objectives set out in Principle 1 of the *Code of Practice for Telecommunications Facilities in Victoria*. His assessment determined that the proposed tower is:

- in the vicinity of heritage places but will not bring about an appreciable visual change on these areas
- integrated with the design and appearance of other buildings proposed by the project and the existing transmission line located along the western edge of Baringhup Road
- located in an area that includes screening afforded by existing vegetation within Baringhup Road which will reduce its visibility
- located to reduce the impact of views to heritage places, landmarks, streetscapes, and panoramic vistas from public and private land.

Mr Burge concluded that he saw no reasons from a landscape and visual impact perspective that should preclude the Project from being granted a permit.

Council submitted that the proposed development is substantial given it will be developed across some 230 hectares, and will comprise 260,000 solar panels (that will operate to a maximum tilt-height of 3 metres), along with shipping container like battery storage areas, sheds, the telecommunications tower and other ancillary infrastructure. It submitted:

> For Council, it is important that there is no unacceptable visual intrusion into the open and expansive landscape which characterise this area in a way which is contrary to the provisions of the farming zone and applicable planning scheme policies at both state and local level; and clause 53.13 relating to visual impact and appearance.

Council identified a number of sensitive uses located in proximity to the Project site, including the dwelling and associated farm buildings at 135 Baringhup-Havelock Road, Baringhup, a dwelling at 51 Dudleys Road, Baringhup West, a dwelling and associated farm buildings at 625 Baringhup Road, Baringhup, two dwellings at 290 Baringhup-Havelock Road, Baringhup West, and a dwelling at Camerons Lane, Carisbrook.

(iv) Discussion

The Panel accepts the evidence of Mr Burge that the impact of the Project on views from Mt Tarrengower, nearby tourism points, the Baringhup township and nearby residences (apart from 135 Baringhup-Havelock Road) are sufficiently distant, or screened by the landscape, so that they experience only minor impacts. The Panel agrees that the Project (including the communications tower, sheds, batteries and other infrastructure) will not have significant impacts on vistas from public land.

The Panel agrees that there will be a high level of visual impact on the dwelling at 135 Baringhup-Havelock Road. It is clear that the presence of the rows of solar panels will be highly visible from the front of the property and from the house. If the Project proceeds, some degree of impact is unavoidable.

The Panel agrees with Mr Burge that the impacts can be mitigated to some degree by the proposed set back (of panels) of approximately 70 metres from the boundary with a 50 metre wide landscape buffer. The Panel believes that the proposed landscaping in the vicinity of 135 Baringhup Road will need to be very carefully designed and implemented to effectively mitigate visual impacts. If the screening vegetation is too low or too sparse, solar panels will be highly visible. If the screening is too high, high value long distance vistas of the mountains will be lost. The Panel has modified the proposed planning permit condition (14(g)) to reflect this desired outcome rather than requiring a specific vegetation height in this location. The Panel accepts that there may be a better way to word the permit condition, but the point is that it should be an outcome-based condition aimed at achieving appropriate on-going screening.

The Panel suggests that the design of the screening be prepared by a qualified expert in close consultation with the Baker family. The Panel does not believe that it is necessary to specify a requirement for this consultation in the planning permit conditions. The landscape plan is ultimately "*to the satisfaction of the responsible authority*" and the Panel strongly suggests that the responsible authority ensure that the Bakers are appropriately consulted.

For the other sensitive dwellings identified by Council, Mr Burge concluded for the property at 625 Baringhup Road, Baringhup *"… the dwelling at 625 Baringhup Road is set low in the landscape and amongst mature trees and is unlikely to have views towards the project*". The Panel did not receive objections from either of the two dwellings at 290 Baringhup-Havelock Road, Baringhup West, or Camerons Lane, Carisbrook. Council did propose off-site screening

for the property at 51 Dudleys Road, Baringhup as per condition (14(f)). The Panel did not receive any objections to the proposed condition (14(f)) and makes no comment other than to say it has retained the condition.

(v) Conclusion

On balance, the Panel concludes that if a permit is issued, the visual amenity impacts of the Project can be properly managed subject to the permit conditions proposed in the Panel Preferred version shown in Appendix C of this report. The Panel concludes:

- Views from Mt Tarrengower, nearby tourism locations, the Baringhup township and nearby residences (apart from 135 Baringhup-Havelock Road) are sufficiently distant, or screened by the landscape, so that they experience only minor impacts.
- The Project (including the communications tower, sheds, batteries and other infrastructure) will not have significant impacts on vistas from public land.
- There will be a high level of visual impact on the dwelling at 135 Baringhup-Havelock Road.
- The impacts on 135 Baringhup-Havelock Road can be mitigated by the proposed set back (of panels) of approximately 70 metres from the boundary with a 50 metre wide landscape buffer.

3.7 Bushfire risk

(i) The issues

The issues are:

- Can fire risk on the site be appropriately mitigated?
- Does the development meet the requirements of the planning scheme in relation to bushfire planning?

(ii) Relevant policies, strategies and studies

The Project site is within a Bushfire Prone Area and therefore is subject to the provisions of Clause 13.02-1S *Bushfire planning*. Clause 13.02-1S has the objective of strengthening the resilience of settlements and communities to bushfire by employing risk-based planning that prioritises the protection of human life. The applicant noted that while the Project site is not in a Bushfire Management Overlay (BMO), it is in a designated bushfire prone area. Clause 13.01-1S of the planning scheme therefore applies.

Clause 13.01-1S *Natural hazards and climate change* has the objective to minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.

Clause 21.05-5 *Bushfire* provides local context to bushfire risk in Mount Alexander Shire. Clause 21.05-5 recognises that parts of the Shire are subject to moderate to high levels of bushfire risk, and that bushfire hazards must be considered in all planning decisions.

Other relevant policy, legislation and standards include:

- *CFA publication Guideline for Renewable Energy Installation* 2019
- Australian Standard AS3959:2009 Construction of buildings in bushfire prone areas
- *Electrical Safety Act 1998* and *Electricity Safety (Bushfire Mitigation) Regulations 2013*
- Australian Standard AS 3745: Planning for emergencies in facilities.

(iii) Evidence and submissions

The Country Fire Authority (CFA) made a submission setting out the requirements for a risk management assessment and preparation of a Bushfire Mitigation Plan[9] and an Emergency Management Plan[10] incorporating a Fire Management Plan. The CFA submission also set out requirements for:

- the provision of emergency information on the site
- site access
- water supply
- dangerous goods storage and handling
- operation and maintenance
- fuel and vegetation management.

All of these requirements have been included in the draft permit conditions[11] prepared by Council and are not opposed by the applicant.

Mr Taylor of Fire Risk Consultants prepared a Bushfire Risk Assessment and Mitigation Plan for the Project. Mr Taylor was called by the applicant to give evidence on bushfire management. Mr Taylor's work focussed on assessing and managing bushfire risk during construction and operation rather than responding directly to the planning scheme requirements. He did, however, respond to the requirements of the CFA publication *Guideline for Renewable Energy Installation* 2019.

Mr Taylor gave evidence that the site was most susceptible to wind driven, fast moving grass fires on days of acute fire risk. He noted the fire history of the area and commented on firefighting strategies for the site and the appropriateness of the site design.

Mr Taylors response to the CFA Guidelines was summarised as follows:[12]

- Bushfire fuel present within the proposed development site can be classified as Class G Grassland under AS3959:2009 Construction of buildings in bushfire prone areas.
- An area of around 1 hectare is being retained from the construction phase into the operation of the site. This area will give an increased level of protection to the buildings and employees during a bushfire emergency.
- The perimeter access road requirement of the CFA Guideline should be provided.
- Minimum separation distances on all sides of the installation will be 10 metres.
- A minimum 6-metre-wide internal road network access will be maintained during the operation of the solar farm. This will have a maximum width of 9 metres of separation to avoid shading from the inverters.
- Grass present through the site will be managed at a nominal height below 100 millimetres. This classifies the fuel under AS 3959:2009 as being in a "*minimal fuel condition*".

9 In accordance with Section 113A of the Electrical Safety Act 1998 and Section 6 of the Electricity Safety (Bushfire Mitigation) Regulations 2013

10 Consistent with the requirements of AS 3745: Planning for emergencies in facilities

11 Conditions 47 to 61 in the Panel Preferred version

12 From Mr Taylor's expert witness statement paras 38 to 46

- Grazing by sheep under the panels as a fuel management activity is currently being trialled by RES Australia at another location.
- Landscaping of visual buffers should consider the planting of appropriate species that do not increase the fire risk.

Mr Taylor made additional recommendations on further measures to mitigate the effects of bushfire on the proposed development and the surrounding landscape. This includes recommendations on training of staff and contractors in fire response procedures, awareness activities for local CFA brigades, general communication between stakeholders, protection of buildings on site to enhance safety of people within the structure and activities to undertake before and during the fire danger season.

Mr Taylor concluded as follows:

> In my view, the bushfire risk associated with the construction and operation of the Baringhup Solar Farm can be mitigated to an acceptable level with the implementation of appropriate bushfire mitigation strategies. These strategies are set out in detail in Part 6 of the Bushfire Risk Assessment and Mitigation Plan and recommend compliance with the CFA Guideline for Renewable Energy Installation (2019).

Mr Dohnt provided a detailed firsthand account of the fire history of the immediate area. Mr Dohnt is a member of the local fire brigade but was not speaking on behalf of the CFA. He raised concerns about the ability to fight a fire on the solar farm site and submitted that if a fire could not be stopped before reaching the site it may spread and speed up as it runs unchecked through the site. He submitted that while keeping grass trimmed to 100 millimetres reduces fuel load, fires will run more quickly on shorter grass making it very difficult to control, particularly with restricted access through the site due to the rows of solar panels.

He commented that additional emergency access gates should be provided on each side of the site to provide escape paths for firefighters. He accepted that a ten-metre perimeter fire break was appropriate but noted that it would not be effective on extreme fire days.

Mrs Maree and Mr Peter Baker raised similar concerns about the fire history of the site and its proximity to the nearby caravan park and the town of Baringhup. They suggested that water tanks be placed at the end of the internal access tracks and near their house on Baringhup-Havelock Road to provide more accessible options in the event of a fire. They also suggested a more detailed risk assessment be undertaken for the site involving DELWP and CFA staff with local experience.

In its submission to the Hearing the applicant acknowledged that "*nearly half of the submitters have expressed concern about fire risk associated with the Project — both as a potential source of fire, and as an impediment to the effective response to fires*".

The applicant submitted that Mr Taylor's risk assessment addresses three important risks:

- landscape-scale risks of fires starting up to 20 kilometres to the north-west and south-west of the Project site
- the potential for the construction and operation of the Project to itself be a source of fire
- how the Project itself could affect bushfire suppression operations on or in the vicinity of the Project site.

The applicant noted that Mr Taylor endorsed the CFA's submission that the Project should comply with the *Guideline for Renewable Energy Installation* 2019 and accepted his

recommendations. It submitted that the risk assessment meets the State and local policy objectives for bushfire planning and will satisfy the CFA's requirements.

(iv) Discussion

It is common ground that the Project site could be susceptible to the risk of grass fires. Several submitters provided the Panel with examples of fires that had occurred on or near the site.

The applicant has conducted a risk-based assessment of the site to guide the design of the Project including the provision of fire breaks and access roads. The applicant submitted that this responds to the requirements of Clause 13.02-1S of the planning scheme of "*strengthening the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life*".

The Panel generally agrees that the work done by Mr Taylor goes some way to satisfying this requirement but agrees with Mr and Mrs Baker that the Emergency and Fire Management Plan required by the CFA (and included in planning permit conditions) could be improved by further consultation with local CFA brigades and, if appropriate, DELWP staff. The Panel preferred version of the permit conditions includes a requirement to that effect.

The CFA has provided a detailed response to the proposal, including permit requirements. The requirements requested by the CFA have been included in the draft permit in their entirety and have not been challenged by the applicant.

Ultimately the Emergency and Fire Management Plan must be to the satisfaction of Council following consultation with the CFA. The Panel has some comfort that the issues raised in submissions and during the Panel Hearings will be considered in developing the final form of the Emergency and Fire Management Plan. The issues that should be considered include:

- the number and location of emergency access gates
- the volume and location of water storage on site
- the configuration of perimeter and internal access roads and fire breaks.

The Panel is comfortable that the planning permit conditions proposed in relation to bushfire management, including the requirement for an Emergency and Fire Management Plan, adequately address the fire risk of the Project.

The Panel did not receive any evidence to suggest that the Project would increase the risk of bushfire in the broader area.

(v) Conclusion

The Panel concludes that the bushfire risks of the Project can be properly managed subject to the permit conditions proposed in the Panel preferred version shown in Appendix C of this report.

The proposal meets the objective of Clause 13.01-1S *Natural hazards and climate change* to minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.

3.8 Property values

Several submitters including Mr Couch submitted that the proposed development would affect their property value.

The applicant submitted that property values are not a valid planning consideration and referred to *Greenham v Swan Hill Rural CC* [2005] VCAT 2674 at 45 and *Micaleff v City of Keilor* (1993) 11 AATR 139 as providing authority for this proposition.

The Panel agrees. It is a long and consistently held finding of planning panels and VCAT that impact on property values is not a valid planning consideration. In any case the Panel was not provided with any evidence that property values would be affected by the proposed development.

4 Project design issues

4.1 Introduction

In this Chapter the Panel examines issues relating to the design of the Project. There is some degree of overlap with sections of the previous chapter as design issues were also identified in addressing the suitability of the site.

4.2 Landscape screening and setbacks

(i) The issues

The Panel discussed the broader issue of landscape values in Section 3.6. This section looks more closely at the specific setbacks and some of the planning issues related to screening raised in submissions.

The issue is what landscape screening and setbacks are required under the Clause 53.13 decision guidelines.

(ii) Relevant policies, strategies and studies

Clause 53.13 *Renewable Energy Facility (Other than Wind Energy Facility and Geothermal Energy Extraction)*

The Solar Guidelines state:

> Where a solar energy facility is proposed adjacent to existing horticultural or cropping activities, a minimum 30 metre separation distance is appropriate, measured from the property boundary to any part of the physical structure of the facility.

CFA, *Guidelines for Renewable Energy Installations* (2019)

Mount Alexander Shire Municipal Fire Management Plan, 2012-2014.

(iii) Evidence and submissions

Visual amenity was a common theme in submissions. Several objectors expressed negative views as to the success of landscape mitigation based on their experiences with previous tree planting exercises. Objectors also raised issues of fire risk related to the proposed 50 metre planting and the intent of the Project management to adequately maintain an appropriate ground based fuel reduction program within the 50 metre planting. Specifically, Mr Shane Baker stated "*… I do not believe an adequate tree line can be provided in this environment to mitigate the landscape from the proposed development.*" In their extensive submission, Mr Peter Baker and Mrs Maree Baker stated "*Trees struggle to grow, most die within a relative short time. We have a plantation near the wetlands on Havelock Rd planted some 22 years ago. They were well watered and looked after but only 10 percent have survived and they are mostly River Red Gums. This plantation would NOT screen anything."*, and *"The visual amenity from our home at 135 Baringhup-Havelock Rd will be severely impacted.*"

As noted in Section 3.6, Mr Burge identified that the dwelling at 135 Baringhup-Havelock Road would experience a high level of visual impact from the Project. Mr Burge noted that at this location the Project is proposed to be set back approximately 70 metres from the boundary with a 50 metre wide landscape buffer. Mr Burge stated:

> Previous VCAT decisions, particularly that of the Glenrowan Solar Farm have considered landscape screening of such views to be an acceptable measure to manage these impacts, including locations that enjoyed views to elevated hills. There were several examples in the local area demonstrating that landscape screening can be implemented in the local area. There are also examples that have proven to be less successful.

With a considered planting methodology which includes ground preparation, careful species selection, and care and maintenance, Mr Burge saw no reason why landscape screening would not be successful.

Mr Burge concluded that he saw no reasons from a landscape and visual impact perspective that should preclude the Project from being granted a permit.

In response Council submitted that:

> … if a decision is made to grant a permit, Mr Burge's evidence of a high-level visual impact [at the dwelling at 135 Baringhup – Havelock Road] underlines the importance of both appropriate species selection and a vegetation maintenance program, details of which are currently lacking from the permit application.

Council further submitted:

> … if a permit is granted, it is critical that landscape screening is used to mitigate visual impact, utilising appropriate vegetation to soften views to the solar panels and buildings and to provide adequate screening from adjoining residences along key view lines.
>
> Given the importance of landscape screening, Council notes Mr Burge's evidence that whilst some planting on the Subject Land has been successful, there are other areas where planting has had 'limited success'. He therefore indicates:
>
> - Planting in the area can be successful, subject to an appropriate and rigorous planting methodology including preparation of the area to be planted and selection of species that will be suitable to microclimatic factors such as soil and moisture.
>
> To provide immediate screening, a proportion of landscaping should be established trees rather than seedlings to ensure that there is appropriate screening of the project at sensitive interfaces from the outset. Indeed, Council notes that Mr Burge refers to the Glenrowan Solar Farm as an example of how landscape screening can be used.
>
> However, in regard to that proposal, Council notes that VCAT rejected Mr Burge's evidence that the landscape response should include seedlings, with the Tribunal finding:
>
> - … we do not agree with Mr Burge that the landscaping response should include the planting of seedlings or tube stock. There is a considerable lag time between the planting of seedlings and tube stock and their intended effect. This lag time is not acceptable to the Tribunal in circumstances where the visual impact analysis to some of the surrounding properties was on Mr Burge's own evidence assessed as 'high'.
>
> Ultimately, the Tribunal deemed it appropriate to:
>
> - … require conditions for the planting of semi-mature vegetation within sections of the proposed landscape buffer opposite the adjoining dwellings, coupled with seedlings and tube stock. Such semi-mature vegetation will need to be planted at a height of 2 metres or greater. We have left final details of species selection to the discretion of the appropriately qualified person with the approval of the Council.
>
> Accordingly, in Council's submission any permit should be conditioned to require a landscape plan that demonstrates:
>
> - an appropriate species selection and proportion of semi-mature plants; and
> - a vegetation maintenance program which includes the replacement of any dead or diseased plants.

There was some discussion at the Hearing about the most appropriate timeframe for maintenance of landscaping on the site. Council suggested in draft permit conditions that the period should be for five years. The applicant preferred that the condition did not specify any period of time. DELWP (Planning), in its closing submission, suggested that the Panel consider whether the maintenance and monitoring program should be for the life of the facility.

(iv) Discussion

The Panel is sympathetic to the concerns expressed by Shane, Peter and Maree Baker given their proximity to the development but notes the proposed 70 metre setback and the 50 metre planting, and considers that the setbacks and landscape screening of the Project to be acceptable measures to manage these impacts.

The Panel accepts the view of Mr Burge that landscape screening is appropriate to mitigate the negative impacts of the development and endorses the Council view that conditions should require a landscape plan that demonstrates:

- an appropriate species selection and proportion of semi-mature plants
- a vegetation maintenance program which includes the replacement of any dead or diseased plants.

The Panel is also mindful that a large 50 metre planting extending 700 metres will need to comply with the CFA Guidelines and the Mount Alexander Shire Municipal Fire Management Plan and parties should consider if a 20 metre planting within the 50 metre zone is sufficient to achieve the screening required whilst mitigating any fire risk and aiding access.

Figure 8 (Figure 5 in the applicant's submission) shows the infrastructure plan of the site along with all of the proposed setbacks.

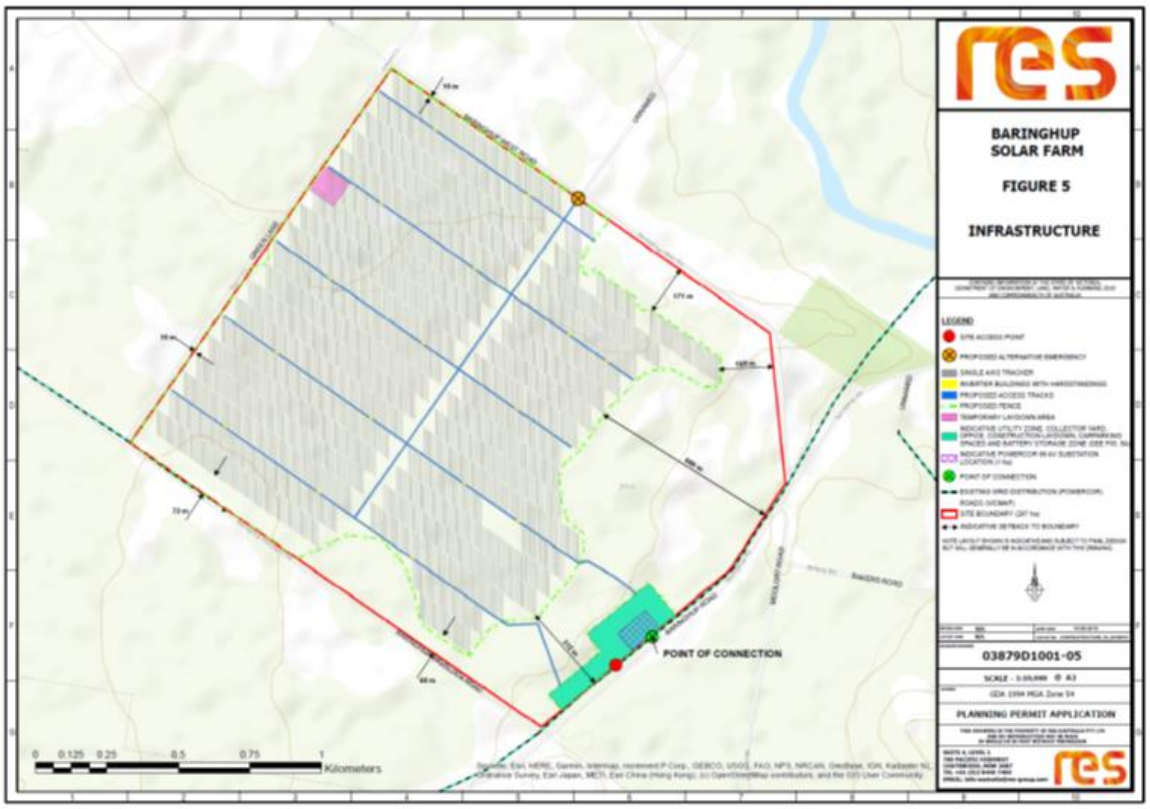

Figure 8 Plan of site infrastructure and proposed setbacks

With respect to the timeframe for a landscape maintenance and monitoring program, the Panel believes that the program should be for the life of the facility. As discussed in this report, visual impact, particularly to 135 Baringhup-Havelock Road, is a sensitive issue and the maintenance of effective screening is an important mitigation that is not diminished through the life of the facility. It will also be important to continue to monitor and maintain landscaping to ensure that it does not create a fire hazard. The Panel recommends that permit condition 15 is modified to require the landscape plan to include a maintenance and monitoring program that extends for the life of the facility.

The Panel was not convinced of the need to specify mature trees to be included in landscape planting opposite 135 Baringhup-Havelock or in the Utility Zone as submitted by Council and proposed in its draft permit conditions. As stated above, the Panel believes that the planting opposite 135 Baringhup-Havelock Road will require careful and considered design. Mature trees may or may not assist the desired outcome, and therefore should not be specified. The Utility Zone is not a particularly sensitive location and the Panel believes that mature plantings are not necessary. The Panel accepts the evidence of Mr Burge that tube stock might be more viable.

(v) Conclusions

The broader issue of landscape values has been discussed in Section 3.6. Based on the discussions in this section on specific setbacks and planting/screening issues the Panel concludes:

- The setbacks proposed by the applicant are adequate with the addition of the 30 metre setback as per the Solar Guidelines.
- Prior to the commencement of works, a detailed landscape plan for the site must be submitted to, approved by, and implemented to the satisfaction of the responsible authority.
- The landscape plan should include a maintenance and monitoring program that extends for the life of the facility.
- Permit conditions should not specify the use of mature plantings in landscape screening.

The Panel preferred version of the planning permit conditions is shown at Appendix C of this report.

4.3 Glint and glare

(i) The issues

The issue is whether reflections from the solar panels and support structure will cause unacceptable glare and glint to neighbouring properties and access roads.

(ii) Relevant policies, strategies and studies

The Solar Guidelines provide guidance to a proponent to avoid glint and glare. They include the following requirements:

- site and design solar components and associated buildings and infrastructure to ameliorate glint and glare impacts to within acceptable levels
- use anti-reflective solar panel coatings and non-reflective frames and avoid using reflective materials and paints on buildings and infrastructure

- adjust the orientation of panels relative to glare risks such as oncoming traffic coming down a road from an elevated area
- locate landscape screening of a sufficient height, width and foliage density at maturity to reduce glint and glare impacts.

(iii) Evidence and submissions

Five submissions specifically mentioned glare and glint as an issue, and glare and glint was also included in the proforma petition against the development.

Specific objections related to motorists travelling over the hill into Baringhup and confronted with the glare from 260,000 panels, glint from the metallic support structures of the panels, nearest neighbours confronted with glare from the panels from "*sunrise to sunset*", and that the impact on aviation infrastructure has not been considered correctly.

Glint and Glare Assessment

The documentation supporting the application included a Glint and Glare Assessment.[13] The assessment included 49 observation points which are shown as red markers in Figure 5 of the Assessment Report (Figure 9 below). These points were identified by AECOM as potential areas where glint and glare could impact the residents. According to AECOM, multiple observation points were selected along sensitive roads, and there were cases where the sensitive residences contained multiple buildings, resulting in multiple observation points in similar locations. Glare was assessed at each of the observation points, assuming the observation point was set to 1.5 metres above ground which was assumed to be the typical viewing height whilst standing.

Figure 9 Glint and glare observation points from AECOM report

The Assessment concluded that there was no glare hazard predicted as a result of the operation of the proposed solar array.

The AECOM report stated:

- The glare model developed for this study was considered a 'worst case' situation, whereby it is assumed that the solar arrays are installed across the entire development site and the entire area of the solar panel arrays are considered a potential glare source. In addition, the model includes conservative assumptions

[13] Glint and Glare Report prepared by AECOM Australia Pty Ltd, dated 28 August 2018

including a high irradiance, and the model does not consider any existing vegetation, buildings or topographical features that may exist between the solar panel arrays and the observation points.

- However, the model used did not account for the 'backtracking' operation which commonly occurs on single axis tracking systems. During the early morning and late afternoon, when the backtracking procedure is operating, the angle of incidence of the sun relative to the solar panel module may differ to that predicted in the modelling.

In the Directions letter dated 14 June 2019, the Panel requested that the applicant provide further information on how the implementation of the backtracking procedure will or will not impact the glare and glint.

In a subsequent report dated 2 July 2019, AECOM had repeated the modelling to incorporate a simplified backtracking model. Assessments were undertaken for resting angles between 0 and 5 degrees inclusive in 1 degree increments, where 0 degrees represents the most conservative case for glare prediction. All other inputs remained unchanged from the original assessment. The updated modelling indicated that a tracking system with a resting angle of between 0 and 2 degrees inclusive will cause glare with moderate potential for after image for several observation points. The modelling results indicated that increasing the resting angle to 3 degrees or above resulted in no glare from the solar farm at any of the modelled observation points.

The Panel notes that the AECOM report does not make reference to the impact of glint and glare on "*oncoming traffic coming down a road from an elevated area*" as per the Solar Guidelines.

Aviation impacts

The Panel notes that the AECOM report incorrectly identifies the nearest airport as Ararat Airport which is approximately 92.4 kilometres to the south west and the report goes onto say that:[14]

> … it is considered unlikely that the solar farm will create any significant glare issues for pilots on approach to or on departure from the nearest airstrips. Accordingly it is not deemed necessary to perform a specific assessment of aircraft flight paths in this study.

In the submission by Peter and Maree Baker they pointed out that the nearest airport is located at Maryborough, 19 kilometres west-south-west of the site and there are airports at Kyneton 54 kilometres to the south-east, Bendigo, 45.6 kilometres north-east of the site and Ballarat, 60.8 kilometres south-west of the site. There is also a landing strip situated on the Guildford Plateau, a high land formation approximately 24 kilometres south-east of the proposed site. There are two local private airstrips, one located within 1 kilometre to the north and the other approximately 7 kilometres west-north-west from the proposed site. The Three Bridges Thoroughbred stud is situated 7 kilometres north-north-west of the site and Victorian, interstate and international clients of Three Bridges regularly fly in by helicopter.

[14] Page 2 Glint and Glare Report prepared by AECOM Australia Pty Ltd, dated 28 August 2018

The Glint and Glare Report from AECOM states:

- The Civil Aviation Safety Regulations require that air traffic control towers are protected from glare. Through consultation with Air Services Australia and the Civil Aviation Safety Authority (CASA), AECOM has been advised that there are no rules or regulations guiding the assessment of such glare. CASA therefore recommends that proponents of solar photovoltaic systems within or near airports follow the guidelines issued by the US Federal Aviation Administration when making their assessments.
- The US Federal Aviation Administration recommends that any proposed solar farms that are below the direct approach paths to an airport (aligned with a runway) and within a distance of around 5 nautical miles (approximately 10km) from a runway end should be referred for a specific assessment by the relevant authorities.

The Glint and Glare Report from AECOM was prepared prior to the publication of the Solar Guidelines, however, the Guidelines require as assessment of glint and glare for aviation infrastructure including any air traffic control tower or runway approach path close to the proposed facility.

(iv) Discussion

Except for the airport evaluation, the Panel accepts the AECOM report and further assessment undertaken at the panel's direction, and is satisfied that provided the resting angle of the solar panels during backtracking operations is 3 degrees or above there will not be unacceptable glare from the solar farm.

In order to minimize glint, the Solar Guidelines refer to the use of anti-reflective solar panel coatings and non-reflective frames. The Panel believes that non-reflective materials should be utilised on this Project and that this should be required by planning permit conditions.

It is unfortunate that the AECOM report incorrectly identified the nearest airport as Ararat Airport. Whilst the Panel was not presented with any evidence that there was an issue for aviation infrastructure, the AECOM report has not assessed glint and glare impacts on all of the nearby aviation infrastructure. Consequently the Panel concludes that glint and glare should be reassessed for any impact on aviation infrastructure.

Whilst reassessing the impact on aviation infrastructure, the Glint and Glare Report should also specifically address the impact to oncoming traffic coming down a road from an elevated area, as required by the Solar Guidelines.

(v) Conclusions

The Panel concludes that the Project will not generate unacceptable glare and glint on neighbouring land provided the following planning permit conditions are implemented:

- Backtracking of the solar arrays must be operated to ensure the resting angle of the solar panels is no less than 3 degrees.
- The solar panels and supporting structures are to be constructed of non-reflective materials.

The Panel concludes that the Glint and Glare impact on aviation infrastructure and oncoming traffic should be assessed and an updated report prepared to the satisfaction of the responsible authority. The Panel has included a planning permit condition for the applicant

to prepare an updated assessment of Glint and Glare impact on aviation infrastructure and oncoming traffic (Condition 6).

4.4 Traffic

(i) The issues

The issues are:

- impact on the road pavement condition of increased traffic on local roads during construction
- amenity and road safety related to increased traffic on quiet local roads during construction
- what are the most appropriate site access points?

(ii) Relevant policies, strategies and studies

The Solar Guidelines state that a Traffic Impact Assessment (TIA) must be prepared as part of a planning permit application. The Guidelines state that a TIA should:

- identify access routes and all roads that will be used to transport construction materials
- identify access routes, types of vehicles and traffic generation when the facility operates
- specify the timing, type of vehicle, daily volume and scheduled delivery times of construction materials
- provide timelines for the whole construction stage
- identify intersection upgrades and any road works required to accommodate access to the site and specify if these are temporary arrangements

Depending on the outcome of the TIA, the responsible authority and/or relevant roads corporation may require a traffic management plan as a planning permit condition.

(iii) Evidence and submissions

The applicant provided a Traffic and Access Assessment as part of its permit application. The Assessment reviewed the existing condition of the surrounding road network, identified proposed site access locations and provided traffic estimates for operational and construction phases of the Project. The report also provided comment on parking requirements during construction.

The Traffic and Access Assessment drew the following main conclusions:

- The proposed main access point into the utility zone area from Baringhup Road is well located to provide convenient and safe access directly onto a gazetted B-double route and is appropriate for construction and operational access.
- Secondary access for emergency purposes from an upgraded access from Baringhup West Road is appropriate.
- Traffic volumes during the operational phase will be negligible given the small workforce (approximately three staff) that are likely to work on the Project site. The local road network has sufficient capacity to accommodate the additional low traffic volumes generated during operation.
- A total of 21,144 one-way vehicle movements are estimated for the Project's construction phase with daily averages of 20 heavy vehicles and 57 light vehicles. Although unlikely, should all construction traffic use the same route to access the

site for the duration of the construction period, this would correspond to an increase of 116 daily traffic movements.

- Construction traffic is considered to have negligible impact on roads where the increased traffic volume corresponds to less than a 10 percent increase in daily traffic. Each of Baringhup Road, Pyrenees Highway, Allens Road/Lowther Road and Bridgewater-Maldon Road are gazetted B-double approved routes which are expected to be capable of accommodating the temporary increase in vehicular movements for the 12-month construction period. The use of mini-buses and car pooling are recommended to reduce traffic impacts during construction.
- Pre and post construction condition surveys of the routes used by the development will be undertaken as part of the Construction Management Plan.
- School bus routes use Baringhup Road. Control measures to manage any interaction of construction traffic and public and/or school bus routes will be addressed in the Traffic Management Plan completed as part of the Construction Management Plan. The bus routes will be incorporated in Safe Work Method Statements that are used to manage truck movements for the proposed development.

The Assessment concluded that no traffic engineering implications have been identified which should prevent the granting of a permit for the Project.

In its Hearing submission the applicant acknowledged that "*construction traffic will certainly be noticeable for at least part of the estimated 12 month construction period, but the condition and suitability of the local road network has not been questioned*".

The two issues of most concern to Council in relation to traffic and transport were:

- increased traffic volumes on quiet local roads, particularly heavy vehicle movements from an amenity and road safety point of view
- the extent to which heavy vehicles associated with the use and development will impact upon road pavement performance on local roads which Council is responsible for.

Council has proposed appropriate permit conditions to mitigate potential traffic impacts, which the applicant accepted.

(iv) Discussion

The Traffic and Access Assessment addresses the key issues relating to access and traffic for both the construction and operation phases of the Project.

The Panel agrees that the proposed site access points are appropriate from a traffic and road safety perspective.

The Panel accepts the conclusion of the Assessment that traffic generated by the operation of the facility will have a negligible impact.

The Panel notes that there will be a moderate amount of traffic, including heavy vehicles, generated by the construction phase of the Project. The approach proposed by Council and agreed by the applicant to manage traffic issues through planning permit conditions is sensible. The proposed permit conditions (amongst other things):

- require a Traffic Management Plan for construction and use
- specify other access requirements
- require conditions surveys of all roads before and after construction

- require any damage to local infrastructure to be made good.

The proposed permit conditions require a Construction Management Plan to manage site parking and access during construction. The Traffic Management Plan or the Construction Management Plan should include managing any potential conflict between construction activities and school bus routes.

(v) Conclusion

The Panel concludes that the planning permit conditions proposed by Council appropriately address construction and operation traffic and access issues, subject to adding a reference to managing any potential conflict between construction activities and school bus routes.

Condition 4(r) in the Panel preferred version of the permit conditions at Appendix C adds this requirement.

4.5 Noise

(i) The issues

The issues are:

- noise control during construction of the solar energy facility
- noise control during operation of the solar energy facility.

(ii) Relevant policies, strategies and studies

The relevant EPA noise control policies are:

- Covering the construction phase – EPA Publication 1254, *Noise Control Guidelines*, 2008 Publication.
- Covering the operational phase – EPA Publication 1411, *Noise from Industry in Regional Victoria* Recommended Maximum Noise Levels from Commerce, Industry and Trade Premises in Regional Victoria, October 2011. [15]

The Solar Guidelines also contain relevant strategies for managing noise.

(iii) Evidence and submissions

Six objectors raised noise/humming from inverters as a key issue. During one such presentation the objectors stated that during a visit to the Gannawarra solar farm they could hear the inverters 240 metres away producing what they described as a piercing hum. During the same presentation it was highlighted that the applicant's own Operational Noise Assessment Report concluded that noise emissions could have the potential for non-compliance under meteorological conditions favouring noise propagation towards the dwelling at 135 Baringhup-Havelock Road.

The Proponent submitted an Operational Noise Assessment Report dated 10 September 2018 with the permit application which identified that during the operation of the solar farm the main sources of noise would be the inverters and electricity substation transformer. The

[15] Note – the draft Council permit condition incorrectly referred to the EPA Publication 1254, Noise Control Guidelines, 2008.

report details the noise assessment methodology and the necessary adjustments to account for the special tonal characteristics of the noise which were applied to arrive at the predicted Effective Noise Levels at the nearest residential dwellings at:

- 51 Dudleys Road, to the north of the site
- 135 Baringhup-Havelock Road, near the south-western boundary of the site
- 625 Baringhup Road, to the east of the site.

The location of these dwellings relative to the Project site are shown in Figure 10.

Figure 10 Location of the three residential dwellings relative to the site

The inverter noise emissions are the dominant contributors to the predicted overall noise levels, the substation noise being a relatively minor noise contributor.

The Recommended Maximum Noise Levels for each period (day, evening and night) and the predicted Effective Noise Levels with the +5 dB special tonal adjustment applied for both neutral and worst case meteorological conditions are shown in Table 3.

Table 3 Recommended Maximum Noise Levels and Predicted Effective Noise Levels at the three nearby residences

Receiver	Recommended Maximum Noise Level [dB(A)]			Predicted Effective Noise Level [dB(A)]	
	Day	Evening	Night	Neutral Meteorological Conditions	Temperature Inversion + 3m/s Wind
51 Dudleys Road	46	41	36	28	34
135 Baringhup-Havelock Road	46	41	36	32	37
625 Baringhup Road	46	41	36	18	24

The predicted Effective Noise Levels modelled under worst case meteorological conditions are compliant at all locations for all periods, except for 135 Baringhup-Havelock Road, where the predicted Effective Noise Level exceeds the Night period criterion by 1 dB. According to the Operational Noise Assessment this would be considered a marginal non-compliance, if it were to occur in practice.

During the Directions Hearing, the Panel requested clarification from the Proponent regarding this 'marginal non-compliance'. The Proponent submitted a further report dated 1 July 2019 which states:

- The modelling indicates that the 1 dB excess at 135 Baringhup-Havelock Road could be mitigated by eliminating the noise contribution from either of the nearest inverters to the residence. This could be achieved by either applying noise control measures to the inverter, such as enclosure or screening, or by turning the inverter off.
- The non-compliance is predicted only for the modelled worst-case meteorological condition, comprising a temperature inversion with a breeze from the solar farm to the residence, and only during the night-time. For neutral conditions the solar farm noise is predicted to be 4 dB under the night-time limit at 135 Baringhup-Havelock Road.
- Noise measurements could be performed during commissioning of the solar farm to determine whether a non-compliance would occur in practice. If it is determined that the noise emissions would exceed the limit in practice, a strategy can be devised regarding noise control measures, such as the need for an enclosure or screening, or turning off a nearby inverter.

(iv) Discussion

The Panel accepts both Operational Noise Assessment reports, but notes that the Solar Guidelines refer to locating noisier components centrally within a site. According to the Operational Noise Assessment of 10 September 2018, a total of 16 inverters are proposed to be located across the site. Whilst locating the inverters centrally may not be practicable the Panel is of the view that an assessment of the placement of the inverters nearest to the dwelling of 135 Baringhup-Havelock Road may be useful in minimizing noise emissions at that property. This may require modified plans.

The Panel recommends that noise measurements be performed during commissioning of the solar farm to determine whether a non-compliance would occur in practice. If it is determined that the noise emissions would exceed the limit in practice, a strategy should be devised regarding noise control measures.

With respect to the noise control during operation both Council and the applicant have agreed that prior to the commencement of the use, an Environmental and Operations Management Plan (EOMP) must be prepared, approved and implemented to the satisfaction of the responsible authority. The EOMP would contain a condition that noise emitted from the premises must not exceed the recommended levels as set out in *Noise from Industry in Regional Victoria* (EPA Publication 1411, 2011).

With respect to noise control during construction both Council and the applicant have agreed on a permit condition that a Construction Site Management Plan (CSMP) must be prepared, approved and implemented to the satisfaction of the responsible authority. Among other things the CSMP must include details of how noise emissions during the construction phase will comply with EPA Publication 1254, *Noise Control Guidelines*, 2008.

(v) Conclusions

The Panel concludes:

- The EOMP should contain the condition that noise emitted from the facility must not exceed the recommended levels as set out in *Noise from Industry in Regional Victoria* (EPA Publication 1411, 2011).
- The CSMP should include details of how noise emissions during the construction phase will comply with EPA Publication 1254, *Noise Control Guidelines*, 2008.

The Panel has included these conditions in the Panel preferred permit conditions at Appendix C.

4.6 Dust and erosion

(i) The issues

The issues are:

- avoidance of excessive dust during construction
- avoidance of significant changes to the overland flow of water.

(ii) Relevant policies, strategies and studies

Solar Guidelines

Clause 21 Municipal Strategic Statement

Clause 21.05 (Environmental risk)

(iii) Evidence and submissions

A number of objectors expressed concern about dust during construction and erosion from changes in water flow from the large number of panels.

Mr Pitt in his evidence stated that in his opinion there is a risk of soil erosion as a result of rainfall runoff from the panels being concentrated to a small area and that a regular monitoring and review program is required for at least the first five years of operation.

Council in its submission also raised concerns regarding the potential for soil disturbance and dust to create amenity impacts, and noted Mr Pitt's evidence regarding soil erosion.

Council pointed out that Clause 21 *Municipal Strategic Statement* and Clause 21.05 *Environmental risk* specifically recognise erosion and salinity as major environmental risks facing the Loddon Campaspe catchment and Shire that impact on water quality and land use.

Council therefore considers that it is important that appropriate conditions that address the creation of dust and sediment from land disturbance should be included in any permit that issues, and appropriate monitoring as recommended by Mr Pitt must be adopted.

(iv) Discussion

The Panel agrees with Mr Pitt's evidence and Council's submission that appropriate conditions that address the creation of dust and sediment from land disturbance should be included in any permit that issues, and appropriate monitoring as recommended by Mr Pitt must be adopted.

(v) Conclusions

The Panel concludes that dust and erosion issues will be appropriately dealt with in the requirement for a Construction Site Management Plan in the planning permit conditions.

4.7 Bushfire management

Bushfire risk issues are discussed in Section 3.7 above including site design issues such as access roads and fire breaks.

Conditions 51 to 65 in the Panel preferred version of the permit conditions relate to bushfire management requirements.

4.8 Electromagnetic radiation and interference

(i) The issues

The issues are:

- Will the solar farm facility cause interference to Digital TV, mobile phone quality of service, broadband internet services and GPS signals for control of tractors for planting and harvesting operations.
- What services will be transmitted from the proposed communications tower and will these have any negative impact on Digital TV, mobile phone quality of service, broadband internet services and GPS signals for control of tractors for planting and harvesting operations.

(ii) Relevant policies, strategies and studies

The Australian Communications and Media Authority (ACMA) is responsible for regulating telecommunications, broadcasting, radio communications and the internet. ACMA has responsibility under the *Radiocommunications Act 1992* for the regulation of electromagnetic compatibility (EMC).

ACMA regulates EMC through the Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017 (the EMC Labelling Notice) and the Radiocommunications (Electromagnetic Compatibility) Standard 2017 (the EMC Standard). The EMC Standard specifies the technical standards that apply to devices. The EMC Labelling Notice identifies the compliance, labelling and document keeping requirements that apply to specific devices.

The solar farm is capable of radio emissions as defined by section 8(1) of the Radiocommunications Act and is therefore a radio transmitter for the purposes of the Radiocommunications Act.

The solar farm, as a whole, is exempt from the provisions of the EMC Standard, as it is a fixed installation, listed in Schedule 2 of the Radiocommunications Labelling Notice. It is probable that some of the components of the solar farm are within the provisions of Note 2 of Section 1.5 (2) of the EMC Labelling Notice and might not have compliance labelling.

Some components of the solar farm are listed in the ACMA Mandated EMC Standards List of February 2019. These devices include the low voltage switchgear and control gear.

(iii) Evidence and submissions

Page 43 of the Baringhup Solar Farm Planning Report dated 23 November 2018 refers to an assessment of electromagnetic interference yet there was no information on electromagnetic interference included in the permit application materials.

At the Directions Hearing the Panel requested information from the applicant related to the two issues listed above. Subsequently the applicant submitted an expert witness report dated 8 July 2019 from Mr John Aitken, a qualified engineer specialising in EMC. The expert witness report was extensive and included an in-depth literature survey and actual measurements near a solar farm of similar size and technology to that proposed for Baringhup.

With respect to the first issue, Mr Aitken was of the opinion the solar farm will not interfere with digital TV, mobile phone service quality, broadband internet services or GPS signals. Mr Aitken based his opinion on the literature survey, analysis and measurements outlined in his evidence. Mr Aitken stated there is no evidence available (to him) of any interference with the control of tractors for planting and harvesting operations.

With respect to the second issue, Mr Aitken stated that the communications tower will provide remote control and monitoring of the solar farm by Powercor, through the use of radio communication links. Mr Aitken also stated that, based on the assumption that the equipment on the communications tower will be licensed in accordance with the ACMA requirements and will satisfy the relevant EMC requirements, the communications tower will not have any negative impacts on digital TV, mobile phone service quality, broadband internet services or GPS signals. It will have no impact on the control of tractors for planting and harvesting operations.

(iv) Discussion

The Panel accepts the evidence presented by Mr Aitken. However, if there are electromagnetic interference issues suspected these should be reported and investigated via the Complaints Management Plan required under permit conditions.

(v) Conclusions

The Panel concludes that there is no evidence to support the inclusion of electromagnetic interference related conditions on the permit, other than the conditions related to the Complaints Management Plan.

4.9 Heat island effect

(i) The issue

The issue is the potential for increases in temperature and radiant heat known as 'heat island effects' in relation to solar energy facilities.

(ii) Relevant policies, strategies and studies

The Solar Guidelines state:

> Where a solar energy facility is proposed adjacent to existing horticultural or cropping activities, a minimum 30m separation distance is appropriate, measured from the property boundary to any part of the physical structure of the facility.
>
> …

> While there are few studies of spatial heat dissipation from solar infrastructure, those that exist acknowledge the potential for ambient air temperatures within the perimeter of a solar energy facility to potentially increase by 3 to 4 degrees Celsius. However, those studies also found that the heat that was generated dissipated rapidly over a short distance. Some found that at 30 metres from the solar PV array, the air temperature variation was indistinguishable from ambient air temperature.

(iii) Evidence and submissions

Nine submissions specifically mentioned temperature and radiant heat increases as an issue. The proforma petition also referred to radiant heat. Specific concerns related to increased temperatures of 4 to 5 degrees Celsius and the adverse effects on sheep, crops, elderly and younger workers and children, particularly on high temperature days during summer. Shearing sheds and sheep yards in close proximity were highlighted as working areas of particular concern.

The applicant submitted extracts from the Shepparton Solar Farms Panel Report[16] related to temperature and radiant heat, which concluded:

- While limited, there is sufficient scientific evidence to determine that no proposed solar energy facility will increase temperature beyond 30 metres of a solar array.
- Any temperature increase within the solar array will be marginal, however, any solar array should be separated 30 metres from any neighbouring property boundary.

(iv) Discussion

The Panel accepts the conclusions of the Shepparton Solar Farms Panel and finds that, while limited, there is sufficient scientific evidence to determine that there is unlikely to be any increase in temperature beyond 30 metres of a solar array. This is consistent with the guidance provided in the Solar Guidelines.

(v) Conclusions

The Panel concludes that there should be a 30 metre separation between a solar array panel and the property boundary of any neighbouring property.

The Panel notes that the 30 metre separation between a solar array panel and the property boundary of any neighbouring property will be achieved by the universal 10 metre setback around the site (required by the CFA) and the surrounding road reserve (typically 20 metres), so this has not been included as a condition.

[16] Greater Shepparton Permit Applications 2017-162, 2017-274, 2017-301 and 2017-344 - Panel Report - 23 July 2018

5 Construction, operation and decommissioning

5.1 Introduction

In this Chapter the Panel examines issues relating to construction, operation and decommissioning.

5.2 Environmental and Operations Management Plan

Planning permit condition 12 requires an Environmental and Operations Management Plan (EOMP) to be prepared, approved and implemented to the satisfaction of the responsible authority. The EOMP must include (amongst other things):

- overall environmental objectives for the operation and use of the facility including such things as:
  - measures to manage the storage of any hazardous or dangerous goods or materials
  - landscape planting maintenance
  - weed management
  - drainage channel maintenance
  - noise mitigation measures and monitoring systems
  - sediment pollution control
  - dust
- details of how the operation phase will comply with EPA Publication 1411, *Noise from Industry in Regional Victoria*, 2011[17]
- a Pest, Animal and Plant Management Plan.

The EOMP must be reviewed every three years.

Several submitters raised concerns about what chemicals might be used on the site for weed control or cleaning of panels. The Panel is satisfied that these matters will be appropriately dealt with through the EOMP.

5.3 Wildlife Management Plan

DELWP (Environment) recommended that a Wildlife Management Plan be prepared that includes:

- salvage and translocation of threatened flora and fauna species and ecological communities
- methods to mitigate impacts on native fauna during construction
- methods to handle and relocate any wildlife at risk of impact during construction including potential areas for relocation
- methods to mitigate the need for wildlife control during operation of the facility including kangaroos and white cockatoos.

[17] Note – the draft Council permit condition incorrectly referred to the EPA Publication 1254, Noise Control Guidelines, 2008. These are relevant to the construction phase of the Project.

The Panel supports this approach. A condition requiring the submission of a Wildlife Management Plan prior to the commencement of works has been included as condition 50 of the Panel preferred version shown in Appendix C of this report.

5.4 Emergency and Fire Management Plan

Bushfire risk and fire management are discussed in Sections 3.7 and 4.7 and the Panel is comfortable that the planning permit conditions proposed in relation to bushfire management, including the requirement for an Emergency and Fire Management Plan, adequately address the fire risk of the Project.

The EOMP must include an emergency contact that is available for 24 hours per day for residents and the responsible authority in the event of urgent queries or problems experienced.

5.5 Construction noise and dust management

Prior to commencement of works, a Construction Site Management Plan (CSMP) must be submitted to, and approved by, the responsible authority. When approved, the CSMP will be endorsed and will then form part of the permit. During the construction phase all measures identified in the endorsed CSMP including noise and dust management must be implemented to the satisfaction of the responsible authority.

Noise and dust are discussed in Sections 4.5 and 4.6. The Panel concludes that construction noise and dust can be managed through appropriate planning permit conditions as per the Panel preferred version shown in Appendix C of this report.

5.6 Construction traffic

Most traffic issues relate to the construction phase. Traffic issues are discussed in Section 4.4. The Panel concludes that construction traffic issues can be managed through appropriate planning permit conditions.

5.7 Complaints management

A formal complaints management procedure must be established to the satisfaction of the responsible authority. The complaints management procedure will show how any complaint is to be recorded and investigated. Details of the complaints management procedure shall include the nomination of responsibilities to individuals, establishment of reporting protocols and procedures to investigate and report on complaints. The Panel is satisfied that the proposed permit conditions relating to complaints management are appropriate.

5.8 Decommissioning

Proposed permit condition 7 sets out a requirement for a decommissioning and rehabilitation plan that must be prepared at least 12 months prior to the facility ceasing operation. Condition 7(b) requires:

> details of how the land will be rehabilitated after any structures are removed to allow the land to be used for agricultural purposes (or proposed alternative use).

The Panel believes that the proposed condition adequately allows for decommissioning and a provides a pathway for the land to be returned to agricultural use.

6 Panel conclusions and planning permit conditions

6.1 Relevant considerations

Clause 71.02-3 of the Planning Scheme requires a responsible authority considering a permit application to take an integrated approach, and to balance competing objectives in favour of net community benefit and sustainable development.

Clause 65 of the Planning Scheme states:

> Because a permit can be granted does not imply that a permit should or will be granted. The Responsible Authority must decide whether the proposal will produce acceptable outcomes in terms of the decision guidelines of this clause.

Chapter 2 of this report sets out the permit triggers, relevant policy and legislation that applies to the application. Chapters 3, 4 and 5 set out policy, legislation and decision guidelines relevant to each issue discussed.

The Panel has given careful consideration of all submissions and presentations made to the Hearing. In reaching its conclusions, the Panel has also considered expert evidence, the submissions and advice of the relevant agencies and its own observations from site visits.

6.2 Summary of Panel conclusions

The Panel received submissions on a wide range of issues. The Panel believes that the key issues to be considered in determining whether a permit should issue for this application are:

- environmental issues
- visual amenity impacts
- impacts on agriculture
- bushfire risk.

Other issues raised in submissions including noise, traffic, glint and glare, dust, erosion, electromagnetic interference and heat island effects are considered by the Panel to be less significant and either not considered to be a significant concern (traffic, dust, electromagnetic interference, heat island) or relatively easy to manage through permit conditions (noise, glint and glare, erosion).

Environmental issues

On balance, the Panel concludes that if a permit is issued, the environmental impacts of the Project can be properly managed through permit conditions.

The Panel is comfortable that the requirements of Clause 52.17 and the Native Vegetation Guidelines can be met through minimising removal of native vegetation in the design of the Project, and providing offsets for the relatively small amount of native vegetation to be removed.

Based on the work done by the applicant, the design of the Project adequately protects habitat for identified endangered species. That said, the Panel has concluded that a review of the ecological assessment should be undertaken, particularly with respect to identification of species. Mr Foreman's evidence was that other species may be present and may be identified if further studies are undertaken at appropriate times of the year. In particular, the presence of Golden Sun Moth should be critically reviewed. Depending on

the outcome of the review, a referral to the Commonwealth Department of Energy and Environment under the EPBC Act may be necessary.

The proposed buffers to the habitat areas and the wetlands are sufficient, subject to the controls proposed in the permit conditions.

Landscape values and visual amenity

On balance, the Panel concludes that if a permit is issued, the visual amenity impacts of the Project can be properly managed subject to the permit conditions proposed in the Panel

The Panel has concluded that views from Mt Tarrengower, nearby tourism locations, the Baringhup township and nearby residences (apart from 135 Baringhup-Havelock Road) are sufficiently distant, or screened by the landscape, so that they experience only minor impacts.

If the Project proceeds, there will be a high level of visual impact on the dwelling at 135 Baringhup-Havelock Road. These impacts can be mitigated by the proposed set back (of solar arrays) of approximately 70 metres from the boundary in the vicinity of 135 Baringhup-Havelock Road, with a 50 metre wide landscape buffer.

Agricultural impacts

In relation to agricultural impacts, the Panel concludes that the Project meets the decision requirements of Clause 35.07-6 *Farming Zone.* The Project site will not be permanently lost to agricultural uses, and the Project will not adversely affect land used for agricultural purposes. It has also concluded that the Project meets the objectives of 14.01-1S:

- The Project site is not agricultural land of strategic significance in a local or regional context.
- The overall economic impact of the Project on agricultural land is offset by the additional income generated by the Project and the employment of staff for operations and maintenance as well as the initial construction.
- Offsite impacts related to construction, operation and decommissioning of the Project can be appropriately managed via the permit conditions.

Bushfire risk

The Project site could be susceptible to the risk of grass fires. The planning permit conditions proposed in relation to bushfire management, including the requirement for an Emergency and Fire Management Plan, adequately address the fire risk of the Project.

The proposal meets the objective of Clause 13.01-1S *Natural hazards and climate change* to minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.

Overall assessment

On balance, the Panel considers that a permit should be granted. The critical issues of environmental and visual impact can be managed through the facility design and permit conditions can be employed to ensure appropriate outcomes. Impacts on agriculture are not considered significant and bushfire risk can be appropriately managed.

Renewable energy enjoys strong State legislative and policy support, along with very strong statements of policy support for renewable energy in the planning scheme at Clauses 19.01-2S and 53.13.

The Panel believes that the proposal represents a net community benefit, balancing the benefits of a providing a renewable energy facility against the (largely manageable) negative impacts.

6.3 Planning permit conditions

The Panel requested Council to provide a set of draft permit conditions on a 'without prejudice' basis to aid the discussion of appropriate conditions through the Panel process. The applicant and Council have endeavoured to reach agreement on appropriate conditions, and DELWP have provided comments on a number of matters.

At the conclusion of the Hearing process there were only a few unresolved substantive matters between Council and the applicant (condition references are to the Panel preferred version in Appendix C):

- Council proposed a 'General amenity' condition requiring the site to be kept neat and tidy at all times. The applicant did not think this was necessary. The Panel prefers to retain. (Condition 7)
- Council submitted that the Utility Zone planting should include 50 percent mature trees at planting. The applicant disagreed. For the reasons started in section 4.2, the Panel prefers no specification for mature plantings. (Conditions 13(e) and (g))
- Council preferred a 5 year maintenance and monitoring program as part of the landscape plan. The applicant preferred no time frame. For the reasons set out in Section 4.2, the Panel prefers that the program be for the life of the facility. (Condition 14)

DELWP (Planning) raised several issues in relation to permit conditions in its submission to the Hearing and in its closing comments. The Panel has reviewed these issues and included amended permit conditions in relation the matters raised:

- Inclusion of reference to the telecommunications facility in the preamble.
- Inclusion of reference to crown land in the land description.
- Information on updated native vegetation offset requirements. (Condition 47)
- Inclusion of a complaints handling condition – refer to Section 5.7. (Condition 11(d))
- Noise – reference to modified plans showing appropriate inverter setbacks from 135 Baringhup-Havelock Road. (Condition 1(k))
- Fencing – modified plans to show the correct location of security fencing. (Condition 1(i))
- Maintenance of landscaping – for the life of the facility – refer to Section 4.2. (Condition 14)

6.4 Recommendations

The Panel recommends:

4. **The Minister for Planning issue planning permit 297/2018 for: the use and development of a Renewable Energy Facility (Solar and Energy Storage); the use and development of a Telecommunications facility (in association with a renewable energy facility); Utility Installation (powerlines and substation); associated buildings and works; removal of native vegetation; and installation of business identification signage, subject to the permit conditions contained in Appendix C of this report.**

Appendix A Submitters to the Amendment

No.	Submitter	No.	Submitter
1	Amber Baker	16	Robert and Kerrie Jennings
2	Cathy Corcoran	17	11 objectors from Eddington and Maldon
3	John Couch	18	Belinda Marshall
4	Kathy Baker	19	Kerrie and Robert Jennings
5	Maree Baker	20	Petition with 250 signatures
6	Peter Baker	21	Robert L Wilson
7	Rory Baker	22	Ian White
8	Roger Baker	23	Anne Hayes
9	Shane Baker	24	Graham Pratt
10	Carol Troutbeck	25	Brian and Alison Thomas
11	Lorraine Walklate	26	Kate Woodhams
12	Robert Lillie	27	Janet Cropley
13	L and J Colerio	28	John Ingram
14	Ross Dohnt	29	Barry Murfett
15	Nicole Farnsworth, Danielle Sekec, Samuel Bennett		

Appendix B Document list

No.	Date	Description	Presented by
1	13/6/19	Application to amend the permit application	Mr Tim Power, White and Case
2	13/6/19	Letter from AECOM to DELWP responding to issues	Mr Power
3	13/6/19	Letter from AECOM Further Information Communications Tower	Mr Power
4A	17/6/19	Letter to Planning Panels from Mount Alexander Shire Council	Ms Maria Marshall, Maddocks
4B	17/6/19	Map PA297-2018 accompanying Letter from Council	
5	17/6/19	DELWP Letter to Planning Panels - Planning Permit Application 297 2018	Mr Robert Rorke, DELWP Loddon Mallee Region
6	18/6/19	Letter to PPV	Mr Power
7	20/6/19	DELWP Letter to Planning Panels - Planning Permit Application 297 2018	Mr Rorke
8	20/6/19	PPV Letter to Parties	Planning Panels Victoria
9	21/6/19	DELWP - Minister's delegate letter to Panel	Mr Rorke
10A	21/6/19	Email Letter to Panel from Council	Ms Marshall
10B	21/6/19	Baringhup Solar Farm Map accompanying letter from Council	”
11	24/6/19	Proponent Response to PPV letter of 20 June 2019	Mr Power
12	8/7/19	Letter Maddocks to Panel and Parties serving draft Conditions dated 8 July 19	Ms Marshall
13	8/7/19	Council Draft Permit Conditions	”
14	8/7/19	G Taylor Bushfire Mitigation Plan	Mr Power
15	8/7/19	G Taylor – Expert Witness Report, Fire Risk	“
16	8/7/19	H Burge – Expert Witness Report, Landscape and Visual Impact	“
17	8/7/19	H Burge – Appendix C – Photomontage R4	“
18	8/7/19	H Burge – Appendix C – Photomontage RVP1	“
19	8/7/19	T Pitt – Expert Witness Report, Agricultural Assessment	“
20	8/7/19	Proponent Response Noise	“
21A &21B	8/7/19	Proponent Response Glint and Glare	“

No.	Date	Description	Presented by
22	8/7/19	J Aitken – Expert Witness Report, Electromagnetic Interference	"
23	9/7/19	P Foreman – Expert Witness Report, Ecology	Mr Shane Baker
24	15/7/19	RES Submission Baringhup Panel	Mr Power
25A	15/7/19	RES Figure 5 - Infrastructure	"
25B	15/7/19	RES Figure 6 - Design Response	"
25C	15/7/19	RES Figure 7A - General Arrangement (002)	"
26	15/7/19	H Burge PowerPoint presentation	"
27	15/7/19	AECOM Memo Clause 52.19 Assessment	"
28	15/7/19	AECOM Baringhup Layout and Vegetation Removal Figure F1	"
29	15/7/19	Extract from Shepparton Solar Farms Report – Temperature and Heat Island Effect	"
30A	15/7/19	AECOM Draft Permit Conditions – marked up copy	"
30B	15/7/19	AECOM Draft Permit Conditions – clean copy	"
31A	16/7/19	Final submissions on behalf of Council	Ms Marshall
31B	16/7/19	Table of requests for further information and responses	"
32	16/7/19	Folder of documents from Council	"
33	16/7/19	Mid Loddon Ground Water Management Area	"
34	16/7/19	Baringhup Solar Farm DELWP Planning Submission	Ms Louise Smith DELWP Planning
35	16/7/19	Baringhup Solar Farm DELWP Environment Submission	Ms Amanda Johnson DELWP Environment
36A	16/7/19	North Central CMA Submission Baringhup Solar Farm	Ms Camille White NCCMA
36B	16/7/19	Extract NCCMA-44740 - Moolort Plains Wetlands Investigation Report	"
37	15/7/19	NVR_report_Baringhup_20190715	DELWP
38	16/7/19	NVR_report_Baringhup_20190716	"
39	16/7/19	Baringhup Plan List	Mr Power
40	16/7/19	Volume III_20190107_TF3 14 Dec	"
41	22/7/19	Letter to Panel circulating draft permit conditions	Ms Marshall
41A	22/7/19	Version 1 permit conditions – contains track changes which show all mark-ups from Council and Proponent	"

No.	Date	Description	Presented by
41B	22/7/19	Version 2 permit conditions – Applicant's track changes being accepted and Council's further amendments	"
41C	22/7/19	Version 3 permit conditions – clean version with all track changes accepted	"
42	23/7/19	Anne Hayes presentation	Anne Hayes
43A & B	23/7/19	John Couch presentation and photos	John Couch
44	23/7/19	Robert Wilson presentation	Robert Wilson
45	23/7/19	Shane Baker presentation and attachments SB1-SB8	Shane Baker
46	23/7/19	Rory Baker presentation and attachments RB1-RB3	Rory Baker
47	23/7/19	Paul Foreman's expert witness presentation	Paul Foreman
48A, B & C	23/7/19	Peter and Maree Baker presentation and appendices and photos	Peter & Maree Baker
49A	24/7/19	Letter to Planning Panels dated 24 July 2019	Ms Marshall
49B	24/7/19	Notice of Application for Planning Permit	"
50	15/7/19	Native vegetation removal report ACM_2019_006	Applicant

Appendix C Panel preferred version of the planning permit conditions

The attached proposed permit conditions are based on Version 3 tabled on the last day of the Hearing (Document 41C). The track changes shown on the Panel preferred version are changes made by the Panel to Version 3.

The Panel accepts that further changes to permit conditions may be required to ensure consistency and refine wording before the permit is issued.

PLANNING PERMIT APPLICATION NO.	297/2018
APPLICANT	AECOM Australia Pty Ltd
RESPONSIBLE AUTHORITY	Minister for Planning
DATE OF HEARING	15 July 2019
LAND	137 Baringhup West Road, (CAs 2, 3, 4, 5, 6 & 7 Section 3 Parish of Baringhup); Crown Road (public) License 2003346.

Draft Permit Preamble

The permit allows:

- the use and development of a Renewable Energy Facility (Solar and Energy Storage);
- the use and development of a Telecommunications facility (in association with a renewable energy facility);
- Utility Installation (powerlines and substation);
- associated buildings and works;
- removal of native vegetation.
- installation of business identification signage,

in accordance with the endorsed plans.

Draft Conditions

Plans Required

1 Prior to the commencement of the development, plans to the satisfaction of the responsible authority must be submitted to and approved by the responsible authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be generally in accordance with plans are submitted with the permit application, but modified to show:

(a) any consequential changes arising from the landscape plan approved under this permit;

(b) any consequential changes arising from compliance with conditions ~~49-55~~51-65 and with the approved emergency and fire management plan;

(c) all solar panels and buildings set back at least 30 metres from waterways or drainage lines;

(d) ten (10) metre perimeter fire break from all facilities, electricity compounds and substations and a perimeter track of no less than four (4) metres within the firebreak;

(e) location and identification of each tree or patch of native vegetation as defined in the *'The Guidelines for the removal, destruction or lopping of native vegetation, DELWP, 2017'*~~each item of native vegetation to be removed and also that to be retained~~;

(f) all buildings and works set back at least 30 metres from the edge of the two wetlands depicted on Drawing No. 03879D2201-06 dated 15 May 2019;

(g) the retention of six Buloke trees numbered 3,4,5,9,10, and 11 on the plan prepared by AECOM titled "Baringhup Layout and Vegetation Removal" (Figure F1) dated 10 July 2019;

(h) proposed materials for the solar panels and other equipment to address any potential glint and glare effects, which must include:

(i) anti-reflective coating (AR);

(ii) low-iron/high transmission (LFe/HT) PV glass or equivalent; and

(iii) anodised PV frames or equivalent.

(i) location of the security fence along the boundary to Baringhup-Havelock Road on the facility side of landscape buffers;

~~(i)~~(j) any consequential setbacks required under conditions 45 and 46 ~~41.~~;

~~and~~

(k) any changes required to inverter locations required to meet noise requirements; and

~~(j)~~(l) any changes required to address issues identified in the revised Glint and Glare report required by condition 6.~~-~~

2 Except as permitted under condition 3, the use and development must be generally in accordance with the plans endorsed under condition 1.

Layout not altered

3 The use and development as specified and shown on the endorsed plans must not be altered without the prior written consent of the responsible authority.

Construction management plan

4 Prior to commencement of works, a Construction Site Management Plan (**CMP**) must be submitted to, and approved by, the responsible authority. When approved, the CMP will be endorsed and will then form part of the permit. During the construction phase all measures identified in the endorsed CMP must be implemented to the satisfaction of the responsible authority. The CMP must include:

(a) measures to control erosion and sediment and sediment laden water runoff including the design details of structures. The sediment control measures must be consistent with EPA Publication 275 Construction Techniques for Sediment Pollution Control 1991 (as amended); ;

(b) measures to retain dust, mud, silt and debris on site, both during and after the construction phase;

(c) measures to prevent mud, dirt and other debris from being transported from the site onto adjacent roads;

(d) proposed hours of construction;

(e) locations of any construction wastes storage and the method of disposal, equipment, machinery and/or earth storage/stockpiling

during construction;

(f) proposed parking and standing locations for construction vehicles and construction workers vehicles;

(g) the estimated number of workers expected to work on the site at any time;

(h) a communication strategy for advising the responsible authority, local business owners and residents in the vicinity of the development of key stages/events (including their timing and duration) in the construction program of the development;

(i) a liaison officer for contact by residents and the responsible authority in the event of relevant queries or problems experienced;

(j) a 24 hour emergency contact number;

(k) where access to the site for construction vehicle traffic will occur;

(l) tree protection zones where required for the retained perimeter screen planting;

(m) the location of trenching works, boring, and pits associated with the provision of services;

(n) the location of any temporary buildings or yards;

(o) the location and details of temporary fencing works;

(p) measures to ensure that the land can be used for agricultural use in the future, including protection of topsoil and avoiding soil compaction by vehicles and equipment; ~~and~~

(q) details of how the construction phase will comply with EPA Publication 1254, Noise Control Guidelines, 2008~~11~~; and

~~(q)~~(r) strategies for programming construction activities to avoid conflict with school bus routes.~~.~~

Glint and Glare

5 Backtracking of the solar arrays must be operated to ensure the resting angle of the solar panels is no less than 3°.

~~5~~6 A revised Glint and Glare Assessment must be prepared that addresses potential impacts on aviation infrastructure and oncoming traffic.

Decommissioning and rehabilitation plan

~~6~~7 By no later than 12 months before ~~the~~ the solar energy and energy storage facility permanently cease operating, a decommissioning management plan (**DMP**) prepared by a suitably qualified person must be submitted to the satisfaction of the responsible authority. When approved, the DMP will be endorsed and will then form part of the permit. The DMP must include but is not limited to:

(a) identification of structures to be removed, including but not limited to all solar panels, substation, buildings (if they are not useful for ongoing use) and electrical infrastructure, when and how they will be removed;

(b) details of how the land will be rehabilitated after any structures are removed to allow the land to be used for agricultural purposes (or proposed alternative use);

(c) identification of materials to be recycled;

(d) identification of the person(s) and/or bodies to be responsible for the implementation of DMP; and

(e) within 12 months of the endorsement of the decommissioning management plan, or the ending of the use, whichever is the later, the decommissioning must be completed in accordance with the approved DMP, to satisfaction of the responsible authority.

General amenity conditions

~~7~~8 ~~7~~ The subject land must be kept neat and tidy at all times and its appearance must not, in the opinion of the responsible authority, adversely affect the amenity of the locality. The use and development must be managed so that the amenity of the area or locality, in the opinion of the responsible authority, is not detrimentally affected, through the:

(a) transport of materials, goods or commodities to or from the land;

(b) appearance of any building, works or materials;

(c) emission of noise, glint and glare, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil; and

(d) presence ofvermin.

Buildings

~~8~~9 Before the operation of the solar energy facility commences, all buildings and works as shown on the endorsed plans must be constructed in accordance with the endorsed plans to the satisfaction of the responsible authority. Any metal cladding proposed to be used in the construction of any building and infrastructure approved by this permit, must be:

(a) galvanized or natural colour bonded metal cladding; and/or

(b) treated metal cladding painted in muted tones, provided such painting is completed prior to the occupation of the building approved by this permit,

to the satisfaction of the responsible authority.

~~9~~10 External cladding of any building must be maintained and kept in good condition at all times to the satisfaction of the responsible authority.

~~10~~11 Maintenance of all buildings, surrounds, storage and parking areas within the site must be carried out in such a manner to render the site in a neat, tidy and clean condition at all times so as to not adversely affect the amenity of the locality to the satisfaction of the responsible authority.

Environmental and operations management plan

~~11~~12 Prior to the commencement of the use, an Environmental and Operations Management Plan (**EOMP**) must be prepared, approved and implemented to the satisfaction of the responsible authority. The EOMP must include:

(a) overall environmental objectives for the operation and use of the solar energy and energy storage facility and techniques for their achievement to include:

(a) day to day management requirements for the use;

(b) ground maintenance;

(c) measures to manage the storage of any hazardous or dangerous goods or materials on site during the development or use;

(d) landscape planting maintenance;

(e) weed management;

(f) drainage channel maintenance;

(g) waste management;

(h) procedures to ensure that no significant adverse environmental impacts occur as a result of the use;

(i) proposed noise mitigation measures and monitoring systems, including noise monitoring to ensure the solar energy and energy storage facility complies with condition 2321;

(j) identification of possible risks of operational failure and response measures to be implemented;

(k) actions to control sedimentation in accordance with EPA Publications 275 Construction Techniques for Sediment Pollution Control 1991; and

(l) procedures to manage airborne dust, silt and debris onsite.

(b) details of how the operation phase will comply with EPA Publication 1254411, Noise from Industry in Regional VictoriaNoise Control Guidelines, 2011;

(c) a Pest, Animal and Plant Management Plan (**PAPMP**) which must include:

(a) ongoing actions and measures to be undertaken to control pest animals and plants; and

(b) a process to inform surrounding property owners of any works that present a risk to their homes or animals; and

(d) a formal Complaint Investigation and Response Plan that shows how any complaint is to be recorded and investigated. Details of the CMP shall include the nomination of responsibilities to individuals, establishment of reporting protocols and procedures to investigate and report on complaints.

(d)(e) contact numbers for the facility, including:

(a) a liaison officer for contact by residents and the responsible authority in the event of relevant queries or problems experienced; and

(b) an emergency contact that is available for 24 hours per day for residents and the Responsible Authority in the event of urgent queries or problems experienced;

1213 The EOMP must be reviewed every three years by the facility operator and any consequential amendments to the EOMP must be submitted to and approved by the responsible authority.

Landscaping and maintenance

1314 Prior to the commencement of works, a detailed landscape plan for the site must be submitted to, approved by, and be implemented to the satisfaction of the responsible authority. The plans must be generally in accordance with the AECOM Landscape Planting Plan Sheet Number 60558397-LA-L102 REV B, 23.07.18, and drawn to scale with dimensions

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and three copies must be provided. The landscape plan must be drawn to scale with dimensions and must include:

(a) survey showing all existing vegetation (greater than 1,200mm diameter) including botanical names of all trees and vegetation to be removed;

(b) a schedule of all proposed trees, shrubs and ground covers, including the location, number and size at maturity of all plants, the names of such plants and the location of all areas to be covered by grass, lawn or other surface materials as specified. The schedule must, where possible, propose the use of indigenous eucalypt species instead of Acacia species;

(c) details of all proposed permanent vegetation buffers that demonstrate that the species selected, spacing of plantings and the maturity of plantings are appropriate to provide visual screening, to the satisfaction of the responsible authority;

(d) the landscaping screening on the Baringhup-Havelock Road boundary of the Subject Land (from Green Lane and to the identified native vegetation) to demonstrate to be shown to a minimum of 3 metres in width and trees to be at least 3 metres high at planting and 4 metres at maturity;

(e) the Utility Zone Planting to show a ~~50% proportion of 3 metres height at planting and~~ a minimum of 8 metres in height at maturity in the landscape buffer to achieve immediate visual screening of the renewable energy facility utility zone from key view lines;

(f) details of any permanent vegetation buffers, species selected, spacing of plantings and the proposed off-site screening for 51 Dudleys Road, Baringhup, will provide sufficient screening and demonstrate to be shown to a minimum of a 3 metres high;

(g) the landscaping screening for the interface from of the Subject Land to demonstrate to 135 Baringhup Road, Baringhup ~~landscape to a height of a minimum of 3 metres in width and trees to be at least 3 metres high at planting and 4 metres at maturity to provide an ongoing for screening of the dwelling at 135 Baringhup Road, Baringhup~~that achieves screening of near views to solar panels from the front of the dwelling without compromising longer views to distant landscape features; and

(h) include details of:

(a) soil preparation techniques;

(b) landscape maintenance period of five years; and

(c) watering requirements during establishment.

~~14~~15 The landscape plan must include a ~~five year~~ maintenance and monitoring program for the life of the facility to ensure the ongoing health of the landscaping and include details to ensure that:

(a) weed management and the replacement of dead or diseased plants; and

(b) any dead, diseased or damaged plants must be replaced in accordance with the endorsed landscape plan.

~~15~~16 The endorsed landscape plan must not be altered or modified without the written consent of the responsible authority.

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~~16~~17 Prior to the installation of the solar panels, landscaping works shown on the endorsed landscape plan must be completed and then maintained to the satisfaction of the responsible authority.

Septic Systems

~~17~~18 All effluent from the septic system must be dispersed to a pump out tank system certified in accordance with AS/NZS 1546.1 and suitably sized for the application in accordance with AS/NZS 1547 (as amended).

~~18~~19 The effluent contained within the septic holding tank(s) must be pumped into a sewage-sludge truck and transported and discharged to an approved sewer main access hatch or licensed sewerage plant for treatment in accordance with the EPA Code of Practice – Onsite Wastewater Management, Publication 891.4.

~~19~~20 The pump out tank must be fitted with an alarm system which alerts the premises occupier when the septic holding tank is 80 percent full and requires pumping out, in the event the tank fills more quickly than the pump-out schedule.

~~20~~21 A suitable maintenance and risk management plan for the pump out tank system must be prepared and implemented to the satisfaction of the responsible authority.

~~21~~22 All temporary ablution facilities must be located from any water features in accordance with the EPA Code of Practice – Onsite Wastewater Management, Publication 891.4, and to the satisfaction of the responsible authority.

Noise

~~22~~23 Noise emitted from the premises must not exceed the recommended levels as set out in Noise from Industry in Regional Victoria (EPA Publication 1411, 2011).

Infrastructure

~~23~~24 Prior to the commencement of any construction works associated with the development, detailed access and drainage plans with computations must be submitted to the responsible authority for approval. When approved, the plans will be endorsed and will then form part of the permit. The plans, which must be designed in accordance with Council's Infrastructure Design Manual (**IDM**), must include:

(a) details and computations of how the works on the land are to be drained, including drains conveying stormwater to the legal point of discharge;

(b) details of how the drainage design allows for the continuation of existing overland flow paths across the land;

(c) documentation demonstrating approval from the relevant authority for the legal point of discharge;

(d) details of the main entrance to site from Baringhup Road to the standard shown in the IDM (SD265), including details of how the vehicle crossing to this entrance will be constructed and sealed. Construction of this entrance must be completed to the satisfaction of the responsible authority prior to commencing internal works or receiving heavy vehicles;

(e) carparking areas, circulation lanes and access shall be designed and constructed in accordance with AustRoads Publication 'Guide to Traffic Engineering Practice: Part 11 Parking,' 'Australian Standard AS2890.1-2004 (Off Street Parking)' & 'AS2890.6 (Off Street Parking for People with Disabilities);

(f) details of how any lighting within the site is designed, baffled and located to effectively illuminate all pertinent onsite public areas, without spilling onto the road reserve or adjoining land. The lighting must be connected to a time clock switch or other approved system to the satisfaction of the responsible authority; and

(g) details of the boundary fencing of the land.

~~24~~25 Prior to any construction in the road reserve a Minor Works in the Road Reserve Permit must be obtained from the Responsible Road Authority. This permit will include an asset protection bond paid to the Responsible Road Authority.

~~25~~26 All parking spaces and internal roads must be designed to allow all vehicles to drive forward both when entering and leaving the property.

~~26~~27 Parking spaces, access lanes and driveways must be kept available for these purposes at all times. Following commencement of the use only allocated parking spaces may be used to park vehicles. No vehicle on the site is permitted to park outside of an allocated parking space on the site.

~~27~~28 Before the use commences and/or any building is occupied all internal access roads must be constructed, formed and drained to avoid erosion and to minimise disturbance to natural topography of the land to the satisfaction of the responsible authority.

~~28~~29 No excavated or construction materials may be placed or stored outside the site area or on the adjoining road reserves, unless agreed otherwise by the responsible authority.

Waterway and Floodplain Management Plan

~~29~~30 Prior to the commencement of any construction works associated with the development, a detailed hydrology survey of surface water and Waterway and Floodplain Management Plan must be prepared for the land by a suitably qualified person and submitted to and approved by the responsible authority and North Central Catchment Management Authority, and it must satisfactorily show:

(a) a detailed survey of the existing catchment boundary to the two wetlands depicted on Drawing No. 0387D2201-06 dated 15 May 2019;

(b) analysis of the existing pre-development surface water conditions - on the land, including the volume and rate of surface water flows to the wetlands; and

(c) modelling of predicted surface water flows to demonstrate that use and development of the land will not alter the volume and rate of flow from the existing catchment area to the wetlands.

Traffic and Access

~~30~~31 Prior to the commencement of works, a Traffic Management Plan (**TMP**) must be prepared for the construction of the use and submitted to, approved by, and be implemented to the satisfaction of the responsible authority. The

TMP must include but not be limited to the following:

(a) measures required for the protection of private, Council and VicRoads assets (streets, footpaths, laneways and reserves);

(b) heavy vehicle movements where access to the site for construction vehicle traffic will occur;

(c) measures regarding the use of the emergency access to the site, as depicted on the endorsed plans, from Baringhup West Road;

(d) measures to ensure conflicts between cyclists and construction activities are managed; and

(e) details of any road or lane closures and crane operations.

~~31~~32 Deliveries to and from the site for all commercial vehicles, including waste collection, must only take place between 7am and 6pm Monday to Friday. No deliveries to or from the site, including waste collection, must take place on weekends or public holidays unless otherwise agreed in writing by the responsible authority.

~~32~~33 Access to and egress from the site for all commercial vehicles, including waste collection, must only be from the proposed 'access point' on Baringhup Road, Baringhup depicted in the endorsed plans.

~~33~~34 Pre and post construction condition surveys of all Council-managed roads on designated delivery routes must be carried out. The surveys must note and record (using appropriate visual imagery):

(a) the condition of the pavement and shoulders;

(b) any failed, weak, damaged, worn or notable areas of pavement or shoulder;

(c) any areas where the condition of shoulders are considered inadequate; and

(d) any bridges, culverts or waterway/creek crossings.

~~34~~35 Reports on the results of the pre and post construction surveys carried out under condition 31 must be submitted to the responsible authority for approval. Pre-inspection reports must be submitted prior to the commencement of construction works. Post-inspections report must be submitted within 3 months of the completion of construction works.

~~35~~36 Baseline road conditions established aby the pre-inspection survey must be maintained throughout the construction period.

~~36~~37 Any damage to local infrastructure (i.e. Council assets roads, table drains etc.) caused by or exacerbated by construction traffic must be repaired by the owner/occupier to the satisfaction of and at no cost to the responsible authority.

~~37~~38 Before the use begins, the applicant or owner must construct any traffic management works identified in the Traffic Management Plan. The cost of such works shall be fully met by the owner. Any changes proposed to works in this report must be referred to the responsible authority for approval prior to substitution.

39 Prior to construction commencing, vehicle crossings as shown on the endorsed plan must be constructed and sealed to the standards of Council's Infrastructure Design Manual, and to the satisfaction of the responsible authority. The final location of the crossings are to be generally in accordance with the endorsed plans and approved by the responsible

Authority via a "Consent to Work within the Road Reserve", prior to the undertaking of works.

~~38~~40 Primary access and egress from the property must only be from Baringhup Road, Baringhup as depicted in the endorsed plan. Vehicle access and egress from the property must take place in a forward direction at all times.

~~39~~41 All loading and unloading of vehicles must at all times be undertaken within the curtilage of the site, unless otherwise agreed in writing by the responsible authority.

~~40~~42 Prior to the commencement of the use, vehicle access ways, parking areas and maneuvering areas as shown on the endorsed plan(s) must be constructed to an all-weather standard, drained to prevent diversion of flood or drainage waters, and be maintained to the satisfaction of the responsible authority. Any security gate, barrier or similar device controlling vehicle access to the premises must be located a minimum of six metres inside the property to allow vehicles to steer clear of pavements and footpaths.

~~41~~43 All vehicular entrances to the site from the road must be constructed at a location and of a size and standard satisfactory to the responsible authority. The vehicle crossing(s) must be constructed at the owner's expense to provide ingress and egress to the site to the satisfaction of the responsible authority.

Conditions from Department of Environment, Land, Water and Planning (as constituted under Part 2 of the *Conservation, Forests and Lands Act 1987*)

Notification of permit conditions

~~42~~44 Before works start, the permit holder must advise all persons undertaking works of the environmental conditions, including vegetation protection conditions, of the planning permit. A copy of the planning permit is to be made available to all employees working on the project.

Protection of potential Striped Legless Lizard habitat.

~~43~~45 Micro-siting of access tracks adjoining areas of Striped legless-lizard habitat must provide a buffer to these areas of at least 5 metres and, where possible, up to 15 metres.

Protection of native vegetation to be retained

~~44~~46 Before works start, a native vegetation protection fence must be erected around all native vegetation to be retained within 15 metres of the works area. This fence must be erected at:

(a) A radius of 12 times the diameter of the tree trunk at a height of 1.4 metres to a maximum of 15 metres but no less than 2 metres from the base of the trunk of the tree; and

(b) Around the patch(es) of native vegetation at a minimum distance of 2 metres from retained native vegetation.

The fence must be constructed of star pickets and paraweb or similar, to the satisfaction of the responsible authority following consultation with the Department of Environment, Land, Water and Planning (**DELWP**), as appropriate. The protection fence must remain in place until all works are completed to the satisfaction of the responsible authority. Existing farm fencing that is located around native vegetation identified for retention may be utilised as vegetation protection fencing provided appropriate "no-go

zone" signage/flagging being placed on it.

~~45~~47 Except with the written consent of the responsible authority following consultation with DELWP , the following is prohibited within the area of native vegetation to be retained and any tree protection zone associated with the permitted use and/or development:

(a) vehicular or pedestrian access;

(b) trenching or soil excavation;

(c) storage or dumping of any soils, materials, equipment, vehicles, machinery or waste products;

(d) construction of entry and exit pits for underground services; or

(e) any other actions or activities that may result in adverse impacts to retained native vegetation.

Native vegetation offsets

~~46~~48 To offset the removal of ~~x~~ **0.384** hectares of native vegetation the permit holder must secure a native vegetation offset(s) that meets all the following:

(a) a general offset of 0.070~~x~~ general habitat units located within the North Central Catchment Management Authority boundary or Mt Alexander Shire Council municipal district;

(b) have a Strategic Biodiversity Value score of at least 0.~~xxx~~**175**;

(c) provide protection for at least 5~~x~~ large trees; and

(d) is in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017).

Offset evidence

~~47~~49 Before any native vegetation is removed, evidence that the required offset for the project has been secured must be provided to the satisfaction of the responsible authority. This evidence must be:

(a) an established first party offset site. This must include:

(a) a security agreement signed by both parties, and

(b) a management plan detailing the 10-year management actions and ongoing management of the site;

to the satisfaction of the Department of Environment, Land, Water and Planning and approved by the Responsible Authority.

Every year, for ten years, after the responsible authority has approved the offset management plan, the applicant must provide notification of the management actions undertaken towards implementing the offset management plan, to the department. An offset site condition statement, including photographs must be included in this notification;

and/or

(b) credit extract(s) allocated to meet the requirements of the permit from the Native Vegetation Credit Register.

A copy of the offset evidence must be endorsed by the responsible authority and form part of this permit.

Within 30 days of endorsement of the offset evidence by the responsible authority, the permit holder must provide a copy of the

endorsed offset evidence to the Department of Environment, Land, Water and Planning at loddonmallee.planning@delwp.vic.gov.au.

Wildlife Management Plan

~~48~~50 Prior to commencement of works a 'Wildlife Management Plan' must be submitted to, approved by and be to the satisfaction of the responsibility authority, following consultation with DELWP (as appropriate). The plan must be implemented during the pre-construction, construction and post-construction phases of the project, and contain but not be limited to:

(a) salvage and translocation of threatened flora and fauna species and ecological -communities;

(b) methods to mitigate impacts on native fauna during construction;

(c) methods to handle and relocate any wildlife at risk of impact during construction including potential areas for relocation;

(d) methods to mitigate the need for wildlife control during operation of the facility (addressing both threatened species and non-threatened species such as kangaroos and white cockatoos);

(e) process and timing of reporting of any inadvertent impacts to DELWP; and

(f) advice to all onsite staff and monitoring personnel of correct procedure for assisting injured wildlife. Contact details of local veterinary staff and wildlife carers must be provided to ensure any injured wildlife found that cannot be released back to the wild are treated accordingly and in a timely manner. Injured wildlife procedure must include an experienced and licensed wildlife carer and/or ecologist be present to supervise works and capture and relocate fauna if necessary.

Recommended conditions from the Country Fire Authority (CFA)

~~49~~51 Prior to the commencement of the use, an Emergency and Fire Management Plan that is consistent with the requirements of *AS 3745: Planning for emergencies in facilities* must be prepared, submitted to and approved by the responsible authority following consultation with DELWP and the ~~Country Fire Authority (~~CFA~~)~~ (including local brigades) as appropriate. When approved, the Plan will be endorsed and form part of this permit. The emergency and fire management plan must include:

(a) emergency prevention, preparedness and mitigation activities;

(b) activities for preparing for, and prevention of, emergencies (e.g., training and maintenance);

(c) control and coordination arrangements for emergency response (e.g., evacuation procedures, emergency Assembly Areas and procedures for response to hazards);

(d) the agreed roles and responsibilities of on-site personnel (e.g., equipment isolation, fire brigade liaison, evacuation management);

(e) facility description, including infrastructure details, activities and operating hours;

(f) a site plan containing infrastructure (solar panels, wind turbines, inverters, battery storage, generators, diesel storage, buildings), site entrances, exits and internal roads; fire services (water tanks, fire

hydrants, fire hose reels); and neighbouring properties;

(g) up-to-date contact details of site personnel, and any relevant off-site personnel that could provide technical support during an emergency;

(h) a manifest of dangerous goods (if required under the Dangerous Goods (Storage and Handling) Regulations 2012);

(i) emergency procedures for credible hazards and risks, including fire;

(j) procedures for notifying the emergency services;

(k) procedures for evacuating personnel;

(l) risk management measures specific to fire; and

(m) a fuel (vegetation) reduction and maintenance plan/procedure.

Provision of emergency information

~~50~~52 Prior to the commencement of the use and development, an Emergency Information Container must be provided at the Baringhup Rd entrance to the site and the emergency access of Baringhup Rd West Rd, each containing an emergency information book consisting of:

(a) a description of the premises, its infrastructure and operations;

(b) site plans that include the layout of the entire site, including buildings, internal roads, infrastructure, fire protection systems and equipment, dangerous goods storage areas, drains and isolation valves, neighbours and the direction of north;

(c) up-to-date contact details for site personnel, regulatory authorities and site neighbours;

(d) a manifest of dangerous goods (if required) as per Schedule 3 of the Dangerous Goods (Storage and Handling) Regulations 2012;

(e) safety Data Sheets for all dangerous goods stored on-site; and

(f) procedures for management of emergencies, including evacuation, containment of spills and leaks, and fire procedures.

~~51~~53 The Emergency Information Container must be:

(a) painted red and marked 'EMERGENCY INFORMATION' in white contrasting lettering not less than 25mm high;

(b) located at all vehicle access points to the facility, installed at a height of 1.2m – 1.5m; and

(c) accessible with a fire brigade standard '003' key.

Site infrastructure

Access

~~52~~54 Adequate access to and within the facility will assist CFA in responding to and managing fires on site. To enable access for fire appliances, CFA requires that the following provisions be considered:

~~53~~55 A perimeter track of no less than four (4) metres width must be constructed within the ten (10) metre perimeter fire break.

~~54~~56 The perimeter access track and constructed internal access tracks are to be of all-weather construction and capable of accommodating a vehicle of 15 tonnes.

~~55~~57 Constructed internal access tracks should be a minimum of 4 metres in

trafficable width with a four (4) metre vertical clearance for the width of the formed roadsurface.

~~56~~58 The average grade of internal access tracks should be no more than 1 in 7 (14.4% or 8.1°) with a maximum of no more than 1 in 5 (20% or 11.3°) for no more than 50 metres.

~~57~~59 Dips in any internal access track road should have no more than a 1 in 8 (12.5% or 7.1°) entry and exit angle.

~~58~~60 Passing bays must be incorporated at least every 600m which must be at least 20m long and have a minimum trafficable width of 6m, or such other solutions be implemented to the satisfaction of the responsible authority such that turning circles with a radius of at least 10m is provided at the end of an internal access track. Where roads are less than 600m long, at least one passing bay is to be incorporated;

~~59~~61 The network of internal access tracks must enable responding emergency services to access all areas of the facility.

~~the provision of at least two but preferably more access points to the site, to ensure safe and efficient access to and egress from areas that may be impacted or involved in fire. The number of access points should be informed through a risk management process.~~

Fire fighting water supply

~~60~~62 Static water storage tank installations are to comply with AS 2419.1 and the following conditions to the satisfaction of the responsible authority following consultation with CFA (as appropriate):

(a) the static water storage tank shall be of not less than 45,000 litres effective capacity. The static water storage tank(s) must be an above ground water tank constructed of concrete or steel. The location and number of tanks should be determined as part of the site's risk management process and in consultation with a CFA Delegated Officer;

(b) the static storage tanks shall be capable of being completely refilled automatically or manually within 24 hours;

(c) the hard-suction point shall be provided, with a 150mm full bore isolation valve, (Figure 1) equipped with a Storz connection, sized to comply with the required suction hydraulic performance. Adapters that may be required to match the connection are, 125mm, 100mm, 90mm, 75mm, 65mm Storz tree adapters (Figure 2) with a matching blank end cap to be provided;

(d) the hard-suction point shall be positioned within 4m to a hardstand area and provide a clear access for fire personnel;

(e) an all-weather road access and hardstand shall be provided to the hard-suction point. The hardstand shall be maintained to a minimum of 15 tonne GVM, 8m long and 6m wide or to the satisfaction of the responsible authority following consultation with the CFA (as appropriate);

(f) the road access and hardstand shall be kept clear at all times.

(g) the hard-suction point shall be protected from mechanical damage (i.e. bollards) where necessary;

(h) where the access road has one entrance, a 10m radius-turning circle

shall be provided at the tank;

(i) an external water level indicator is to be provided to the tank and be visible from the hardstand area;

(j) signage shall be fixed to each tank indicating the effective capacity (in litres) of the tank and be labelled "Fire Water;

(k) signage **(Figure 4)** shall be provided at the front entrance to the site, indicating the direction to the static water tank and being to the satisfaction of CFA.

Dangerous Goods Storage and Handling

~~61~~63 The use and development must comply with the requirements of the relevant Australian Standards, e.g. (DR) AS 5139: *Electrical installations – Safety of battery systems for use with power conversion equipment*, AS 3780: *The storage and handling of corrosive substances;* and AS 1940: *The storage and handling of flammable and combustible liquids must be to the satisfaction of the responsible authority*, to the satisfaction of the responsible authority, including that:

(a) Signage and labelling compliant with the Dangerous Goods (Storage and Handling) Regulations 2012, and the relevant Australian Standards is to be provided;

(b) All dangerous goods stored on-site must have a current Safety Data Sheet (SDS). Safety Data Sheets are to be contained within the site's Emergency Information Book, in the Emergency Information Container; and

(c) Appropriate material (including absorbent, neutralisers, equipment and PPE) must be provided on-site for the clean-up of spills.

Site Operation

Operation and Maintenance of Facilities

~~62~~64 Maintenance and repair activities that involve flame cutting, grinding, welding or soldering (hot works) are to be performed under a 'Hot Work Permit' system or equivalent hazard or risk management process, to the satisfaction of the responsible authority.

Fuel / Vegetation Management

~~63~~65 The operator of the solar energy and energy storage facility must undertake the following fuel management measures during the Fire Danger Period to the satisfaction of the responsible authority:

(a) grass is to be maintained at below 100mm in height during the declared Fire Danger Period;

(b) a fire break area of ten (10) metres width is to be maintained around the perimeter of the facilities, electricity compounds and substations. This area is to be of non-combustible mulch or mineral earth;

(c) the fire break area must commence from the boundary of the land or from the vegetation screening (landscape buffer) inside the property boundary;

(d) the fire break must be constructed using either mineral earth or non-combustible mulch such as crushed rock;

(e) the fire break must be vegetation free at all times;

(f) ensure no obstructions within its control are within fire break area; adhere to restrictions and guidance during the Fire Danger Period, days of high fire danger and Total Fire Ban days (refer to www.cfa.vic.gov.au);

(g) all plant and heavy equipment is to carry at least a 9-litre water stored-pressure fire extinguisher with a minimum rating of 3A, or fire-fighting equipment as a minimum when on-site during the fire danger period; and

(h) there is to be no long grass or deep leaf litter in areas where plant and heavy equipment will be working.

Expiry

~~64~~66 This permit will expire if any of the following circumstances apply:

(a) the permitted development is not started within three years of the date of this permit;

(b) the development is not completed within four years of that date;

(c) the permitted use is not started within two years of the completion of the development; and

(d) the use is discontinued for a period of two years.

~~65~~67 The responsible authority may extend these periods if a request is made in writing by the owner or the occupier of the land to which the permit applies:

(a) before the permit expires; or

(b) within six months of the permit expiring, if:

(a) the development has not been started; or

(b) the development is complete but the use has not started;

(c) or the use has been discontinued for a period of two years.

(c) within twelve months of the permit expiring if the development commenced in accordance with the permit before it expired.