Bookaar Solar Farm

Landscape and Visual Impact Statement: Review of Changes

FINAL

22 July 2021

Bookaar Renewables Pty Ltd

Bookaar Solar Farm

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Contents

1. Introduction

Purpose

Jacobs has been engaged by Bookaar Renewables Pty Ltd (the 'Proponent') to provide an assessment of the potential Landscape and visual impacts for a new proposed solar farm (the 'Proposal') on land at 520 Meningoort Road, Bookaar (the 'Site'). This report provides a landscape and visual assessment with regard to the Solar Energy Facilities – Design and Development Guideline issued by DELWP in 2019, with the benefit of having provided an Expert Witness Statement (the 'EWS') for a Victorian Civil and Administrative Tribunal (VCAT) hearing (Bookaar Renewables Pty Ltd v Corangamite SC [2019] VCAT 1244), in relation to a past proposal for a solar farm (the 'Previous Application') located on the same site, within the same development footprint, of the same scale (200 MWac).

Background and Previous Assessment

A Previous Application for a solar farm at the Site was the subject of a 2019 VCAT hearing, following the refusal of a planning permit application by the Corangamite Shire Council in 2018. The Proponent engaged Jacobs to provide an EWS for the VCAT Hearing, which reviewed the Landscape and Visual Assessment for the Previous Application (Tract, 2018) and undertook further detailed assessment. The LVIA and EWS for the Previous Application are provided in Appendix B.

With respect to Landscape and Visual Impacts the VCAT Tribunal concluded that the visual impacts associated with the Previous Application, which included an assessment of potential off-site amenity impacts due to glint and glare, and the loss of native vegetation, were acceptable and would not bring about an unacceptable change in views, visual impact or a change in the landscape character of the area.

This was consistent with the EWS which concluded that the Previous Application would not pose an unacceptable impact on the regional or local landscape, stating that:

> '…..*the panels which have been modelled at four meters in height, sit low within the landscape and will not be visually prominent. 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 view is at such a distance that the panels will not be a dominant feature in the view*' [1].

However, ultimately the VCAT hearing for the Previous Application was unsuccessful, noting that the decision was not based on landscape and visual matters. In response to the VCAT decision, the Proponent has decided to submit a fresh application addressing the deficiencies identified in the VCAT decision, in particular, providing more detail on the location of infrastructure within the Site, and incorporating the findings of a bushfire risk assessment and a hydrology assessment into the final design. This process has resulted in a refinement of the Previous Application requiring a small number of changes to the design of the Proposal, which are discussed in detail in Section 5. Importantly, with respect to the visual assessment, the proposed activity remains the same, the development is proposed over the same time frame of 30 years, and it is designed entirely within the same footprint as the Previous Application.

[1] Bookaar Solar Farm, Bookaar Renewables Pty Ltd, Expert Witness Statement, Visual Impact, Landscape and Visual Impact Assessment, FINAL, May 28, 2019, Page 53.

1.1 Report Methodology

This report will:

- Summarise the key findings of the Tribunal concerning visual impact, landscape character and heritage values;
- Review the changes made to the plans associated with Planning Permit Application No P2390/2018 and, the plans for the new Proposal;
- Review any changes to the planning scheme and guidelines that may be relevant to the new Proposal;
- Describe any changes to views and visual impact resulting from the amended plans or newly introduced policies; and
- Review the new Proposal against the new DELWP guidelines *Solar Energy Facilities Design and Development Guidelines, July 2019* (the Guideline).

1.2 Assumptions and limitations

This report does not consider any changes to the landscape setting and views, as a result of vegetation clearing, areas of new plantings or growth of existing plantings that may have occurred since visits to the Site (undertaken June 2019) and surrounds as part of Planning Permit Application P2390/2018.

2. New Proposal (2020 Application)

The Proposal involves the installation of a solar energy facility with a capacity of 200 MWac (282 MWdc). The Proposal includes the following elements (see the 'Site Plan'):

- 'Array Areas', containing Photovoltaic (PV) panels mounted on a single axis tracking system with a maximum height of 4 m above natural ground at maximum tilt. The tracking system would be supported by piles driven into the ground. Row spacing is either 12.75 m or 13 m (pile to pile);
- 82 inverters located centrally throughout the Site in pairs at 41 locations across the Site (inverter stations). Inverter stations are located at least x m from the Site boundary;
- Below ground cabling connecting the PV panels between trackers and inverters;
- Below ground cabling connecting the inverters to the substation;
- An internal track network of all-weather gravel tracks (4 m), including a perimeter track which forms part of a 10 m wide defendable Asset Protection Zone (APZ) that surrounds the Site;
- Four (4) gated main site access points via Meningoort Road;
- Four (4) gated emergency access points along the western boundary of the Site;
- Eight dedicated water tanks for firefighting (maximum of 3.6m high), located adjacent to each access point;
- A perimeter security fence 2.5 m high (chain mesh);
- Perimeter vegetation screens (20 m wide with 4 rows of trees and maintained to a height of at least 4 m), planted on the outside of the security fencing.
- Agricultural style fencing 1.2 m high around the perimeter of the vegetation screens and the perimeter of existing vegetation along the Site's western boundary;
- A SCADA system that will gather, monitor and analyse data generated through operating the Proposal;
- On-demand, downward facing lighting (restricted to 4m in height); and
- Sensor triggered CCTV security cameras located around the perimeter of the Site and adjacent to key infrastructure.

Substation Area (1.76 ha, see 'Site Plan, Appendix A'):

- Substation connecting the Proposal to the onsite 220KV transmission line, via two (2) new high voltage (HV) 220 kV transmission lines;
- A Control building (3 m high);
- Substation Operations and Maintenance building (up to 5 m high);
- A security fence (chain mesh) up to 2.5 m high, enclosing the Substation;
- A 10 m wide defendable APZ around the perimeter of the Substation; and
- Parking for 5 vehicles.

Battery Area (0.91 ha, see 'Site Plan', Appendices 'A' and 'C')

- A series of separate containerised battery units, connected by underground cables to the Substation (approximately 2.5 m high);
- A separate transformer adjacent to each battery; and
- A 10m defendable APZ around the perimeter of the Battery Area.

Operations Buildings Area (area 0.96 ha, see 'Site Plan, Appendix D'):

- A Site office building including amenities with a height of 3.6 m;

- A maintenance building and workshop with a height of 5 m;
- 3 Storage sheds with a height of 4.1 m;
- Car parking for twelve (12) vehicles;
- A septic tank and potable water tank; and
- A defendable APZ of 20 m, which allows the area to function as the nominated 'Shelter in Place' location (see Bushfire Risk Assessment and Mitigation Plan).

In addition to the key components outlined above, there will be a temporary construction compound (1.44 ha, see the Site Plan) to facilitate the construction phase of the Proposal. The construction compound would include:

- Temporary construction offices (up to 5 m high);
- Car and bus parking areas for construction vehicles (51 workers cars, 5 mini vans; and additional parking space provided for delivery vehicles and construction machinery);
- Staff amenity block including portable toilets, showers and a kitchen, designed for peak staff numbers during the construction period; and
- Laydown areas.

Once the Proposal is operational, the construction compound will be decommissioned and revegetated.

The Proposal has a lifespan of 30 years. Construction would take place over approximately 12 months and require up to 150 construction workers. The operational phase would be approximately 28 years and generate approximately 10 full-time positions nationally, with six positions likely to be based locally. Decommissioning is expected to take 12 months and would require a similar workforce to the construction period. Following decommissioning, all infrastructure associated with the solar farm would be removed from the Site.

Features of the Proposal that are relevant to visual impact and landscape character are described in Section 4.

The following section reviews the key findings from VCAT Hearing P2390/2018 concerning the re-assessment of the visual impacts of the Proposal.

3. Considerations and findings of the VCAT Tribunal

The concerns of the local community were considered in detail by the VCAT Tribunal. The following section reviews key landscape and visual impact considerations for the Previous Application that may be relevant to the re-assessment of the visual impacts of any new proposal at the site. VCAT Tribunal key issues relevant to landscape and visual impacts are set out from paragraph 24 of the Tribunal's Report. The following is an extract of the report on these key issues for visual impact:

> *'Whether the proposal's visual impact is acceptable in terms of the public and private realms. This includes specific views, vistas, the broader landscape, residential and farming properties within the vicinity of the subject land, as well as views painted by important landscape artist Eugene Von Gerard some 150 years ago.'*

Paragraphs 66-68 of the Tribunal Report addresses the *Draft Solar Energy Facilities Design and Development Guidelines* (the 'Guidelines') and discusses in part the role of the Guidelines in selecting suitable sites for solar farms similar in nature to this Proposal. On this, the Tribunal notes that:

> *Some parties submit the site does not meet all of the criteria set-out in the then Draft Solar Farm Guidelines, however there is not a need or mandatory requirement for every site to be determined to fit 'ideal' criteria.*

At paragraph 68 The Tribunal states:

> *There is no 'checklist' identifying all of the site features make a site appropriate for a solar energy facility. A site's strategic and specific circumstances must be assessed, with opportunities, constraints and impacts being identified. The scheme provisions and policies set out the matters we must consider. The types of considerations in the draft Solar Guidelines align with these.*

The Tribunal's considerations towards visual and landscape considerations and views painted by Eugene Von Gerard are set-out at paragraphs 130 through 162 of the Tribunal's Report. The Tribunal's findings on these matters are discussed in paragraphs 163 through 203.

With regard to landscape impacts, the primary focus of the opponents to Planning Permit Application No. P2390/2018 was the potential for the proposed development to negatively impact on the amenity of the area, views of significant landscapes and views from nearby residential dwellings. In relation to these concerns, the Tribunal stated in their findings that:

> *'We are not persuaded that a permit should be refused because of concerns that the solar facility is at odds with the rural character and ambience…*and that *…the visual impact is not unacceptable and will not intrude unreasonably on the features in SLO1'* (para. 188).

The findings of the Tribunal concerning features identified by SLO1 of the Corangamite Shire Planning Scheme are relevant to the submitter's concerns regarding impacts to landscape character and views towards significant landscapes. It is the purpose of SLO's specifically to identify landscape features that are significant or unique, describe their uniqueness and to provide guidance to protect these features.

The following sections summarise key findings in the Tribunal's report for the Previous Application that are pertinent to a review of any proposed amendments to a solar farm at the Site, in this case, the (new) Proposal.

3.1 Impact to Landscape Character

The fundamental concern raised in opponent's submissions was the potential for the solar farm proposed by the Previous Application to negatively impact on the amenity of the area and views of significant landscapes. These locations include landscape features, and views that are identified in the South West Victorian Landscape Assessment, June 2013 (SWLVAS), and natural features such as volcanic rises and lakes that are situated within area noted by Significant Overlay's (SLO's) within the Corangamite Planning Scheme.

The Tribunal noted:

> *for such a large facility, opportunities to see it from the public realm are limited to the local road network, the Darlington Road, and elevated viewpoints associated with volcanic cones'* (VCAT Report, para. 163).

Key findings and observations made by the Tribunal from these areas are set out below.

Views from Darlington Road:

- *'Notwithstanding the substantial length of the facility, the facility would not have an unreasonable visual impact. This is because of the low profile of the solar arrays and the distance between the viewer and the facility. While Mr Burge's evidence is that the impact is acceptable without perimeter landscape screening, we accept with* [sic] *his opinion that proposed vegetation would reduce the visibility of the facility over time'* (Para. 167).
- *'The solar energy facility and its landscaping will appear as a foreground element to Mt Meningoort. The breadth of the facility will be understood. However, this does not equate to an unacceptable degree of prominence or intrusion so as to adversely affect or undermine the values attributed to the SLO1. We do not consider the proposal would detract from the tourist experience in a significant way'* (Para. 168).
- *'We further accept Mr Burge's assessment that, to the extent that infrastructure such as a substation would be seen, it would not be a dominant or unacceptable visual intrusion'* (Para. 169).

In views from Park Lane:

> *'We accept Mr Burge's assessment that although the solar facility may be visible, it will not be a dominant element. Proposed landscaping would further filter views and limit visibility over time'* (Para. 171).

In views from Mt Leura:

> *'The proposed facility will not be a substantial element in this broader context and panorama. We agree with Mr Burge that it would appear as part of the diverse agricultural landscape which changes seasonally depending on the agricultural regime'* (Para. 174), and that *…'while a foreground element to the volcanic cone of Mt Meningoort, we do not consider the low-lying but wide development is such an intrusion and distraction in the views and landscape so as to conclude the outcome is unacceptable'* (Para. 175).

In views from Lake Gnotuk and Bullen Merri Lookout:

> *'We agree with Mr Burge that, from this point, the proposed development would not be visible. Therefore, it would not compete with key views towards these features. Views to the north towards the subject land are screened by existing topography and vegetation'* (Para. 178).

3.2 Impact on Private realm views

The Tribunal, in assessing the impacts to private realm views, stated:

> '*The impacts on residential amenity and outlook do not warrant refusal of a permit. We accept Mr Burge's analysis that the proposed landscape plantings around the site boundary will mitigate views that could be gained from dwellings east and south of the subject land*' (Para. 187).

3.3 Meningoort Homestead/ Eugene Von Gerard

In relation to the change in views captured in a painting by Eugene Von Gerard, the Tribunal's findings were that:

> '*We do not accept submissions that the proposed development will negatively impact on the Heritage Overlay or SLO1 (Mt Meningoort). We are unable to agree that the proposed development will adversely affect the integrity of the heritage place and its setting. Just because the solar facility could be seen, to varying degrees from the heritage-listed land and place, this does not equate to an unacceptable [sic] adverse [sic] effect on the place* ' (Para. 202).

This position is supported by the following statements:

- *'The view from this location is altered from the image painted by Von Gerard, with matured trees and paddocks beyond.*
- *The iconic Von Gerard view, and views from the Mt Meningoort volcanic cone, are from the mountain slope behind the dwelling and are not generally available to the public. The limited public access is a relevant consideration*.
- *The solar energy facility would be masked from this location, by the plantings on the Meningoort property.*
- *Closer to the gardens immediately associated with the Homestead the solar energy facility would not be obvious or dominant. It would be effectively masked by vegetation'* (Para. 203).

3.4 Buffer width and planting

Planning Permit s Application P2390/2018 proposed a 20 m wide landscape screen to filter views to the Site from sensitive viewing locations. The landscape screening plan proposed native species to be installed as tube stock in up to seven rows. The EWS concluded that four rows of trees would be sufficient. It was put forward by opponents that the landscape buffer should be of 50 m in width to match existing plantings found elsewhere at Meningoort Homestead.

In relation to landscape screening, the Tribunal stated in their findings that:

- *'We are satisfied that landscaping within a 20 metre wide buffer, as proposed, is acceptable and sufficient. We have not been persuaded that a 50 metre wide buffer is required to mitigate impacts nor is there a planning reason to match landscape belts on the balance of the Meningoort property'* (Para. 191).
- *'We agree with Mr Kern that tube stock be used. That could take the form of four or seven rows, but a minimum of four appears appropriate when assessing the information and evidence'* (Para 193).

Based on the above review of the Tribunal's findings, it is apparent that a review of a revised proposal for a solar farm at the same site as the Previous Application must consider the extent of the project footprint, the height of the proposed panels, the location of key infrastructure and the provision of landscape screening comprising 20 m in width and a minimum of four rows of trees external to the perimeter fencing and within the Site's boundaries.

4. Review of key Project features

This section will review the key features of this new Proposal against those of the Previous Application which formed the basis of the VCAT Tribunal's findings.

The preceding section reviewed the considerations and findings of the VCAT Tribunal for the Previous Application, who were

….'not persuaded that a permit should be refused because of concerns that the solar facility is at odds with the rural character and ambience'. Further, the Tribunal stated that *'the visual impact is not unacceptable and will not intrude unreasonably on the features in SLO1* (Para. 188)….and….*we do not consider the proposal would fundamentally change the rural and agricultural character associated with farmland that sits between cones west of the lakes and wetlands'* (Para. 190).

Key Project Features

The revised application seeks to develop a 200 MWac solar farm approximately 8 km north-west of the centre of Camperdown at 520 Meningoort Road, Lots 51 and 52 and Res1 on LP5677 and adjacent parts of Meningoort Road, Bookaar. The solar farm output, site location, site boundary and specific property details are the same as the Previous Application.

Table 4-1 summarises a comparison of the key features and components of the Previous Application and the refined layout of the new Proposal.

Table 4-1 Key Project features

Planning Permit Application P2390/2018	Revised Proposal
▪ Approximately 700,000 solar panels	▪ Approximately 641,000 solar panels
▪ Overall height of the solar arrays - 4.0 m	▪ Overall height of the solar arrays - 4.0 m
▪ Row spacing of up to 12 m between panel rows	▪ Row spacing of either 12.75 or 13 m between panel rows
▪ Single-axis tracking system	▪ Single-axis tracking system
▪ Onsite substation and battery area	▪ Onsite substation and battery area
▪ Inverters	▪ Inverters
▪ Site office, associated maintenance buildings and parking	▪ Site office, associated maintenance buildings and parking
▪ Access tracks	▪ Access tracks
▪ Culverts at east-west drain	▪ Two (2) prefabricated bridges over east-west drain - 4m w x 12m l x 1.07m h
▪ 20 m wide vegetation screens	▪ 20 m wide vegetation screens
▪ 10 m wide firebreaks	▪ 10 m wide firebreaks
▪ 2.5 m high perimeter fencing	▪ 2.5 m high perimeter fencing
▪ Temporary construction compound and laydown area	▪ Temporary construction compound and laydown area

The overall reduction in the number of solar panels is brought about by the refinement of the design of the Proposal.

4.1 Site layout

This section will review the general site area and configuration of key components as relevant to matters that may bring about a change in views or visual impact between the development proposed under Planning Permit Application P2390/2018 and the new revised Proposal.

A comparison of the development layout of the Previous Application (considered by the Tribunal) and the new Proposal are shown in Figures 4-1 and 4-2.

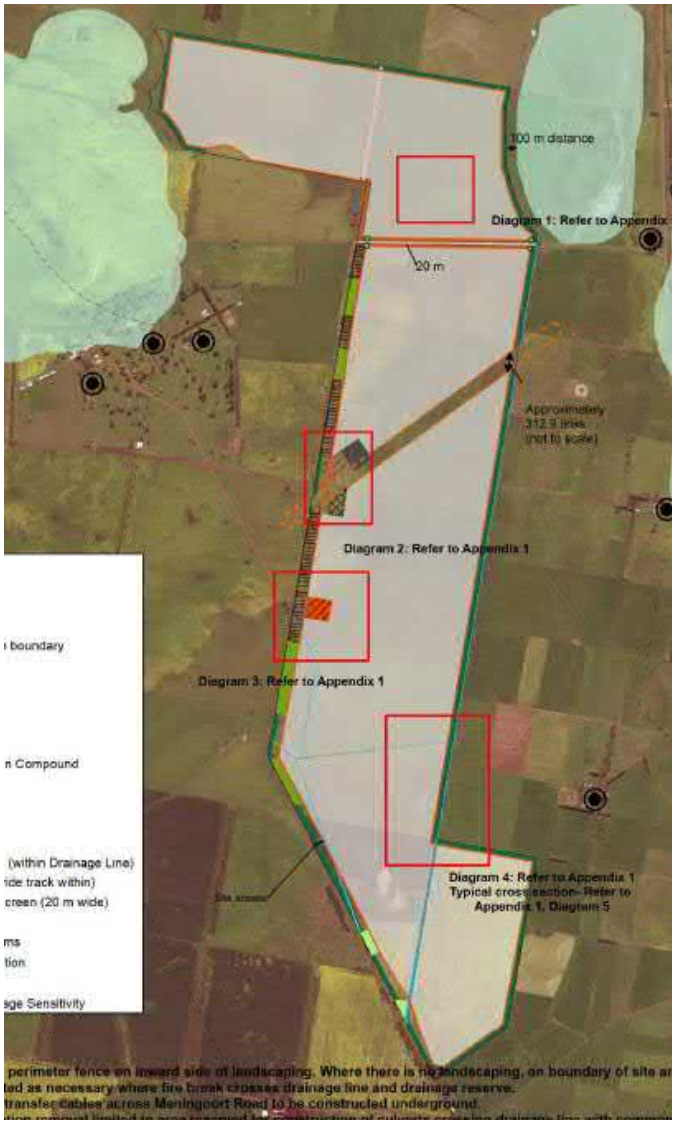

Figure 4-1 Previous Application Layout

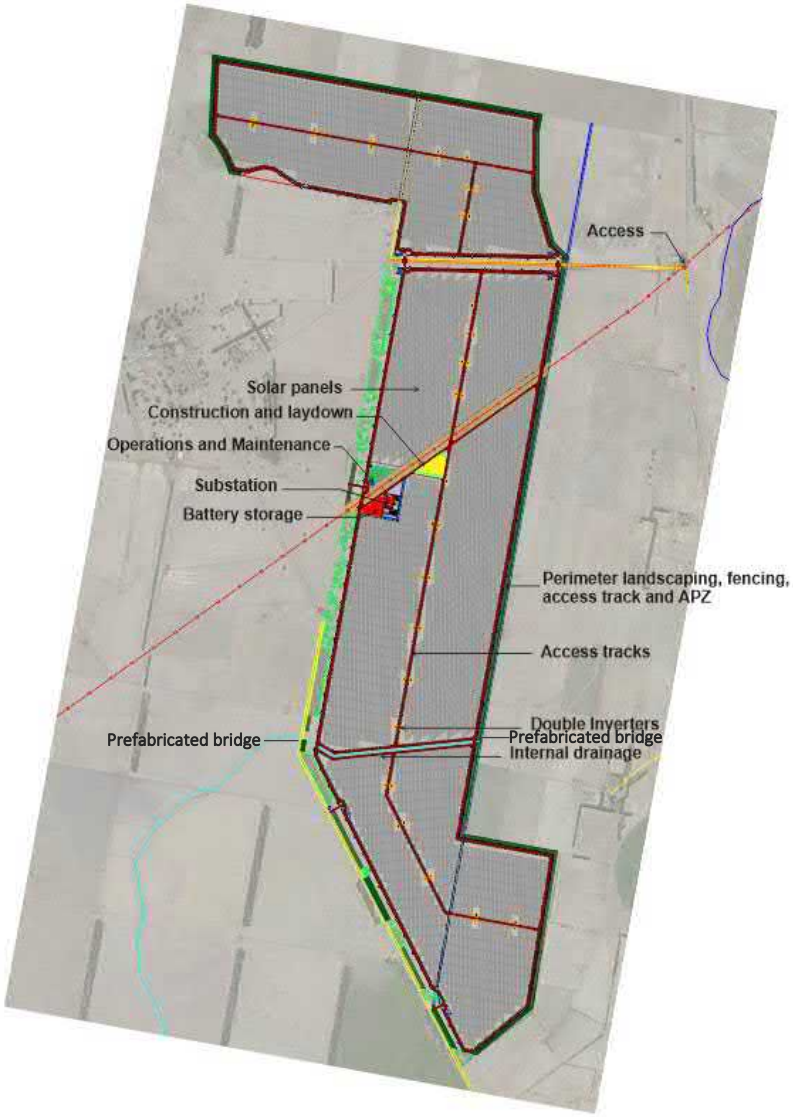

Figure 4-2 New Proposal Layout

When considered side by side, it is apparent that the site area occupied, and general layout proposed by both designs (the Previous Application and the new Proposal) has not altered. This is despite the overall reduction in the number of solar panels under the new Proposal. In response to the Tribunal's findings, the layout of the new Proposal provides more detail for features such as the location of internal access tracks, firebreaks and panel rows within the area designated as "array areas", than the Previous Application. It is apparent however that the extent of the array areas and the site boundaries are consistent between the two layouts. This is relevant for the consideration of landscape and visual impacts as the area designated for panels, which is the largest component of the Proposal, has not increased and, therefore the distance to public and private viewpoints will not alter from those considered in the assessment of the Previous Application.

It is noted that the location of the substation, battery and operations buildings are consistent with the location shown in the Previous Application, however, the layout of this area has been reconfigured by this new Proposal. The infrastructure remains in a cluster on the western boundary of the Site adjacent to the existing high voltage lines within broadly the same footprint (see Figures 4-1 and 4-2). The Substation and Battery Area have been moved to be south of the existing high voltage lines, while the Operations Buildings have been moved to the north of the existing high voltage lines. The change to this area was made in response to findings of the Flood Impact Assessment which required this area to be reconfigured to avoid inundation during a 1 in 100 year flood (see the 'Flood Impact Assessment' the supports the Planning Application for the Proposal).

The area shaded in yellow in the new Proposal shows the location of the temporary construction and laydown area. This area has been moved from the original proposed location to align better with new access locations (see Section 3.6 below), however, this area remains central to the Site, is temporary, and is located away from sensitive viewpoints.

4.2 Proposed Panels

Both layouts propose individual solar panels measuring approximately 2.0m x 1.0m, fitted to a single-axis tracking system with a maximum height of 4.0 m above ground level when at full tilt. The panels will be dark to navy blue in colour and mounted behind toughened glass with an anti-reflective coating. An elevation of the proposed solar panel and tracking system is shown below in Figure 4-3.

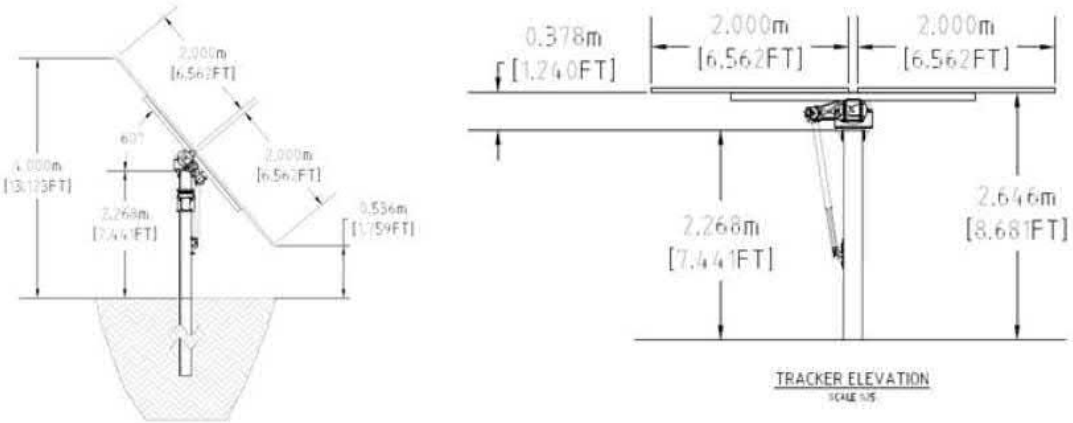

Figure 4-3 Tracking System Elevation. Not to scale. Source: NG Electrical Plans (Dated 22.06.2020)

The proposed panel configuration for both layouts is orientated north to south, allowing tracking of the sun from the east in the morning through to the west in the afternoon. This is consistent with the photomontages presented as part of the EWS and considered by the Panel in their summary report.

Figure 4-4 shows the panel layout and orientation of the new Proposal (left) compared to the panel layout and orientation of the Previous Application.

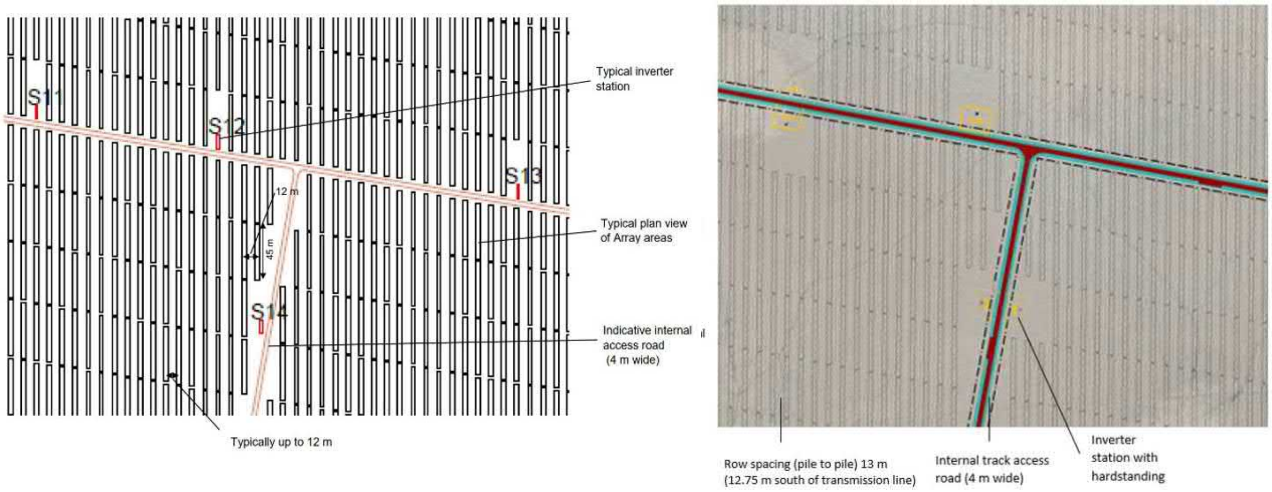

Figure 4-4 Panel orientation of the Previous Application (left) and the new Proposal (right) *(Proposal Insert Source: 'Site Plan', prepared by NG Electrical Pty Ltd; Previous Application Insert Source: 'Amended Plans Diagram 1', prepared by Ecological Australia 09 May 2019; not to scale).*

The Previous Application considered spacing up to 12 m between panel rows. The layout for the new Proposal increases the space between panel rows to approximately 12.75 m or 13 m. The refinement of the design for the new Proposal has resulted in an overall reduction in the individual number of panels, from approximately 700,000 to 641,000.

From a visual impact perspective, the layout of the Proposal is consistent with the Previous Application. The alteration to array spacing from 12 m to 12.75 m - 13 m will not lead to a discernible change in the appearance of the solar array. A detailed assessment of representative views and theoretical project visibility is discussed in Section 6.

4.3 Inverters

Inverters are a key component of all solar farm projects. Both the Previous Application and the Proposal considered the inclusion of containerised inverters, similar in size to a shipping container located amongst the proposed panel areas. Figure 4-5 shows indicative containerised inverters ('Inverter Stations', housing two inverters), as proposed by both the Previous Application layout and the Proposal Application.

Figure 4-5 shows a proposed inverter station housing two inverters (source: SMA).

The dimensions of the inverter stations are similar for both Proposals, noting that the height has increased from approximately 2.9 m as considered by the Previous Application to 3.0 m in this new Proposal. Also, in response to detailed flood modelling, inverter stations numbered 1-2, 5-6, 9, 14, 16 and 21-37 (see the 'Site Plan' accompanying the main Planning Report), will be situated on a piles to a maximum height of 800mm above ground level. The EWS prepared for the Previous Application considered a raised hardstand of approximately 300 – 500mm as a typical platform required to create a level and suitable hardstand. This hardstand was included in the photomontages prepared for the project. These changes will increase the inverter height from approximately 3.2m – 3.5m above ground level to approximately 3.8m for the above locations. Given the central location of inverter stations within the Site (see Figure 4-4), in the context of the maximum array height of 4m, the change in height will not result in noticeable differences from any of the assessed viewpoints (detailed in Section 6).

4.4 Substation, battery storage and operations buildings

Similar to Inverters, the on-site substation, battery storage and operations buildings are key components required to operate a commercial-scale solar farm.

The layout for the new Proposal changes the configuration of the operations buildings proposed to the north of the high voltage transmission line and the substation and battery storage facility to the south, the opposite of that proposed in the Previous Application. The layout of these areas in the new Proposal is also further refined to include details of the components of the substation, battery area and operations buildings (see Figure 4-6 and 4-7). An elevation of the proposed substation and switchyard is provided in Figure 4-8.

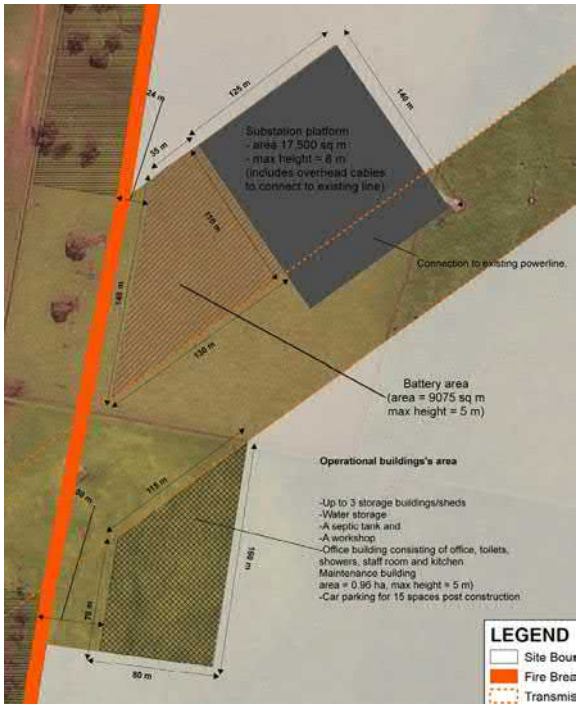

Figure 4-6 Previous Application substation, battery storage and operations buildings

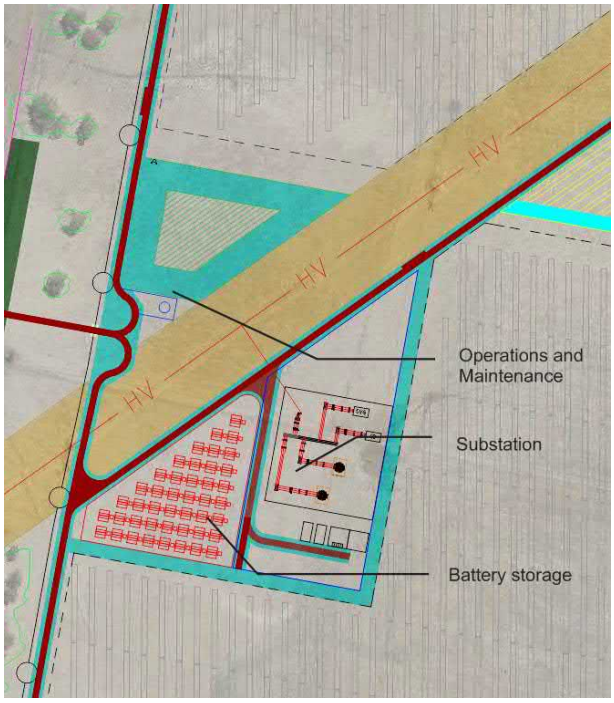

Figure 4-7 New Proposal: substation, battery storage, operational buildings. Source NG Electrical (Plans dated 29.05.2020) Modified to show ancillary area (Jacobs)

In the plan view, it is apparent that the layout of the ancillary area is more compact in this new Proposal than the same area included within the Previous Application. The northern boundary of the ancillary area shown in the new Proposal has been shifted further southwards, which is brought about by the mirroring of uses in this area. This change in layout would be noticeable if the two layouts were reviewed together (one above the other) from locations where the substation area is visible. However, the photomontages prepared for the previous application, and the amended photomontage for this New Proposal show that the substation area, when viewed from locations outside the Site where it is visible, is not a discernible feature. This is due largely to the context of the substation area in available views which include distance, scale of other infrastructure such as the existing overhead power lines. This aspect is re-examined in Section 6 of this report.

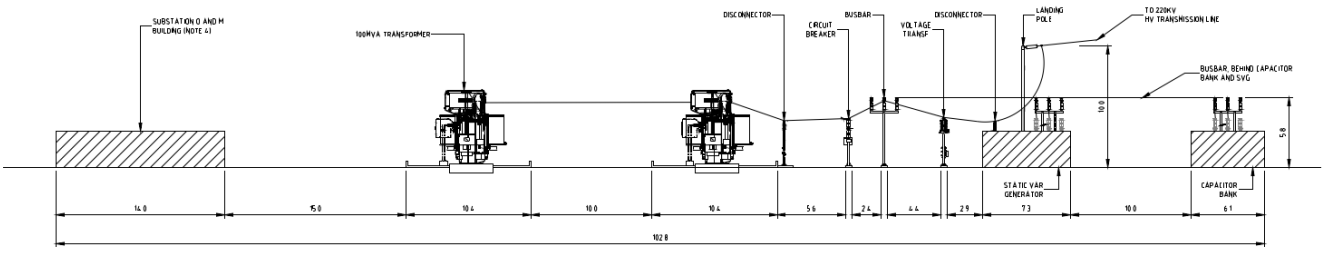

Figure 4-8 New Proposal: Substation switchyard elevation

The substation will accommodate:

- Two 220 kV transformers;
- High voltage (HV) circuit breakers, switchgear, capacitor bank and static var generator;
- Metering equipment;
- Control room;
- 33kV Switchroom;
- Substation operations and maintenance building;
- Two overhead cables connecting the substation to the existing 220 kV line;
- Parking space for service vehicles;
- A battery area will be situated adjacent to the substation, approximately 1ha and approximately 3m high.

The proposed layout and configuration of the substation shown in the layout for the new Proposal is similar in size and scale to that which was included and assessed for the Previous Application, occupying the same land area (1.76ha).

The location of the battery area remains adjacent to the substation in the new Proposal design, and also occupies the same land area (0.91 ha). It consists of a series of containerised batteries and transformers approximately 3m high, which is within the vertical dimensions proposed for the Previous Application (which was up to 5m).

The operations buildings are now proposed to the north of the transmission easement, rather than to the south of the transmission easement. These buildings will be located behind proposed landscape screening. With regard to visual impact, the location, layout and design of the operational buildings are generally consistent with the Previous Application as assessed. The operations buildings, along with the substation area buildings will be clad in standard materials such as corrugated iron, and will be finished in matte green in order to blend into the local environment as far as possible[2].

The proposed changes to the layout and configuration of the substation, operations buildings and battery storage area would not result in a material change in the views or the visual impact of the project considered by the Tribunal for the Previous Application. This observation is supported by the comparative photomontages prepared for the Previous Application and the amended photomontage prepared for this New Proposal and is confirmed in the re-examination of views set out in Section 6 of this report.

4.5 Access Tracks

Internal access tracks are required for the construction, operation and maintenance of the solar farm. The internal access tracks are to be constructed of compacted gravel which are 4.0 m wide with sections of localized widening to allow for the passing of vehicles in accordance with CFA Guidelines (see Bookaar Solar Farm Bushfire Risk Assessment and Mitigation Plan, which supports the Town Planning Report and Application). Two prefabricated bridges (4m w x 12m l x 1.07m h) will be constructed across the east west drain, and small culverts will be constructed over three other drainage lines as shown on the Site Plan. All proposed access tracks will be constructed internal to the site boundaries and situated behind a perimeter landscape buffer.

The requirement for internal access tracks was considered as part of the Landscape and Visual Impact Assessment for the Previous Application. It was concluded that the tracks, where visible, would be similar to the many access roads and internal farm tracks found at the Site and elsewhere in the landscape surrounding the Proposal. The inclusion of two prefabricated bridges, due their low-profile (1.07m high) and consistency with the character of an agricultural landscape, does not alter the findings of this assessment.

Consistent with the Previous Application, the proposed access tracks included within this new Proposal are also to be located inside the Site boundary and perimeter landscaping, which will screen them from views.

[2] Note that in the photomontages these elements have been shown in beige to assist with contrast and allow comparison between the Previous Application and the new Proposal.

4.6 Site Access

Site access for the Previous Application was via Meningoort Road from the western boundary of the Site. The Site access for the new Proposal has been redesigned to access the Site from the west using the section of Meningoort Road that crosses the Site. There are four entry points along Meningoort Road that allow access to all areas of the solar farm (Figure 4-9).

These entry points on Meningoort Road would remain gated as per the Previous Application, however, it is now proposed to upgrade the intersection of Meningoort Road and Darlington-Camperdown Road, and the stretch of Meningoort Road from the intersection to the western boundary of the Site (from 4 m to 7 m, including sealing the first 30 m section).

Despite the limited and localized road improvements, the change in views and visual impact assessed for the Previous Application would be minimal for the new Proposal.

4.7 Security Fencing

Security fencing is required to be constructed around the perimeter of the Proposal, with an additional security fence around the Substation. The Previous Application specified a 2.5 m high chain wire fence would be installed around the majority of the perimeter of the solar farm. This fence was proposed to be located 20 m inside the site boundary to allow for landscape screening to be located external to the project. This was to allow filtering and screening of views to both the solar panels and the fence.

Consistent with the Previous Application, the new Proposal Layout also proposes fencing 20 m inside the Site boundary at all externally facing boundaries, to allow for a 20 m wide landscape buffer along most of the Proposal's boundary (see. Figure 4-9).

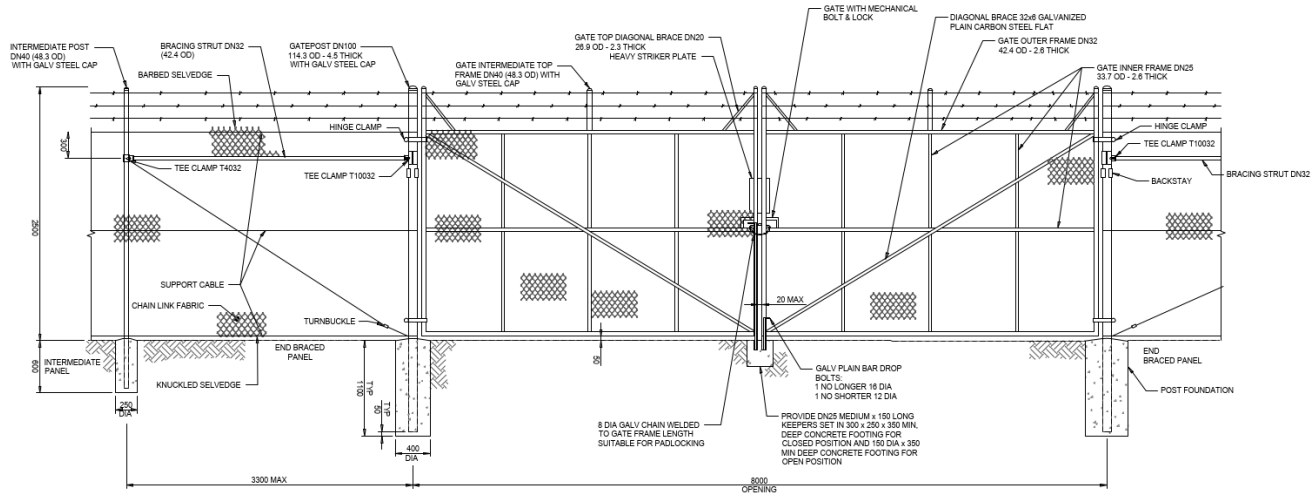

Figure 4-9 Current Proposal: Security fencing and gate elevation. Source: NG Electrical (plans dated 22.06.2020)

There are no changes to the perimeter fencing that would bring about a change in views or visual amenity considered in the EWS and the Tribunal. This is demonstrated in the visual assessment of publicly accessible viewpoints in section 6 of this report.

4.8 Landscape Screen

The Previous Application proposed a 20.0 m wide perimeter landscape screen to be located outside the security fencing. The landscape screen was proposed to be installed along the entirety of the northern boundary, the eastern boundary (except for the area where the overhead transmission line and 11 kV distribution line enters the site), and along the southern boundary. Infill planting was proposed to be installed along the western

boundary between the extensive shelterbelts along this edge. Where the 11 kV line crosses the landscape screening, there will be a 6 m wide gap in the proposed screen. Trees planted within 5 m from the edge of the line will be selected and maintained to not exceed 4 m in height, and trees within 5-8m of the line will be selected and maintained to not grow higher than 9 m high, in accordance with Powercor guidance.

This landscape screen proposed a minimum of four rows of native plants within a 20.0 m wide landscape buffer around the Site's perimeter. As noted in section 3.4, this proposal was considered to be acceptable by the Tribunal.

The New Proposal retains the 20.0 m wide landscape buffer comprising 4 rows of native trees. A recommendation of the bushfire assessment is the requirement to remove branches from the established screen from within two metres of the ground, to limit a fire's ability to move vertically from the ground to the canopy. This requirement, in addition to the requirement to maintain the grass below 100mm during the Fire Danger Period, will reduce the ability for fires to establish, develop significantly and enter the canopy. A revised photomontage has been prepared to show the layout and configuration of the new Proposal. The amended photomontages include a second photomontage which shows the proposed landscape screening of 4 rows of trees within a 20 m wide landscape buffer and branches crown lifted to 2.0 m above ground. These are included in Section 6 of this report at Viewpoint 7 and in Appendix B. The requirement for crown lifting does not affect the performance of the landscape screening due in part to the layering of four rows of trees planted diagonally, and due to the setback distance of publicly accessible viewpoints and neighbouring residential dwellings.

Figure 4-10 shows the draft landscape plan layout geometry, which shows the tree spacing layout of the 20 m wide landscape buffer.

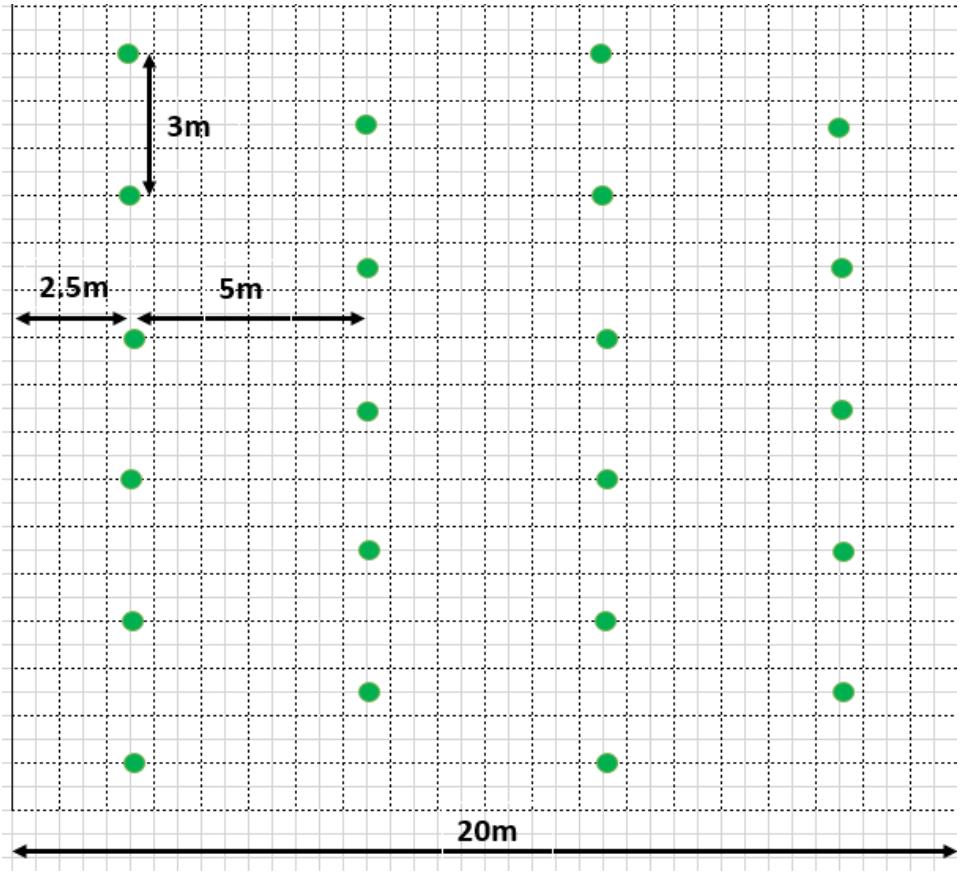

Figure 4-10 Draft Landscape Plan: Layout Geometry (Source: Draft Landscaping Plan, figure 1, prepared by Oz Trees)

Figure 4-11 shows an indicative cross section along the Site's eastern boundary, which shows the 20 m wide landscape buffer, proposed areas of tree planting, internal security fence, perimeter access track and the proposed solar panels.

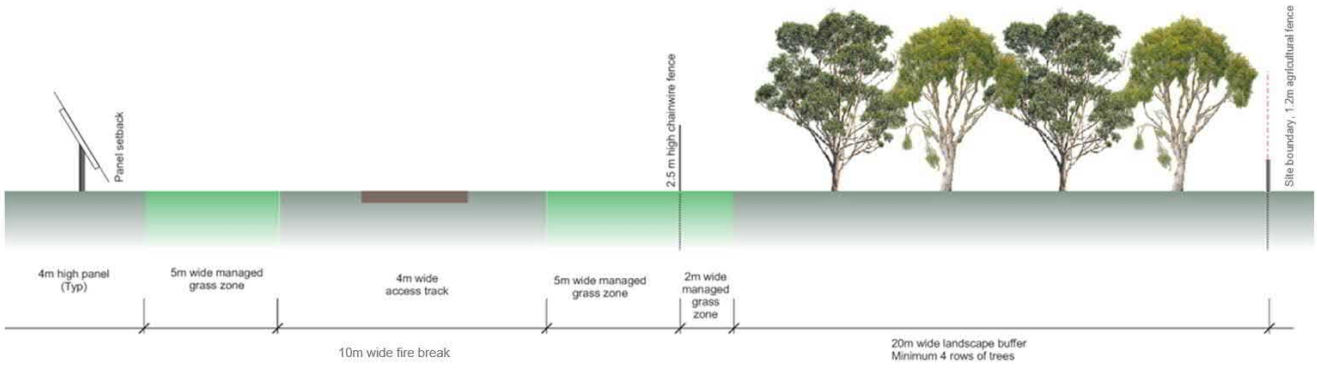

Figure 4-11 Previous Application: Proposed Landscaping Section Detail (Source: Amended Plans Diagram 5 prepared by Ecological Australia 09 May 2019)

The landscape screen included within the new Proposal is entirely consistent with the Previous Application. The location of the proposed screening within the new Proposal is to comprise 4 rows of native plants within a 20 m wide landscape buffer situated between the Site's boundary and the 2.5 m high perimeter fence. The landscape screen would be enclosed within a 1.2m high agricultural-style fence, consistent with those found in the surrounding area. This edge condition is consistent with the project upon which the Tribunal based its opinions and findings for the Previous Application.

The only change to the proposed perimeter landscape screening is along the western boundary, where the Bushfire Assessment process resulted in the recommendation of a 5.0 m wide separation between any new plantings adjacent to the existing established planting coupes along this edge. As this edge is within the host property along a section of Meningoort Road that leads into the main homestead, this requirement will not bring about a change in the visual impacts assessed for the Previous Application.

Further details on the screen layout can be found in the Draft Landscape Plan (Appendix C), and its extent is shown on the Site Plan (See Appendix A).

Consistent with the Previous Application, this screen would supplement existing screening provided by vegetation currently around the site perimeter.

4.9 Summary of the proposed changes

When the Previous Application and the new Proposal are compared, it is clear that the changes made to the new Proposal are minor and do not change the overall layout, location, extent or scale of the key project components or development footprint. Not only is the Proposal fundamentally similar, but the setback distances to sensitive viewpoints identified during the VCAT Hearing also are not altered. This is confirmed in Section 6 of this report where key views included in the EWS are re-examined in the context of this new Proposal.

Before re-examining the views included within the EWS of the Previous Application, it is worthwhile reviewing any changes that may have been made to the local planning policy that are relevant to the consideration of views, visual impact or amenity. Specifically, this will focus on the alteration or amendment of those sections of the planning scheme that identify landscape features, views, character and amenity such as Significant Landscape Overlays (SLO's), Environmental Significance Overlays (ESO's) and Heritage Overlays (HO's).

5. Planning and Policy: Review of Changes

The following section will address any new or amended planning instruments relevant to landscape and visual impact assessment since the EWS, which is appended to this report, was completed.

5.1 Zones

The subject site is located within a Farming Zone (FZ). A Road Zone (RDZ1) and PCRZ are located to the east of the site. Figure 5-1 shows the zoning of the Site and surrounding area.

Figure 5-1 Zoning Map

The zoning of the subject site and the surrounding area has not changed since the assessment of the Previous Application.

Overlays

Overlays identify features that are significant or unique, describe their uniqueness and to provide guidance to protect these features. The Site is not subject to any Overlays. However, several overlays apply to land in close proximity to the Site, namely: Significant Landscape Overlay Schedule 1 (SLO1); Heritage Overlay Schedule 8 (HO8); and Environmental Significance Overlay Schedule 1 (ESO1). These overlays are relevant to visual impact, landscape character and heritage values and were also considered and assessed in the EWS for the Previous Application. The overlays and their proximity to the Site are shown in Figure 5-2.

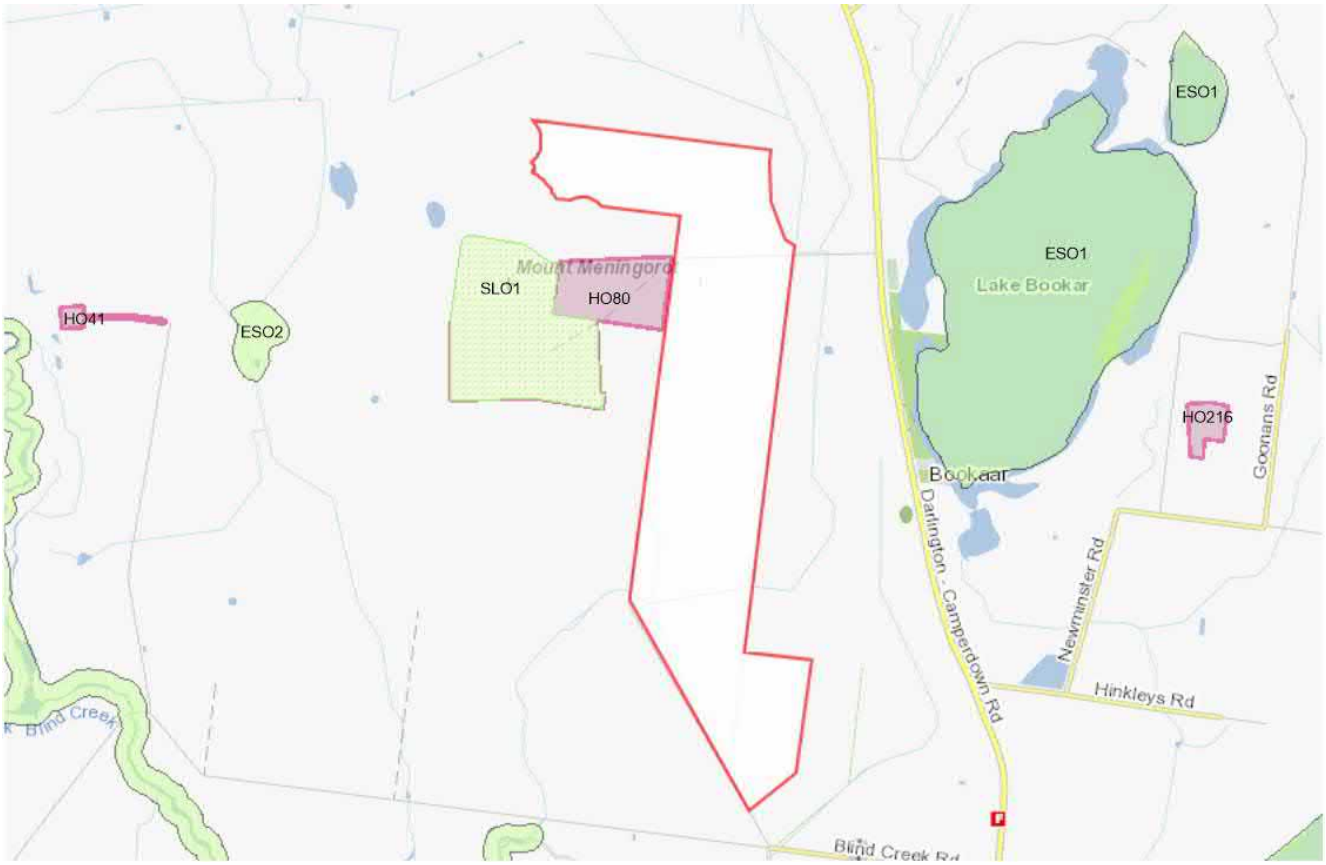

Figure 5-2 Overlays Map Source: VicPlan

Two overlays reside within the wider boundary of the host property being Significant Landscape Overlay – Schedule 1 (SLO1) and Heritage Overlay (HO80). Both overlays are outside the site boundary and are not affected by the Proposal.

Lake Bookaar, approximately 1.1 km to the east of the Site is within an area covered by Environmental Sensitive Overlay (ESO1).

The overlays within the area surrounding the Proposal have not changed since the Previous Application was assessed. There are also no new overlays included in the planning scheme.

5.2 Solar Energy Facilities – Design and Development Guideline (August 2019)

The *Solar energy facilities – design and development guideline* August 2019 (the 'Guideline') was adopted in August 2019 and is now an incorporated document within the Corangamite Planning Scheme. It provides an overview of the policy, legislative and statutory planning arrangements for a Solar Energy Facility (SEF) in Victoria and guidance on best practice for site selection, design and mitigation of impacts for SEFs.

As outlined earlier in this report, the Draft Guidelines were available at the time of the VCAT hearing for the Previous Application and were acknowledged by the Tribunal. The Tribunal noted that the Draft Guidelines refer to strategic site considerations including the selection of 'ideal' sites'. The Tribunal also notes that:

> ……*'there is not a need or mandatory requirement for every site to be determined to fit 'ideal' criteria* rather, *A site's strategic and specific circumstances must be assessed, with opportunities, constraints and impacts being identified.' (Para. 67).*

The Tribunal also notes

> ……*'the {planning} scheme provisions and policies set out the matters we must consider. The types of considerations in the draft Solar Guidelines align with these.' (Para. 68).*

The key considerations of the Draft Guidelines relevant to site selection, landscape character and views were considered and assessed as part of the EWS. For completeness, the sections of the now adopted Guideline relevant to site selection and impacts to views and landscape character are set-out below.

Identifying suitable locations
With respect to identifying suitable locations for SEF the Guideline states:

> *'Most well-sited, carefully designed solar energy facilities have minimal impacts on surrounding communities, the environment and other land use activities. However, a proposal to construct a solar energy facility can lead to community concern about the facility's potential impacts'.*

To assist with minimising community concerns as far as is practicable, the Guideline outlines several criteria to be considered when identifying sites that are suitable to host SEF. Those that are relevant to potential Landscape and Visual Impacts and Heritage values include consideration of:

- '*the loss of vegetation, habitat or species of environmental importance*
- *the loss of cultural heritage or landscape values of significance*'.

In achieving this, the following guidance is provided for the selection of sites for SEF. Those relevant to this assessment are as follows:

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

These objectives were tested during the Tribunal Hearing and were considered in the EWS (Appendix D). At page 17, the Guideline specifically addresses the need to minimise impacts on places with high landscape values and areas with significant visual amenity. As such, SEF is not encouraged within national parks or other landscapes that are subject to the *National Parks Act,1975*, Ramsar Wetlands, and other locations that are identified in Clause 12 Environmental and landscape Values within the VPP.

Further, the Guideline sets out specific considerations for managing views and visual impact:

- *'the sensitivity of the landscape and its ability to absorb change*
- *the size, height, scale, spacing, colour and surface reflectivity of the facility's components*
- *the number of solar energy facilities located close to each other another within the same landscape*
- *the excessive removal, or planting of inappropriate species of vegetation*
- *the location and scale of other ancillary uses, buildings and works including transmission lines, battery storage units and associated access roads*
- *the proximity to environmentally sensitive areas such as public land, water courses and low-lying areas'.*

The Guideline states that a solar farm development should be considered within its landscape context and regarding any relevant planning policy and strategy documents, such as regional growth plans, regional landscape assessment studies and relevant overlays.

5.3 Planning controls and policy conclusion

The EWS reviewed sections of the planning scheme that give rise to consideration of matters relating to landscape and visual impact of a proposed solar farm in the Corangamite Shire. This review considered the implications of the relevant overlays within the Corangamite Planning Scheme, specifically Significant Landscape Overlays, Environmental Significance Overlays and Heritage Overlays, as well as the SWLVAS. The SWLVAS identifies landscapes and views of local, regional or state significance, all of which underpinned concerns raised in submissions and which were considered by the Tribunal.

The Tribunal's findings were that the Previous Application would not result in an unreasonable level of visual impact in the context of views from the surrounding landscape, views identified in the SWLVAS, or landscapes recognised in overlays under the Corangamite Planning Scheme.

With the exception of the finalisation of the Guideline, there have been no changes made to key documents or strategies since the Previous Application was considered by the Tribunal.

The following section will assess the new Proposal in the context of the now adopted Guideline, and viewing locations considered by the Tribunal for the Previous Application.

6. Landscape and Visual Assessment of the New Proposal

The following section will revisit the viewpoint locations identified in the EWS to assess the potential landscape and visual impact of the new Proposal and the requirements of the Solar Energy Facilities - Design and Development Guideline (2019).

Section 3 of this report has demonstrated that the new Proposal sits entirely within the development envelope of the Previous Application and the proposed solar panels and ancillary infrastructure is also the same or generally consistent with the Previous Application.

Due to the new Proposal being largely consistent with the Previous Application and the fact that no additional viewpoints of concern were raised during the hearing or by the Tribunal, it is considered that the ten viewpoint locations included within the assessment of the Previous Application are appropriate to assess and understand the potential landscape impact of the new Proposal.

6.1 Publicly Accessible Viewpoints

The ten viewpoints included in the assessment of the Previous Application were selected to consider a range of viewing distances, locations and angles towards the Site and to gain an appreciation the of a solar facility in the context and setting of the character of the area. As mentioned above, the location of these viewpoints was not expressly challenged during the hearing, nor were there any viewing locations considered to be omitted from the EWS. The viewpoint locations were selected to provide an understanding of the nature of the visibility of the Proposal with regard to distance and the features of the surrounding landscape.

The location of the selected viewpoints in relation to the new Proposal are shown in Figure 6-1.

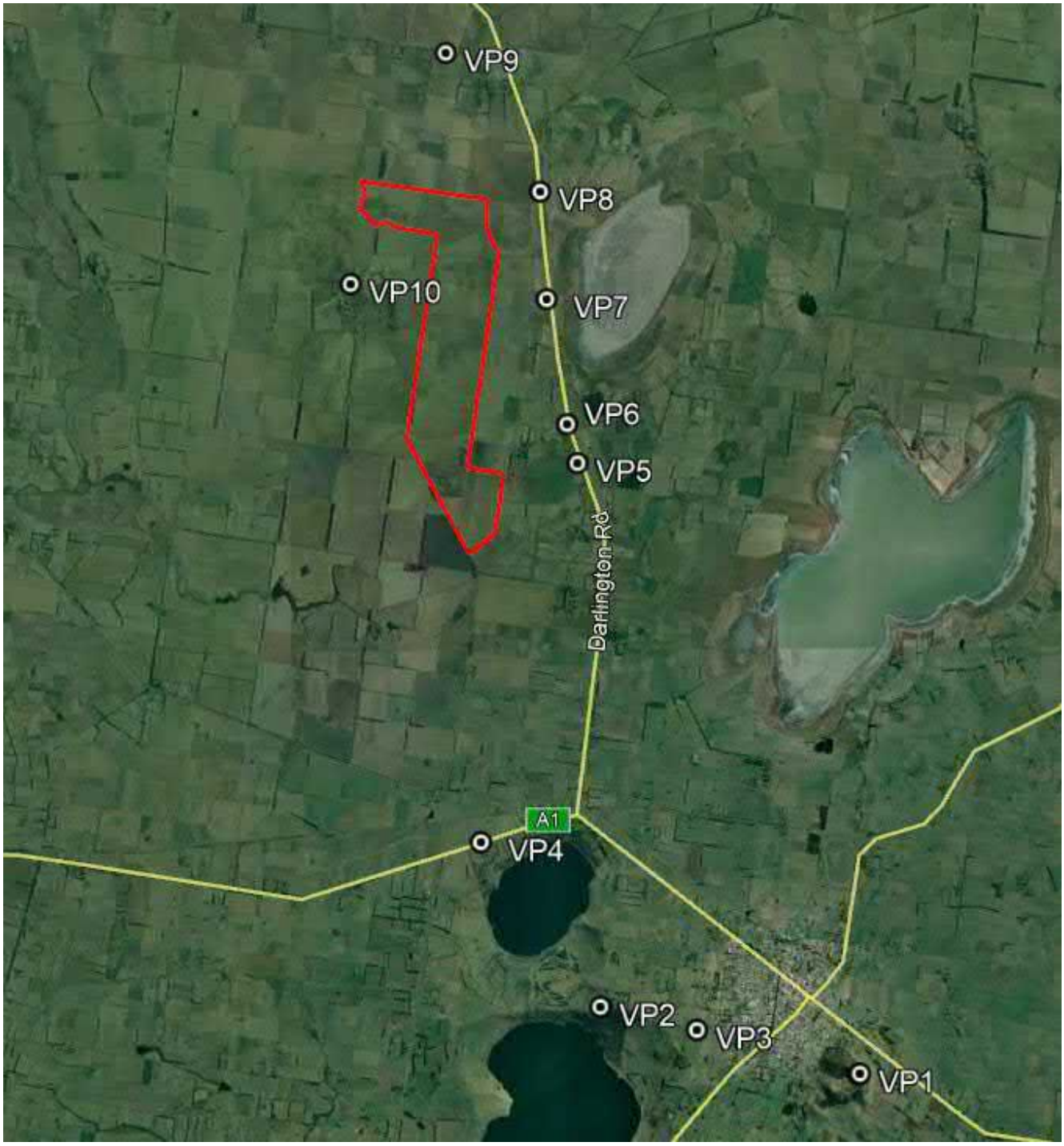

Figure 6-1 Viewpoint Locations and approximate Site boundary (base source: Google Earth)

6.2 Photomontages

The view from VP7 located on Darlington – Camperdown Road provides a clear view towards the Site and the Proposal. In addition to enabling clear views, this location also includes views towards the area of the substation, operation and maintenance buildings and battery storage facility.

A photomontage was prepared from this location as part of the EWS, which was based upon a digital model of the Previous Application. This photomontage has been updated to show the new Proposal. These

photomontages allow a direct comparison of the changes proposed by the new Proposal. A second photomontage has been included to demonstrate the proposed landscape screening of the new Proposal.

Figure 6-2 shows an enlargement of the photomontage prepared as part of the EWS for the Previous Application. Figure 6-3 below shows the enlargement of the same section of the view with the new Proposal superimposed into the view. Figure 6-4 shows the same enlargement for the New Proposal with the proposed landscape screening.

Figure 6-2 Enlargement of photomontage - Previous Application

The photomontage prepared for the Previous Application (above), includes the perimeter fencing, project panels, inverters, substation and buildings included in the area of the operations and maintenance facilities. Although visible, the substation, operations and maintenance facilities are not readily discernible features in the view. Figure 6-3 below shows the new proposal and reconfigured plant and buildings proposed by the New Proposal.

Figure 6-3 Enlargement of photomontage – Proposal

Similar to the view shown in Figure 6-2 of the Previous Application (above) the substation, operations and maintenance facilities are still visible but not readily discernible features in the view.

Figure 6-4 shows the same view with the proposed landscaping superimposed into the view.

Figure 6-4 Enlargement of photomontage - Proposal with landscape screening

Further detail on the preparation of photomontages and the accompanying methodology set out in the EWS (Appendix D) describes how imagery should be used to support the interpretation and assessment of the Proposal in views from the surrounding landscape. An important point of reference in all views is the high voltage transmission towers which bisect the Site.

6.2.1 Viewpoint 1 – Mt Leura Lookout

Viewpoint 1 (VP1) is situated at the Lookout on the top of Mt Leura to the south-east of the Proposal site.

The nearest site boundary is approximately 10km north-west of this viewpoint.

This viewpoint was selected as Mt Leura was identified as a significant viewing location within the SWLA. It is also one of the few locations requested by Council to be considered by the original Visual Impact Assessment for this project.

Figure 6-5 shows the view looking north-west towards the Proposal site from the lookout.

(54H 688825 E, 5764868 S)

Figure 6-5: Viewpoint 1 – View looking northeast from Mt Leura Lookout

The approach to Mt Leura winds upwards from Camperdown to the north, and up the northern and eastern faces towards a carpark located to the south of the summit. There is a short walk of approximately 150-200 m from the carpark to the Mt Leura lookout located at the summit.

The Mt Leura summit provides 360° views which take in the vast volcanic plains that the district is renowned for. The elevated volcanic cones punctuate the otherwise flat horizon. The numerous lakes, of which Lake Corangamite is the largest, visually contrast against the tapestry created by the various agricultural activities and windbreaks in the region.

On a clear day, the Proposal would be visible from the lookout and parts of a walking trail located on the northern face of Mt Leura. However, the Proposal 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.

Although the Site for development is at a distance that would not be discernible in views at ground level, because of the elevation of Mount Leura, the Proposal would be visible from this viewpoint as a low-lying element in the distant foreground of the volcanic cone of Mt Meningoort. However, it should be noted that at this distance (10 km), it would not be possible to identify the individual components of the Proposal.

The Tribunal's finding on views from this location was as follows:

> '*The proposed facility will not be a substantial element in this broader context and panorama. We agree with Mr Burge that it would appear as part of the diverse agricultural landscape which changes seasonally depending on the agricultural regime*' (Para. 174).

The visual impact of the Proposal would therefore be negligible to low over the ordinary day to day and seasonal changes of views across the landscape.

6.2.2 Viewpoint 2 – Camperdown Botanic Gardens

Viewpoint 2 (VP2) is located in the Camperdown Botanic Gardens to the south of the Proposal site.

The nearest site boundary is approximately 7.3km north-west of this viewpoint.

This viewpoint was selected as views from Lake Bullen Merri and Lake Gnotuk were identified as significant viewing locations within the SWLA. Views from the Botanic Gardens are taken from elevated locations on the eastern edge of these lakes.

Figure 6-6 shows the view looking north towards the Proposal site.

(54H 684873 E, 5765968 S)

Figure 6-6: Viewpoint 2 – View looking north from carpark

Figure 6-6 shows the view from the edge of the Botanic Gardens carpark. Views are directed out to the west across Lake Bullen Merri and Lake Gnotuk which are recognised as significant landscape features in the Corangamite Planning Scheme.

The Proposal is not visible and will not compete with key views towards these features from any area within the Botanic Gardens. From the carpark views to the north towards the Proposal are screened by existing topography and vegetation.

Figure 6-7 shows the view looking north-west from the picnic area in the northern section of the Botanic Gardens.

Figure 6-7: Viewpoint 2 – View looking north-west from the picnic area (54H 685006 E, 5766121 S)

Views to the north-west towards the Proposal from the picnic ground are filtered by existing vegetation.

There may be views towards the Proposal from other locations within the Botanic Gardens and the nearby caravan park. Similar to the views from Mt Leura, the Proposal would be at such a distance that it would not be a dominant element in views. The visual impact would be negligible to low over the ordinary day to day and seasonal changes of views across the landscape.

From this location, the findings of the Tribunal for the Previous Application stated that:

'*at the distances involved, we do not consider the proposal would fundamentally change one's appreciation of the landscape, views, vistas and viewing corridors*' (Para. 180).

For the reasons outlined above the visual impact of the Proposal will be negligible to low over the day to day and seasonal changes of view across the landscape.

6.2.3 Viewpoint 3 – Park Lane

Viewpoint 3 (VP3) is located on Park Lane approximately 500m west of Bowen Street to the south of the Proposal site.

The nearest site boundary is approximately 8.1km north-west of this viewpoint.

This viewpoint was selected as representative of views from roads to the south-east of Camperdown that have views to the north and towards the Proposal site.

This location is at a lower elevation to the views from Mt Leura and Camperdown Botanic Gardens but more elevated than views from within the town.

Figure 6-8 shows the view looking north-west towards the Proposal site.

(54H 686347 E, 5765584 S)

Figure 6-8: Viewpoint 3 – View looking north-west from Park Lane

At this lower level, the windbreak and shelterbelt plantings that define the property boundaries across the landscape, mesh together to limit views of the clear open paddocks and landscapes at lower elevations and within the plains, even for the nearby paddocks between this viewing location and the Proposal.

At a distance of 8.1 km the solar farm may be visible but will not be a dominant element in the view. The proposed landscaping will assist to filter or screen views of the Proposal over time.

For these reasons, the visual impact is negligible.

6.2.4 Viewpoint 4 – Princes Highway

Viewpoint 4 (VP4) is located on the Princes Highway approximately 700m east of Sandys Lane to the south of the Proposal site.

The nearest site boundary is approximately 4.5km north of this viewpoint.

This viewpoint was selected as representative of views from the Princes Highway that runs to the north of Camperdown.

Figure 6-9 shows the view looking north towards the Proposal site.

(54H 683093 E, 5768524 S)

Figure 6-9: Viewpoint 4 – View looking north from Princes Highway

The existing site and the area of the Proposal is not visible due to the distance, low viewing angle and existing vegetation found in the landscape between the Princes Highway and the Site.

There will be no views and therefore no visual impact of the Proposal from this and any other locations observed along this section of the Princes Highway.

6.2.5 Viewpoint 5 – Darlington-Camperdown Road #1

Viewpoint 5 (VP5) is located on Darlington-Camperdown Road approximately 380m north of Hinkleys Road to the east of the Proposal site.

The nearest site boundary is approximately 1.2km south-west of this viewpoint.

This viewpoint was selected as it represents views from Darlington-Camperdown Road while heading north towards Darlington.

Figure 6-10 shows the view looking west towards the Proposal site.

(54H 684735 E, 5774369 S)

Figure 6-10: Viewpoint 5 – View looking west from Darlington-Camperdown Road

Existing vegetation will filter or screen views to the southern section of the Proposal which is approximately 1.2km to the west. A break in existing vegetation will permit views to the northern section approximately 2km away. The silhouette of Mount Meningoort can be seen in the background of this view.

The Darlington-Camperdown Road is the main road between Darlington and Camperdown. Due to distance, screening afforded by existing vegetation and the general vehicle speed of 100km/hr along this road, the visual impact prior to the establishment of landscape screening would be negligible. Over time, the proposed 20m wide landscape planting, located along the entire eastern boundary will screen all views to the Proposal, reducing the visual impact to Nil.

6.2.6 Viewpoint 6 – Darlington-Camperdown Road #2

Viewpoint 6 (VP6) located on Darlington-Camperdown Road approximately 1.0km north of Hinkleys Road to the east of the Proposal site

The nearest site boundary is approximately 1.3km south-west of this viewpoint.

This viewpoint was selected for the open nature of views to the Proposal from the Darlington-Camperdown Road.

Figure 6-11 shows the view looking west towards the Proposal site.

(54H 684589 E, 5774982 S)

Figure 6-11: Viewpoint 6 – View looking west from Darlington-Camperdown Road

There are open views to the Proposal site from this location along the Darlington-Camperdown Road. However, views to the Proposal will be oblique to the direction of travel, and relatively short in duration. Further, existing vegetation between the Site and the Darlington-Camperdown Road would screen or filter views for road users.

The silhouette of Mount Meningoort which is covered by a Significant Landscape Overlay (SLO1) can be seen in the background of this view. Figure 6-12 shows an enlargement of the view focussing on the area of the Proposal and the substation.

Figure 6-12: Enlargement of Viewpoint 6 – View looking west from Darlington-Camperdown Road

Even in this enlarged view, the high voltage transmission lines and existing plantings along the Site's western boundary, which are taller and more visually prominent that any component proposed as part of the Proposal, are barely visible and do not compete with views to Mount Meningoort and surrounding open paddocks.

The proposed solar panels, substation and maintenance buildings would sit low in this view, and from other locations along Darlington – Camperdown Road. Similar to the previous viewing location, due to a combination of the overall distance to the Proposal, screening afforded by existing vegetation and the speed of the road being 100km/hr, the visual impact prior to the establishment of landscape screening would be low.

Over time, the proposed 20m wide landscape planting, located along the entire eastern boundary will screen all views to the Proposal which will reduce the visual impact to Negligible-Nil.

6.2.7 Viewpoint 7 – Darlington-Camperdown Road #3

Viewpoint 7 (VP7) is located on Darlington-Camperdown Road approximately 2.7km south of E Hill Road to the east of the Proposal site

The nearest Site boundary is approximately 870m west of this viewpoint.

This viewpoint was selected as it is one of the more open views towards the Proposal from Darlington-Camperdown Road. It is also the closest viewpoint, which, in combination with the open views to the Site, means that the Proposal will appear larger in the photomontage from this viewpoint than if it was represented in a photomontage from any other viewpoint.

This location also includes the cluster of operational infrastructures located midway along the western boundary through a break in the panel layout.

Figure 6-14 shows the view looking west towards the Proposal site.

(54H 684317 E, 5776955 S)

Figure 6-13: Viewpoint 7 – existing view looking west from Darlington-Camperdown Road

Figure 6-14 shows the photomontage of the same view prepared for Planning Permit Application No P2390/2018 as described as the beginning of this chapter. An A3 size version of the photomontage can be found in Appendix B.

Figure 6-14: Viewpoint 7 – Photomontage Previous Application (without proposed vegetation)

Figure 6-15 Viewpoint 7 - Photomontage New Application (Without proposed vegetation)

Section 3 of this report determined that the current Proposal is identical in setback distances from boundaries and viewpoint locations, and panel height to the Previous Application. The amended photomontage which shows the New Proposal, confirms this.

Figure 6-16 shows an enlargement of the photomontage seen in the figure above. This enlargement of the view focuses on the location of the substation and maintenance buildings situated mid-way along the Site's western boundary and beneath the existing high voltage transmission line.

Figure 6-16: Viewpoint 7 – Photomontage enlargement (without proposed vegetation)

This enlargement of the view further demonstrates that although the Proposal may be visible, the key components of the Proposal will sit low in the landscape and will not impede on features and landscapes that are recognised by the planning scheme, or in guiding documents such as the SWLVAS.

Figure 6-17 shows the same section of the enlarged view which includes the proposed 20 m wide landscape screen.

Figure 6-17 Viewpoint 7 - Photomontage New Application (With proposed vegetation)

The limited visibility of the project seen in Figure 6-15 is further reduced by the proposed 20 m landscape screen along the eastern perimeter of the Proposal.

The photomontage, even when enlarged shows that at this distance the panels would sit low in the otherwise flat landscape and would not be a visually dominant feature or element in these views. Further, the panel area and other key features of the Proposal would not impede, nor detract from views of the elevated Mount Meningoort which is recognised by Significant Landscape Overlay (SLO1) and under the SWLVAS.

While the substation, battery area and operations buildings have been redesigned, they are located within the same area shown in the above photomontages and below the existing transmission lines which cross the Site.

The proposed changes to the current Proposal layout simply rearrange the location of the sub-station, battery storage facility and operations buildings within the same footprint.

The largest of these features is the substation which would connect the Proposal to the existing overhead powerline which bisects the Site. Even before landscape screening, it is clear from the earlier imagery that its key elements will not be dominant features in views, nor will they compete with views to Mount Meningoort.

Further, this photomontage supports the conclusions made in the EWS for the Previous Application and by the Tribunal that the Proposal will sit low in the landscape and would not compete with key views, recognised landscapes or features of the area.

For these reasons, the visual impact of the Proposal is considered to be Low. Over time, the proposed 20m wide landscape planting, located along the entire eastern boundary will filter views to the Proposal which will reduce the visual impact to Negligible-Nil.

6.2.8 Viewpoint 8 – Darlington-Camperdown Road #4

Viewpoint 8 (VP8) is located on Darlington-Camperdown Road approximately 1.0km south of E Hill Road to the east of the Proposal site

The nearest site boundary is approximately 830m south-west of this viewpoint.

This viewpoint was selected as it represents a clear open view from Darlington-Camperdown Road when heading south from Darlington. This view is also the point where the project boundary is the closest to Darlington-Camperdown Road.

Figure 6-18 shows the view looking south-west towards the Proposal site.

(54H 684256 E, 5778656 S)

Figure 6-18: Viewpoint 8 – View looking south-west from Darlington-Camperdown Road

Even though there are potential open views towards the Proposal from this location along Darlington-Camperdown Road, views will be oblique and relatively short in duration.

The Proposal will sit low in the landscape and will not detract from views to the elevated hill to the west of the Meningoort Homestead.

For these reasons, the visual impact would be assessed as low to Negligible. Over time, the proposed 20m wide landscape planting, located along the northern and eastern boundaries will screen the Proposal in all views, reducing the visual impact to Nil.

6.2.9 Viewpoint 9 – Kilnoorat Road

Viewpoint 9 (VP9) is located on Kilnoorat Road approximately 930m west of Darlington-Camperdown Road to the north of the Proposal site.

The nearest Site boundary is approximately 2.2km south of this viewpoint.

This viewpoint was selected as it is representative of views from local roads to the north of the Proposal.

Figure 6-19 shows the view looking south towards the Proposal. Mount Meningoort can be seen in a break in vegetation in the middle-ground of this view. The taller, high voltage transmission line is barely discernible in views.

(54H 682820 E, 5780892 S)

Figure 6-19: Viewpoint 9 – View looking south from Kilnoorat Road

Even though there are potentially open views towards the Proposal, it is clear from the limited visibility of the taller features such as Mount Meningoort and the existing high voltage transmission lines, that the Proposal would barely be discernible from this location, and others along Kilnoorat Road.

It is also clear that the Proposal will not compete with key views, prominent vistas or landscape features that are recognised by the planning scheme or the SWVLA.

For these reasons, the visual impact would be assessed as low. Over time, the proposed 20m wide landscape planting, located along the northern boundary will screen all views to the project which will reduce the visual impact to Negligible-Nil.

6.2.10 Viewpoint 10 – Meningoort Homestead

Viewpoint 10 (VP10) is located within the grounds of Meningoort Homestead. The homestead is also owned by the host landowner of the Proposal.

This viewpoint has been included not for the purposes of views or visual impact as they are privately held views and associated with the Proposal, rather, this viewpoint explores concerns raised by objectors to the Previous Application that the Proposal would impact on the heritage significance of the homestead and the view captured in a painting by Eugene Von Guerard in 1861.

The nearest Proposal boundary is approximately 1.2km east of this viewpoint. This view is approximately 1.5 times the distance of that shown in the photomontage prepared for Darlington-Camperdown Road.

Figure 6-20 shows the view looking south-east towards the Proposal Site from a location that is proximal to the location captured in the Eugene Von Guerard painting.

(54H 681250 E, 5777252 S)

Figure 6-20: Viewpoint 10 – View over the top of the homestead

Figure 6-21 shows an enlargement of this view which focuses on the approximate scene captured by the Eugene Von Guerard Painting. The Eugene Von Guerard painting is shown in Figure 6-22 below.

Figure 6-21: Viewpoint 10 – View over the top of the homestead

Figure 6-22: Painting of the homestead – Eugene Von Guerard (Source: Scottish Migrants and the Western District article by Ben WIlkie)

The assessment of this view in the EWS concluded that the scene captured in the original painting has changed and matured over time and in several ways. This includes the expansion of the original homestead from its original proportions to include several new wings, out-buildings and verandas. The fabric of the building has been modified from corrugated iron roofing in the painting to slate tiles. The chimneys have been altered from redbrick to split face bluestone, and modern features such as skylights have been included in the western lean-to.

Further, the original landscape plantings captured in the painted scene comprise young trees and early cottage gardens. These plantings comprise the many mature and exotic trees within and around the grounds and gardens attached to the homestead. The native trees in the nearby paddocks and surrounding landscape also appear to have matured. These now mature plantings and remnant vegetation now screen views towards the elevated features including Mt Leura and the hill on which the Camperdown Botanic Gardens are located.

The feature that has remained is the existing driveway central to both views and the elevated volcanic cones in the distance. The Proposal will not impact in any meaningful way on the scene and setting captured within the Eugene Von Guerard painting as it will sit low in the landscape, it will be filtered by existing vegetation around the homestead and will not block views towards the key elevated features of Mt Leura. Further, it must also be recognised that this location is within a privately held property that is seldom open to the public.

The Tribunal's findings on the potential of the Previous Application to impact the values of the view captured by Eugene Von Guerard are set-out at paragraphs 197 - 203 of the Tribunal's report. Those that are relevant to this Proposal and re-examination of the view are summarised below:

> *We do not accept submissions that the proposed development will negatively impact on the Heritage Overlay or SLO1 (Mt Meningoort). We are unable to agree that the proposed development will adversely affect the integrity of the heritage place and its setting. Just because the solar facility could be seen, to varying degrees from the heritage-listed land and place, this does not equate to an unaceptable advserse effect on the place.*
>
> *It is relevant to our finding that the proposal is acceptable with respect to its relationship with the Mt Meningoort Homestead and volcanic cone that:*
>
> - *The view from this location is altered from the image painted by Von Gerard, with matured trees and paddocks beyond.*
> - *The iconic Von Gerard view, and views from the Mt Meningoort volcanic cone, are from the mountain slope behind the dwelling and are not generally available to the public. The limited public access is a relevant consideration.*
> - *The solar energy facility would be masked from this location, by the plantings on the Meningoort property.*
> - *Closer to the gardens immediately associated with the Homestead the solar energy facility would not be obvious or dominant. It would be effectively masked by vegetation.*

The findings of the Tribunal broadly support the conclusions made within the EWS which stated that the Previous Application:

'Would not result in an unacceptable level of visual change in the context of the altered view from the location where the Eugene Von Guerard painting was captured. This is due in part to the already modified view, and the vegetation which has matured between the time of the painting and now' (EWS Page 57).

6.3 Publicly accessible viewpoints conclusion

The EWS assessed the landscape character and visual impacts of the Previous Application through ten viewpoints selected from publicly accessible locations surrounding the Project site. This assessment concluded that:

> *'Although the project has a large footprint, the proposed solar panels will form a small element in views from the area surrounding the project. While there would be a change to views, the visual impact would be minor for even the most sensitive of viewers' (EWS pp 58).*

Tribunal in their findings on impacts to Public Realm Views commented that:

'For such a large facility, opportunities to see it from the public realm are limited to the local road network, the Darlington Road, and elevated viewpoints associated with volcanic cones' (Para. 163). This section re-visited the ten viewpoints which formed the basis of the EWS LVIA within the context of the New Proposal. From this re-examination of views, it is evident that the layout of the new Proposal will be visually consistent with the Previous

Application. The proposed changes in the layout of the operations and maintenance facility, substation and battery storage area remain in a similar location to that which was assessed by the Previous Application and considered by the Tribunal. The photomontage prepared for the Proposal of viewpoint VP7 from Darlington-Corangamite Road, the closest view point to the Site, demonstrated that these features would be at a distance that, although visually noticeable, would not alter the views or change the character of the area in any appreciable way. The photomontage prepared for the new Proposal, illustrates that this remains the case.

The EWS concluded that impacts on views toward the Proposal would be low-negligible and in some cases, nil. The findings of this assessment for the new proposal are consistent with the EWS and find that the potential impacts on views towards the Proposal would be no more than low-negligible.

It is not the purpose of this assessment to pre-empt the position of the consent authority with regards to the change in views and landscape character of the new Proposal. However the new Proposal sits wholly within the planning envelope of the Previous Application and, as demonstrated by the preceding assessment, there appears to be no reason with regards to the design of the new Proposal for the findings to alter from those arrived at by the Tribunal for the Previous Application.

6.4 Residential dwellings

The assessment of impacts on views from residential dwellings was considered by the EWS. The EWS determined that potentially affected residential dwellings were either at such a distance that the proposed development would not bring about an appreciable change in views or visual impact, and that existing mature plantings around dwellings or in the wider landscape would assist in screening or filtering views towards the project. Further, the proposed 20 m perimeter landscape screening around the Proposal would be effective in managing any residual views from nearby dwellings.

The Tribunal had the benefit of undertaking site visits to several of the nearby dwellings on adjoining properties. The Tribunal's findings for visual impact in views from the private realm confirmed that:

> …*''the subject land is set back at sufficient distances from these small residential lots, and other farmhouses, and will be buffered by a landscaped edge. The proposed landscaping would have a similar appearance as other windbreak and shelterbelt plantings, albeit longer than some other examples in the landscape. Views to Mt Meningoort and over the wider plains would remain.'* (Para. 186)
>
> *'The impacts on residential amenity and outlook do not warrant refusal of a permit. We accept Mr Burge's analysis that the proposed landscape plantings around the site boundary will mitigate views that could be gained from dwellings east and south of the subject land.'* (Para. 187)

As determined in Section 3 of this report, the site boundaries and key project features of this new Proposal are consistent with those of the Previous Application. A summary of the key considerations for views and visual impacts from residential dwellings is provided below:

- The nearest dwelling is approximately 450 m to the south-east of the Proposal;
- There are only 4 non – involved dwellings within 1.0 km of the Proposal;
- The proposed height of the solar panels remains at 4.0 m;
- Existing plantings around dwellings and shelterbelt plantings in the wider landscape will assist in screening or filtering of views towards the Proposal; and
- The Proposal will install a 20m wide landscape screen around much of the Site boundary.

Figure 6-23 shows the non-associated residential dwellings within approximately 1.0 km of the nearest site boundary. There are other residential dwellings to the east and south-east of the project boundary which are greater than 1.0 km from the nearest site boundary.

Figure 6-23 Residential dwellings within 1.0 km of a site boundary (landowner dwellings excluded)

Recognising that the new Proposal retains the original site boundaries, does not reduce setbacks from the originally considered residential dwellings, preserves the overall panel height of 4.0 m above ground level and retains the 20 m wide landscape buffer referred to by the Tribunal as being of benefit to views from both the public and private domains, there are no changes proposed by this new Proposal that would result in a material change in views or visual impact from residential dwellings that would alter conclusions reached in the EWS for the Previous Application.

In summary, residential dwellings are either at such a distance that the Proposal would not bring about an appreciable change in views or visual impact, existing vegetation would assist in screening or filtering views towards the project, and that the proposed 20 m perimeter landscape screening would effectively manage residual views from nearby dwellings.

This is supported by the photomontage shown and Viewpoint 7 which demonstrated that the change in views would not be discernible.

7. Assessment of the new Proposal in line with the Guideline

This section reviews the new Proposal against the requirements and considerations set out in the Solar Energy Facilities - Design and Development Guideline (2019). This review is based upon the re-examination of viewpoints provided above, and the Tribunal's findings for the Previous Application.

The Guideline sets out key steps and considerations to assist proponents and developers of SEFs at all stages of the planning and approvals process. Key steps in the process apply to the identification of suitable sites, design stages of the process, construction and operation and maintenance. Considerations relevant to views and visual impact are generally set out under the Design Stage considerations and include site selection and design of the project, cumulative visual impacts, landscape screening and the impact of security measures including visual impact and light spill.

For this new Proposal, there are no existing, proposed or approved solar farms in proximity to the Site, and the Proposal will connect into the existing high voltage transmission line that bisects the Site, so there is no requirement for additional offsite transmission infrastructure. For these reasons, the consideration of cumulative impacts is not applicable.

The Guideline recognises the value that local communities, Victorians, and Visitors alike place on landscapes with significant visual amenity due to their environmental, social and economic benefits. The Guideline also recognises the potential for the visual impact of a SEF and its associated infrastructure on its immediate location, and the broader landscape setting. Specifically, the Guideline considers the contributing elements of the visual impact of a SEF as:

- *the sensitivity of the landscape and its ability to absorb change*
- *the size, height, scale, spacing, colour and surface reflectivity of the facility's components*
- *the number of solar energy facilities located close to each other another within the same landscape*
- *the excessive removal, or planting of inappropriate species of vegetation*
- *the location and scale of other ancillary uses, buildings and works including transmission lines, battery storage units and associated access roads*
- *the proximity to environmentally sensitive areas such as public land, water courses and low-lying areas.*

The size, height, scale, spacing, colour and surface reflectivity of key Proposal features are described within section 4, and are incorporated within the photomontage digital modelling.

These aspects underpin the visual assessment of the Proposal and were considered in detail in the EWS for the Previous Application and by the Tribunal as set out at Section 3 of this report, and through the re-examination of the project in views described above.

The following sections review the key siting and design considerations for new SEFs.

7.1.1 Siting facility components

The Guideline provides several siting considerations to be made by Proponents to minimise potential impacts. Several of the siting considerations are relevant to landscape and visual impacts, and include:

- providing a minimum setback of 30m from any part of a component that makes up a solar pod or zone, or other building or structure, measured from the neighbouring property boundary;
- locating inverters that service a solar zone/pod towards the interior of the site, away for [sic] neighbouring property boundaries;
- grouping large electrical transfer, substation, battery storage unit, carparking or other ancillary buildings or structures in a single location accessible from a main road; and

- providing appropriate landscaping in an agreed setback area, to screen any buildings or solar components from view from a neighbouring sensitive use, main road or other highly visible public vantage points.

The new Proposal addresses the siting considerations described above as follows:

- The Proposal includes a 20m wide perimeter landscaping buffer, 10m wide asset protection zone and drain reserve where applicable. These measurable setbacks in conjunction with the 5m construction setback either side of the firebreak will exceed the required setbacks from neighbouring property boundaries;
- Inverters have been located towards the interior of the Site and along a central access road as shown on the 'Site plan' included at Appendix A;
- The onsite substation, battery storage, ancillary buildings and parking are located together, adjacent to an existing high-voltage transmission line along the western boundary which is located wholly within the Site boundary. This location is both away from nearby sensitive residential receptors and in proximity to an existing established all-weather road; and
- Extensive perimeter landscaping is proposed and has been designed to assist filtering or screening views from sensitive viewing locations.

7.1.2 Landscape Screening

The Guideline states that the solar farm proponent should establish landscape screening to reduce the visual impacts of the facility on neighbouring sensitive uses or public views from a main road.

The Guideline states that the Proponent should:

- use vegetation species that are indigenous to the area or region;
- locate vegetation along the perimeter of a site, within proposed setbacks;
- ensure vegetation will be of sufficient height, width and foliage density at maturity to screen relevant solar components and the associated built form from view;
- plant vegetation early in the construction stage; and
- plant vegetation in accordance with any fire management plan arrangements, to avoid increased bushfire risk exposure.

The new Proposal addresses the landscaping guidance as follows:

- The Proposal includes a vegetation screen (4 rows, 20 m wide) in conjunction with existing established vegetation around the perimeter of the Site (see the Site Plan);
- A local tree planting service (OZ Trees) has provided a list of suitable screening species to be included in the vegetation screens. The species selection has been based on their experience of planting tree lines in other areas of the wider landholding and in the local area where the Proposal is located (Appendix C);
- The Tribunal determined in the assessment of the Previous Application that the proposed vegetation screens were 'acceptable and sufficient' (Para. 191). As established in Section 3 of this report, this new Proposal adopts the previous landscape proposal considered in the EWS and by the Tribunal in the Previous Application.
- The vegetation screens will be installed as soon as practicable after construction begins onsite in line with the OZ Tree methodology provided in Appendix C.
- The management of the Vegetation has been assessed as part of the 'Bushfire Risk Assessment Report and Mitigation Plan' that supports the Planning Application. The management of the vegetation screens to reduce fire risk will not affect their ability to screen views of the Proposal.

7.1.3 Designing security measures

The Guideline recognises that the security measures required by solar facilities, such as fencing and lighting, may have off-site visual impacts. The Guideline requires that security measures:

- prevent light spill to nearby sensitive land uses and vegetated areas;
- use external lighting of a lux and colour output that provides safe levels of illumination while avoiding impacts on neighbouring habitat;
- be designed to consider the impact on the movement of wildlife within the area; and
- be set back an appropriate distance from a property boundary and use landscaping or vegetation to screen security fencing and lighting.

The new Proposal addresses the Designing of Security Measures guidance as follows:

The landscape screening is located along all site boundary visible from areas external to the Site where there is no existing vegetation. This arrangement has been designed to screen external views of the perimeter security fencing. The only section of boundary fence without screening is along a short section of security fencing that shares an internal boundary with the host property which backs onto Mt Meningoort. This area benefits from topographical screening along this section of the Proposal.

The only lighting on site will be minimal on demand or motion-activated, downward-facing lighting, restricted to a maximum of 4m above ground level. This will ensure that there will be no unacceptable offsite impacts due to light spill from the Proposal.

7.2 Impacts on landscape values

The photomontage included at Viewpoint 7 has demonstrated that this New Proposal will be visually consistent with the Previous Application as reviewed by the Tribunal. Other than the Draft Guidelines being formalised, there have been no change to relevant sections of the Guideline that are relevant to views, visual impact or landscape character.

The visual assessment undertaken in Section 6 of this report, confirmed that the New Proposal will sit low in the landscape and will closely follow the contours of the low lying, cleared and generally flat agricultural land.

The Proposal will not impact or detract from notable landscape features or views that are identified in the SWLVAS or the Corangamite Shire Planning Scheme including nearby features including Mount Meningoort and Lake Bookaar, or further, more elevated locations which include Mt Leura and the Camperdown Botanical Gardens. For these reasons, the New Proposal will not detrimentally impact on the landscape character of the area.

Summary of the Assessment of the new Proposal against the Guidelines

The Solar Energy Facilities - Design and Development Guideline (2019) was finalised following the lodgement of the Previous Application. The Guideline applies to any proposal for a new solar energy facility in Victoria, which includes this new Proposal. It is not the intention of the Guideline that each criterion be met, rather they set-out principles in a stepwise manner to assist proponents with site selection and design of new Projects. Three components of the Design Stage are relevant to a consideration of views, visual impact and landscape character and can be broadly defined as site selection, landscaping and security measures.

The following sets out the key criteria relevant to landscape and visual impact considerations for a new SEF and how these objectives are met by the Proposal:

- The Proposal is located within predominantly cleared farmland. As such, minimal vegetation removal is required to enable the Proposal's development.

- The Proposal is located on low lying, relatively flat area of land below topographical features such as Mt Meningoort. The siting and design of the Proposal and its components avoids the need for unnecessary or excessive earthworks or changes to the natural topography of the landscape.
- The Proposal has been considered in light of the cultural heritage and landscape values of the area, particularly, those captured in the paintings by Eugene Von Guerard and the landscapes of local and state significance as acknowledged by the SWLVAS, and referred to by various overlays within the Corangamite Planning Scheme. These same values were considered by the Tribunal for the Previous Application. The findings of the Tribunal on the effects of a project of the same size, scale and proportion to the Proposal was that *'we do not consider the proposal would fundamentally change the rural and agricultural character associated with farmland that sits between cones west of the lakes and wetlands' (*Para. 190*).*
- The Proposal has been sited to avoid the loss of native vegetation and biodiversity. Recognising that the Proposal is located on cleared farmland and includes the planting of substantive landscape buffers of native vegetation along the perimeter of the Site, the Proposal will bring about a net recruitment of native vegetation in the area.
- The Proposal has been designed to connect directly to the high voltage electricity lines that bisect the Site. Connecting the Proposal to existing onsite transmission infrastructure negates the need for any additional offsite transmission infrastructure that could have additional offsite amenity impacts.
- The Proposal is located away from urban areas and any areas of urban growth. Camperdown, the nearest township is over 8 km southeast of the nearest Site boundary.
- The Proposal provides generous setback distances to residential dwellings, reducing the potential for visual impacts (the nearest dwelling is approximately 450m from the Proposal's boundary and there are only four dwellings in total, located within 1 km of the Proposal).
- Section 6 of this report has assessed the project in views from key publicly accessible locations in proximity to the project including Camperdown, views from elevated hills recognised by the planning scheme, tourist locations and public roads to determine the context of the project in views and the character of the area. This assessment concluded that the project will sit low in the landscape and will not compete with or impact on views and landscape features that define the character of the region.
- The views and assessment methodology of this report are the same as that considered by the Tribunal which found that the visual impact of the Previous Application would not result in an unacceptable level of visual impact.
- The Proposal has ready access to Darlington – Camperdown Road to the east of the Site, which is a major road. There are no locations along this road where the visual impact of the Proposal is considered to be greater than low.
- The landscape assessment has considered views from elevated locations, the surrounding road network and heritage areas to determine the sensitivity of the landscape and its ability to absorb change. It is concluded that the landscape in which the Proposal is located is one that can absorb the type and nature of potential change in the landscape. It is apparent that the Tribunal did not disagree with these findings for the Previous Application.

Based on the above, it is considered that the Proposal is wholly consistent with the design and siting considerations of the Guideline.

8. Conclusion

This report has reviewed the potential for impacts to views, amenity and landscape character that may be brought about by a new Proposal to construct and operate a 200 MW (ac) solar facility located at 520 Meningoort Road, Bookaar.

The new Proposal is to be located at the same site and within the same footprint as a Previous Application, Planning Permit Application No. PP2018/060 for a similarly sized project. The Previous Application was issued a notice of Refusal to Grant a Permit, by the Corangamite Shire. The Previous Application also received several public submissions including concerns regarding impact to specific views and vistas, landscape character, views from nearby residential dwellings and farming properties, and the view captured by landscape artist Eugene Von Gerard overlooking the Meningoort Homestead. Following Council's issue of a notice of Refusal to Grant a Permit, the Proponent initiated a review of Council's decision by VCAT. The submitter's concerns listed above, formed part of the key matters considered by the Tribunal.

The Tribunal concluded that the Previous Application would be acceptable in the context of the existing views, landscape character and amenity of the area, and the view captured by landscape artist Eugene Von Guerard. The Tribunal was also satisfied that concerns relating to glint, glare and any loss of native vegetation can also be appropriately managed by the Proposal. The Tribunal's findings concerning these aspects are summarised in Section 3 of this report.

Despite the above matters regarding views, character and amenity being considered acceptable, the Previous Application was however rejected on the grounds of further detail being required regarding bushfire risk and hydrology.

This new Proposal has been prepared to provide greater detail in response to the VCAT decision regarding bushfire risk, and hydrological concerns. As a result, the project layout has been slightly altered.

Section 4 of this report has reviewed the new Proposal and the changes made to the layout as a result of the more detailed information provided by the bushfire risk and hydrological studies. These changes to the Proposal layout were reviewed against the key components of the Previous Application, which the Tribunal considered in their findings to be acceptable having regard to objectors concerns for views, visual impact and landscape character. This review of the proposed changes determined that changes to the amended layout of the new Proposal are confined to the location of the required site access, two prefabricated bridges along the access track, array spacing, and siting of the onsite substation, battery area and operations buildings.

For consistency, the changes proposed by the new Proposal were assessed through a re-examination of the ten viewpoints that formed the basis of the EWS and which informed the findings of the Tribunal. The re-examination of the new Proposal through these ten viewing locations confirmed that the proposed changes would be minor and more importantly would not be readily discernible in views towards the Proposal from the surrounding area.

The proposed provision of landscape screening is consistent with the plans reviewed by the Tribunal. This landscape screening is considered to be acceptable and sufficient for filtering or screening views to the Proposal, upon establishment and maturity of the vegetation. The Proposal is committed to planting the landscape screen early in the construction phase of the Proposal.

For the above reasons, it is considered that the observations and conclusions made for the Previous Application within the EWS are relevant to the new Proposal which stated that the project would:

> *….'form a small element in views from the area surrounding the project. While there would be a change to views, the visual impact would be minor for even the most sensitive of viewers'* (Page 53),

and would:

> *'sit low within the landscape and will not be visually prominent. 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'* (Page 54).

Following the VCAT hearing, DELWP published the *Solar energy facilities – design and development guideline* in August 2019. The Guideline sets out principles in a stepwise manner to assist proponents with site selection and design of new projects through to construction and operation. Key considerations relevant to views and visual impact are set out under the design stage consideration and can be broadly defined under three sections including site selection, landscaping and security measures.

The Guideline also suggests consideration should be given to cumulative impacts that may be brought about through locating similar facilities and grid connecting infrastructure in close proximity to one another. As there are no other existing or known proposed solar farms in proximity to the Proposal, and the Proposal is proposed to connect directly into an existing high voltage transmission line bisecting the Site, there is no potential for cumulative impacts.

Section 6 of this report, undertook a re-examination of the potential for impacts to views and landscape character of the new Proposal. This assessment, when read in conjunction with the EWS, is consistent with the Guideline with respect to considerations set out for views and visual impact and landscape character. It is considered that the new Proposal meets all siting and design criteria relevant to consideration of views, visual impact and landscape character.

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Appendix A. Site Layout

DISTANCE BETWEEN ROWS (NORTH OF 220kV TRANSMISSION LINE)
13.00m PILE TO PILE

MENINGOORT RD
UNFORMED WITHIN SITE BOUNDARY

ARRAY AREA BOUNDARY

EMERGENCY ACCESS GATE '1' 8m WIDE

20m OFFSET FROM EXISTING
ROAD TO FENCE BOUNDARY

MAIN ENTRY POINTS '3' AND '4' GATED 8m WIDE

PORTION OF EXISTING 11kV LINE
TO BE BURIED UNDERGROUND

UNDERGROUND CABLES TO BE INSTALLED UNDER MENINGOORT RD

FLOOD CONSTRAINT
INFRASTRUCTURE LIMITED TO FENCE, TRACK AND ARRAYS

OPERATIONS BUILDINGS
SEE 'APPENDIX D: OPERATIONS BUILDINGS PLAN' FOR DETAIL
97m FROM SITE BOUNDARY

EMERGENCY ACCESS GATE '2' 8m WIDE

220kV OVERHEAD TRANSMISSION LINE (EXISTING)

EXISTING VEGETATION
WITHIN THE PROJECT BOUNDARY

VEGETATION BUFFER
5m BETWEEN EXISTING AND VEGETATION SCREENS

FLOOD CONSTRAINT
INFRASTRUCTURE LIMITED TO TRACK AND FENCE

PRE-FABRICATED BRIDGE (4m x 12m)
EXTENDED OVER DRAIN

15m FLOOD EXCLUSION ZONE
(7.5m EITHER SIDE OF THE CENTRE OF THE DRAIN)

EAST WEST DRAIN
CONTAINS NATIVE SEDGE

EMERGENCY ACCESS GATE '3' 8m WIDE

ARRAY AREA BOUNDARY

CULVERT (2 x 300mm PIPES) AT DRAIN CROSSING

EMERGENCY ACCESS GATE '4' 8m WIDE

SITE PLAN VIEW
SCALE 1:5000

VEGETATION SCREEN
20m WIDE

INTERNAL TRACK NETWORK

DARLINGTON CAMPERDOWN ROAD

ASSET PROTECTION ZONE (APZ)
10m WIDE APZ LOCATED AROUND THE INTERNAL
TRACK NETWORK INCLUDING THE PERIMETER
ACCESS TRACK

TRACKER LENGTH 56m

FARM ACCESS TO NORTH EAST FIELD OUTSIDE SITE

PROPOSED IMPROVEMENTS TO THE INTERSECTION OF
MENINGOORT ROAD AND DARLINGTON-CAMPERDOWN ROAD

11kV OVERHEAD LINE (EXISTING, CONT.)

MENINGOORT ROAD (UPGRADE TO 7m WIDE)

MAIN ENTRY POINTS '1' AND '2' GATED 8m WIDE

6m GAP IN VEGETATION SCREENING

SITE ACCESS TO DRAIN
2 x 3m WIDE GATE ON EACH FENCE LINE

INVERTER STATION
CONTAINS 2 INVERTERS
INSTALLED ON 26x22m HARDSTAND

TEMPORARY CONSTRUCTION COMPOUND AND LAYDOWN AREA
1.44 ha WITH 10m APZ

POINT OF CONNECTION TO EXISTING TRANSMISSION LINE
186m FROM SITE BOUNDARY

SUBSTATION AREA
1.76 ha WITH 10m APZ
214m FROM SITE BOUNDARY

BATTERY AREA
0.91 ha WITH 10m APZ
102m FROM SITE BOUNDARY

NORTH SOUTH DRAIN
WITHIN DRAINAGE RESERVE 10m
OUTSIDE SITE BOUNDARY

PRE-FABRICATED BRIDGE (4m x 12m)
EXTENDED OVER DRAIN

SECURITY FENCE (2.5m HIGH)
OFFSET 2m TO SCREEN

AGRICULTURAL FENCE (1.2m HIGH)

UNDERGROUND CABLE
HORIZONTAL BORE TO BE USED TO INSTALL CABLE
UNDERNEATH EXISTING DRAIN WITHOUT DISTURBING AREA

CULVERT (2 x 300mm PIPES) AT DRAIN CROSSING

NORTH SOUTH DRAIN
LOCATED WITHIN 10m WIDE DRAINAGE RESERVE

CULVERT (1 x 300mm PIPE) AT DRAIN CROSSING

SITE BOUNDARY

DRAINAGE RESERVE EXCLUSION ZONE (10m)
TRACK AND CABLES ONLY:
HORIZONTAL BORE TO BE USED TO INSTALL CABLE
UNDERNEATH DRAINAGE RESERVE WITHOUT DISTURBING AREA

WATER TANK
100kL
INSTALLED ON 16m x 26m HARDSTAND
WATER TANKS ARE LOCATED AT EACH ACCESS POINT

DISTANCE BETWEEN ROWS (SOUTH OF 220kV TRANSMISSION LINE)
12.15m PILE TO PILE

BILL OF MATERIALS (INDICATIVE)

MATERIAL	DESCRIPTION	QUANTITY	UNITS
HV CABLE	240mm2 SINGLE CORE Al	285	km
DC CABLE	SUB-ARRAY (10mm2) TWIN Cu	120	km
DC CABLE	STRING (4mm2) TWIN Cu	3400	km
INVERTER STATIONS	SMA MVPS 5500-EV	41	EA
MODULES	TYPICAL 440W	641088	EA
TRACKERS	NEXTRACKER GEMINI 2P	5724	EA
COMBINER BOXES	1000V 32-INPUT COMBINER BOX (IP65)	954	EA
PIER	NEXTRACKER PIER, 4m DEEP	57240	EA

OVERALL SYSTEM SPECIFICATION

MODULE	641088	TYPICAL 440W
INVERTER STATION	41	SMA MVPS 5500-EV (CONTAINING 2x 2750kVA INVERTERS)
INVERTER	82	SMA SUNNY CENTRAL 2750-EV
BATTERY	100	MWh
DC CAPACITY	282.08	MWp
AC CAPACITY	200.00	MVA (LIMITED FROM 225.5MVA)
DC/AC RATIO	1.41	

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL DIMENSIONS TO BE VERIFIED ON SITE BY CONTRACTOR.
2. PRINT IN COLOUR.
3. THIS DRAWING IS BASED ON THE INFORMATION SUPPLIED TO THE DESIGNER FROM ITS CLIENTS OR SUBCONTRACTORS AND HAS BEEN PROVIDED IN ACCORDANCE WITH GSES' TERMS AND CONDITIONS.

LEGEND:

- INVERTER STATION (ON HARDSTAND)
- AC TRENCH
- WATER TANK WITH HARDSTAND
- SITE ACCESS GATE (MAIN & EMERGENCY)
- INTERNAL TRACK NETWORK
- ASSET PROTECTION ZONE (APZ)
- ACCESS ROAD (EXISTING)
- EXISTING VEGETATION
- PROPOSED VEGETATION
- OVERHEAD HV TRANSMISSION LINE
- OVERHEAD HV TRANSMISSION LINE (EXISTING)
- OVERHEAD 11kV LINE (EXISTING)
- UNDERGROUND 11kV LINE
- TRANSMISSION LINE EASEMENT
- SECURITY FENCE
- DRAINAGE RESERVE
- PROJECT BOUNDARY
- ARRAY AREA BOUNDARY
- DRAIN
- LAYDOWN AREA
- OPERATIONS AREA
- BATTERY AREA
- SUBSTATION AREA
- 1.2m HIGH AGRICULTURAL-STYLE FENCE
- ACCESS GATE TO VEGETATION SCREEN & DRAIN (3m)
- PV ARRAY (NORTH OF 220kV TRANSMISSION LINE)
- PV ARRAY (SOUTH OF 220kV TRANSMISSION LINE)

SITE PLAN APPENDIX LIST

- APPENDIX A: BATTERY AND SUBSTATION PLAN
- APPENDIX B: SUBSTATION ELEVATION
- APPENDIX C: BATTERY ELEVATION
- APPENDIX D: OPERATIONS BUILDINGS ELEVATION
- APPENDIX E: GATE ELEVATION
- APPENDIX F: TRACKER ELEVATION
- APPENDIX G: INVERTER ELEVATION
- APPENDIX H: INVERTER MAX. ELEVATION
- APPENDIX I: FILE EXAMPLE
- APPENDIX J: DETAIL OF ARRAY AREAS
- APPENDIX K: BOUNDARY DETAIL EXAMPLES
- APPENDIX L: CABLE ROUTES
- APPENDIX M: TEMPORARY CONSTRUCTION COMPOUND LAYOUT

NOT FOR CONSTRUCTION

REVISION PANEL

REV	DATE	DRN	DETAILS	APR'D
3	22/06/21	B.C	UPDATED PER CLIENT REQUEST	A.B
2	14/12/20	H.S	UPDATED APPENDIX LIST	A.B
1	22/10/20	H.S	PLANNING SUBMISSION	A.B
0	29/05/20	H.S	ISSUED FOR CLIENT APPROVAL	A.B

CURRENT REV CONTRACTOR: GSES CURRENT REV PROJECT:

CURRENT REV 22/06/21
AUTHORISED
A.BONANNO
SIGNATURE

DESIGN PANEL

DESIGNED	29/05/2020	AUTHORISED	29/05/2020
H.SMITH		A.BONANNO	
DRAWN	29/05/2020	SIGNATURE	
H.SMITH			
REVIEWED	29/05/2020		
B.COOK			

CONTRACTOR: GSES

ng/e
NG ELECTRICAL PTY LTD

BOOKAAR 200MW SOLAR FARM
520 MENINGOORT ROAD, BOOKAR VIC 3260
SOLAR GENERATION
SITE PLAN VIEW

A1 SHT SIZE | TOTAL SHEETS: 3 | PROJECT No: P1017 | REVISION
MAXIMO ID:
SUPERSEDES:
DRAWING NUMBER
P1017-01-001-01

Appendix B. Photomontages

B.1 Reapplication Photomontage

VIEWPOINT 7 – Darlington-Camperdown Road #3

View looking south to north

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

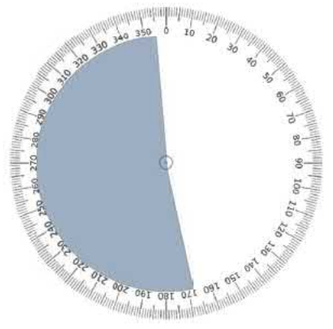
See Sheet 2/3 | See Sheet 4/5 | See Sheet 6/7

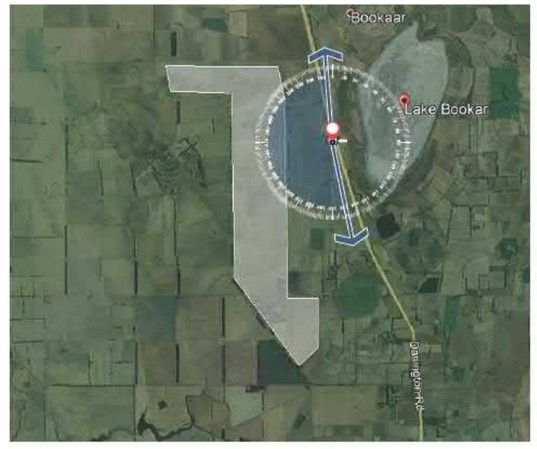
Photomontage

See Sheet 2 | See Sheet 4 | See Sheet 6

Photomontage - With landscape screening

See Sheet 3 | See Sheet 5 | See Sheet 7





Viewpoint Map

Distance to Project: Approximately 870m west

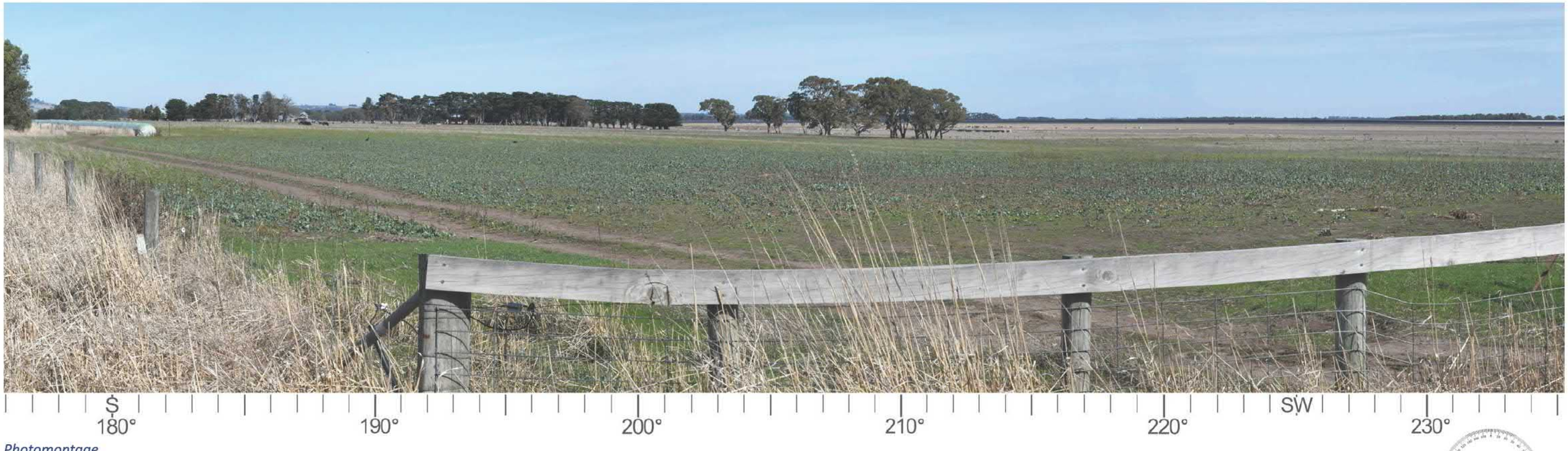
Viewpoint location and orientation

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south to south west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view



Photomontage

Jacobs

Bookar Solar Farm (Re-application 2020): VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: SM
SHEET: 2/8 DATE: 06/10/2020

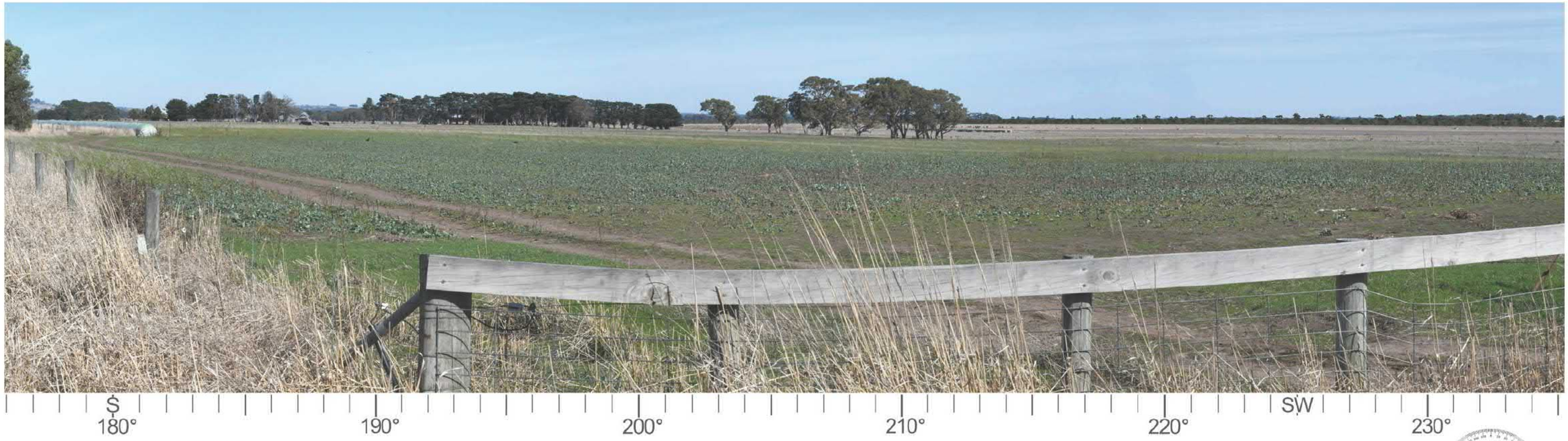
Distance to Project: Approximately 870m west

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south to south west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view



Photomontage - Landscape Screening

Distance to Project: Approximately 870m west

Jacobs

Bookar Solar Farm (Re-application 2020): VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: SM
SHEET: 3/8 DATE: 06/10/2020

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south west to west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

Distance to Project: Approximately 870m west

Jacobs

Bookar Solar Farm (Re-application 2020): VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: SM
SHEET: 4/8 DATE: 06/10/2020

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south west to west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage - Landscape Screening

Distance to Project: Approximately 870m west

Jacobs

Bookar Solar Farm (Re-application 2020): VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: SM
SHEET: 5/8 DATE: 06/10/2020

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking west to north west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

Jacobs

Bookar Solar Farm (Re-application 2020): VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: SM
SHEET: 6/8 DATE: 06/10/2020

Distance to Project: Approximately 870m west

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking west to north west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

Bookar Solar Farm (Re-application 2020): VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: SM
SHEET: 7/8 DATE: 06/10/2020

Distance to Project: Approximately 870m west

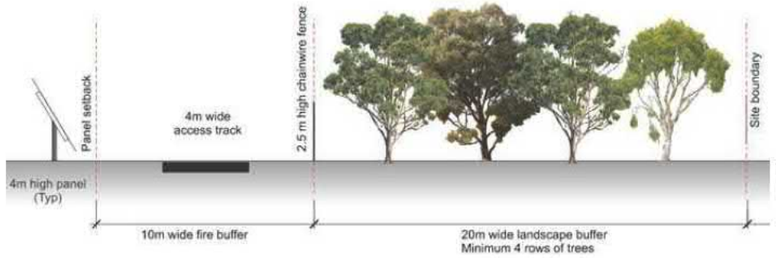
VIEWPOINT 7 – Darlington-Camperdown Road #3

Wireframe view looking south to north

(GPS 54 H, 684317 m E, 5776955 m S)

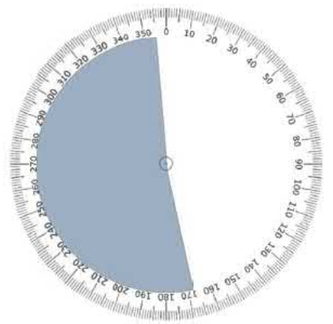
Existing wireframe view

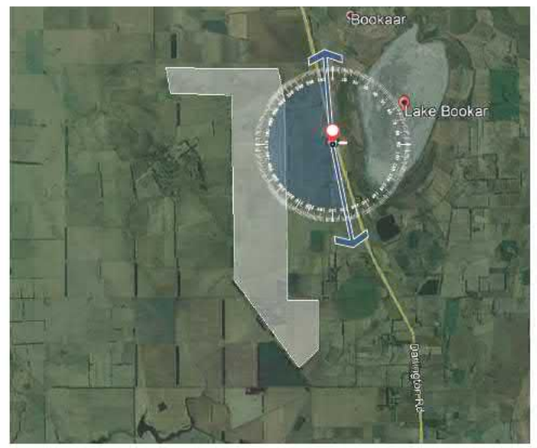
Wireframe view



Landscape screening indicative section

The Project proposes a 20m wide landscape buffer, consisting of 4 rows of native species. Landscape screening has been modelled using a range of species at an average height of 8m, and a maximum height of 12m for some Eucalypt species.





Viewpoint Map

Distance to Project: Approximately 870m west

Viewpoint location and orientation

B.2 Previous Application Photomontage

Bookaar Solar Farm

VIEWPOINT 7 – Darlington-Camperdown Road #3

View looking south to north

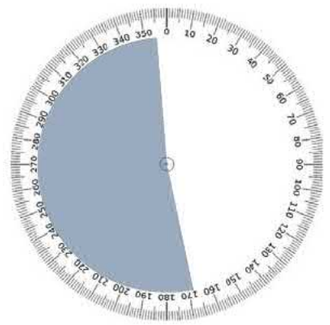
(GPS 54 H, 684317 m E, 5776955 m S)

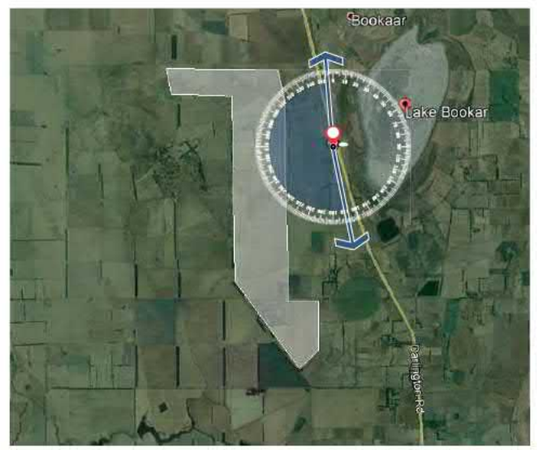
Existing view

See Sheet 2 | See Sheet 3 | See Sheet 4

Photomontage

See Sheet 2 | See Sheet 3 | See Sheet 4





Distance to Project: Approximately 870m west

Viewpoint location and orientation

Viewpoint Map

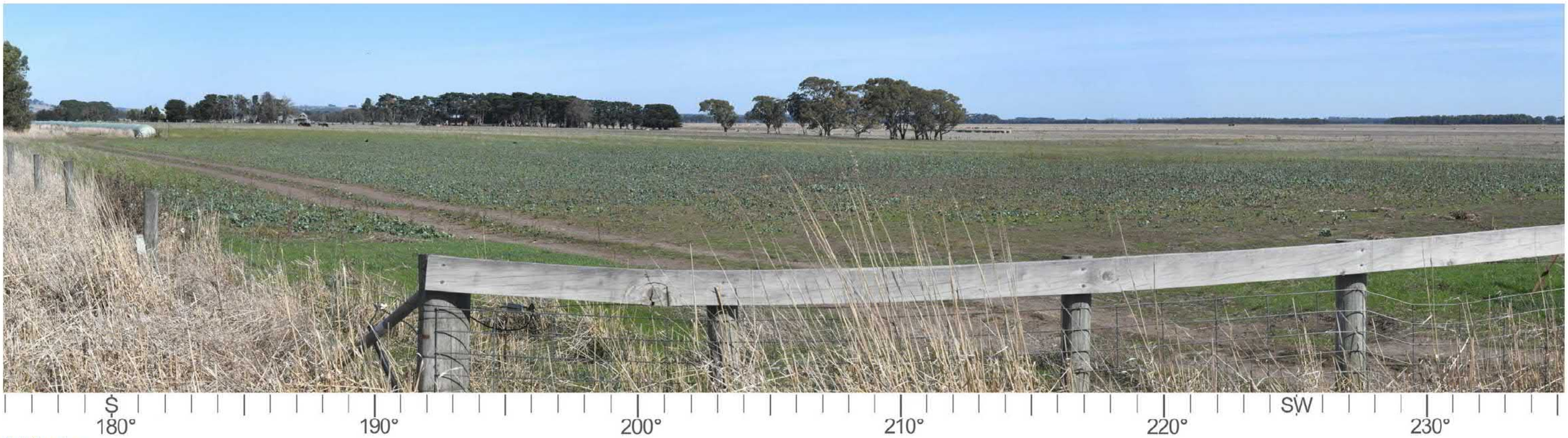
JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 1/5 DATE: 27/05/2019

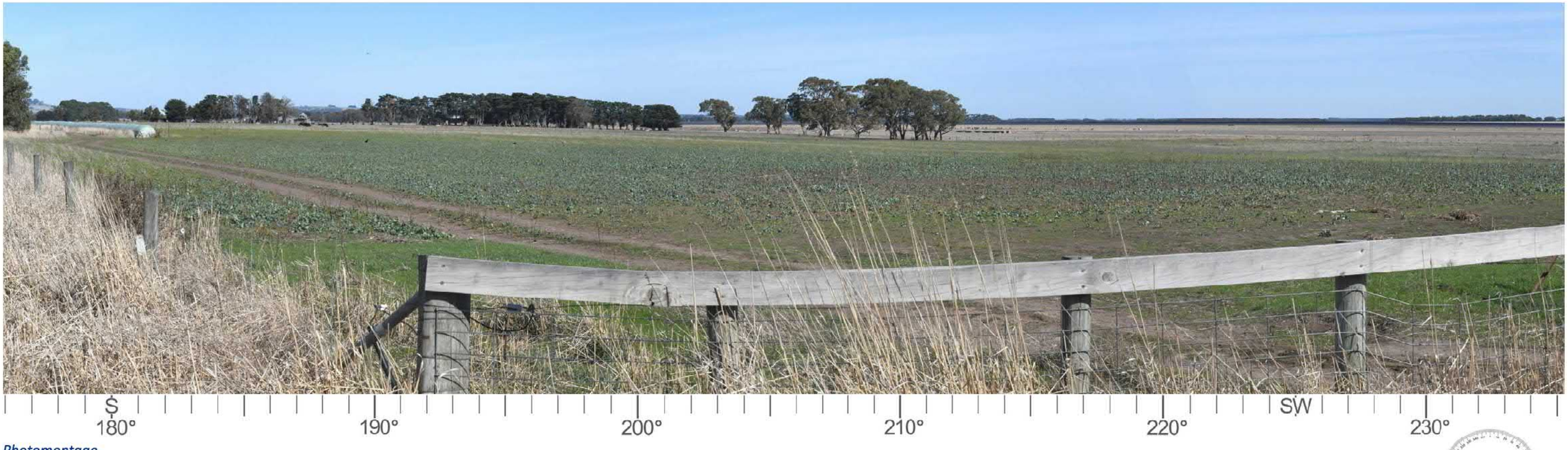
VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south to south west

(GPS 54 H, 684317 m E, 5776955 m S)



Existing view



Photomontage

JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 2/5 DATE: 27/05/2019

Distance to Project: Approximately 870m west

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south west to west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 3/5 DATE: 27/05/2019

Distance to Project: Approximately 870m west

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking west to north west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 4/5 DATE: 27/05/2019

Distance to Project: Approximately 870m west

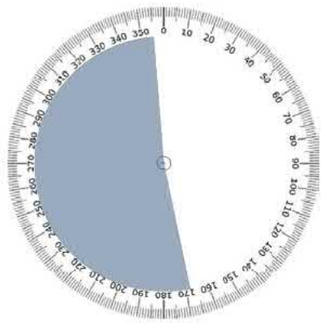
VIEWPOINT 7 – Darlington-Camperdown Road #3

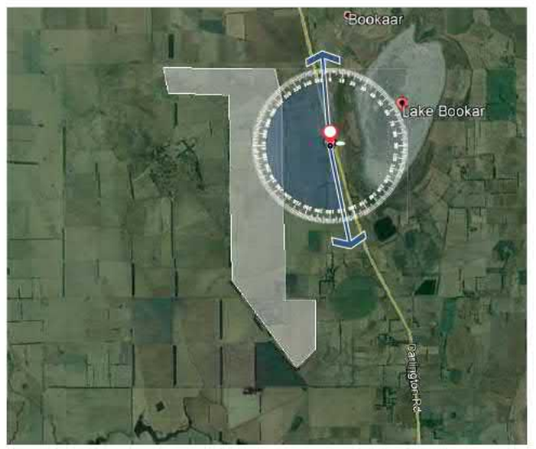
Wireframe view looking south to north

(GPS 54 H, 684317 m E, 5776955 m S)

Existing wireframe view

Wireframe view





Distance to Project: Approximately 870m west

Viewpoint location and orientation

Viewpoint Map

Appendix C. Draft Landscape Plan

Bookaar Solar Farm Draft Landscape Plan

Introduction

Oz Trees Colac Pty Ltd has been commissioned by Bookaar Renewables Pty Ltd to provide a plan to establish and manage a number of native vegetation screens for the proposed Bookaar Solar Farm at and adjacent to 520 Meningoort Road, Bookaar. The purpose of the proposed vegetation screens are to provide a visual barrier that will screen views of the solar farm over its 30-year lifetime. As such, the requirement for the success of the screens will be the ability to establish them quickly with a density at maturity that will ensure views of the Solar Farm are adequately screened.

As a local organisation, Oz Trees has extensive experience in the region, and more specifically in the Bookaar area, having provided tree planting services to many of the landholdings in and around Bookaar, including the Meningoort landholding on which the solar farm will be constructed.

The following report details the design, site preparation, species selection, planting regime and maintenance required to install a successful vegetation screen at the proposed Site. Note, species selection will need to consider site specifics including local climatic conditions, soil type and slope position.

This report has been compiled following a site inspection conducted by the Oz Trees on the 30 June 2017, and in consultation with Bookaar Renewables.

Design

The purpose of the design of the vegetation screens is to reduce views towards the proposed solar farm, with an understanding that the screens will be required to have a lifespan to match the approximate 30 year life of the Proposal. These factors have been considered to inform the design below.

The vegetation screens would be planted within a 20 m band along much of the perimeter of the Solar Farm as shown on the Site Plan that accompanies the main Planning Report. The geometry of a suitable planting plan is provided in Figure 1 below, along with an illustrative cross section of the Proposal's boundary in Figure 2. The staggered design of the planting plan will maximise the visual density of the screens while providing adequate area between individual plants to avoid competition and encourage maximum growth.

Using this design, it is estimated that an effective screen with adequate density and height (approximately 4 m) could be established within 4 years. This is based on the outcome of other plantings in the area.

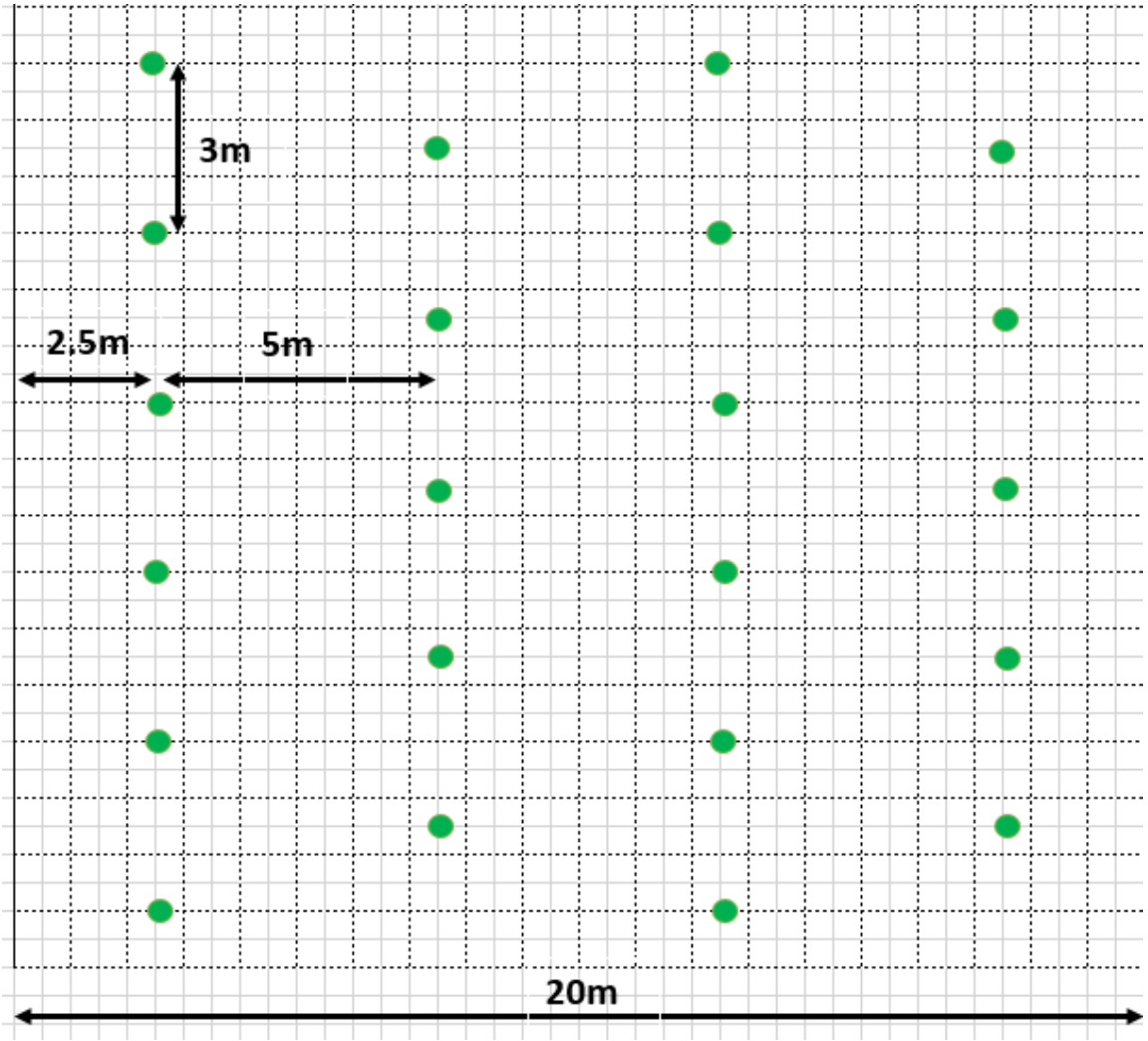


Figure 1: Approximate Geometry of the proposed vegetation screen.

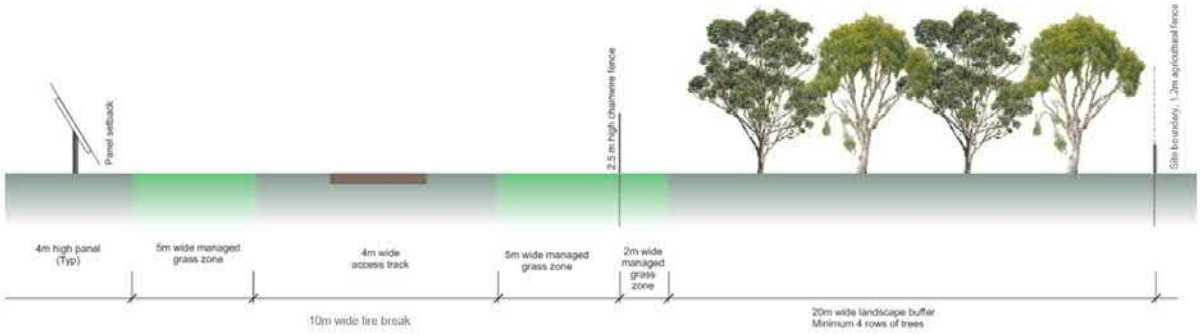


Figure 2: Illustrative cross section of screen and proposal boundary

Species selection will be key to achieving the required outcome of the vegetation screens. Selection will need to consider both the required height of the screen while ensuring that in combination the plantings achieve the necessary density to provide adequate screening. Based on the findings of the Landscape and Visual Impact Assessment and the VCAT decision, the vegetation screens are required to be at least 4 meters high to screen the Proposal.

In light of this, it is recommended that a combination of small, medium, and larger trees are used to form the overall architecture of the screen.

A list of potential species is provided below. This list is based on successful Oz Tree plantings in the area, and has been developed in consultation with 'Fire Risk Consultants', who compiled the 'Bushfire Risk Assessment Report and Mitigation Plan' that accompanies the Planning Report.

Species List:

Eucalyptus maculate, **Spotted Gum**

Eucalyptus camaldulensis, **Red Gum**

Eucalyptus Leucoxylon, **Pink Flowering Yellow Gum**

Casuarina glauca, **Bulloak**

Eucalyptus radiata, **Narrow Leaved Peppermint**

Eucalyptus yarraensis, **Yarra Gum**

Eucalyptus cladocalyx, **Sugar Gum**

Eucalyptus leucoxylon megalocarpa, **Red Flowering Yellow Gum**

Allocasuarina littloralis, **Black Sheoak**

Allocasuarina verticillata, **Drooping Sheoak**

Banksia marginata, **Silver Banksia**

Melaleuca lanceolate, **Moonah**

Note:

1) The species list has been modified based on advice outlined in the Bushfire Risk Assessment.
2) Species planted near to the existing 11kV and 220KV transmission lines that traverse the site will adhere to Powercor document 'Planting trees near power lines' (see https://media.powercor.com.au/wp-content/uploads/2018/11/23144235/cppal-planting-trees-near-power-lines-nov-2008.pdf). There is no screen proposed within the 220kV easement (see Site Plan).
3) The final selection of species will be determined after soil checks at the Site, and will be developed in line with the CFA's 'Plant Selection Key' to ensure suitability (see https://www.cfa.vic.gov.au/plan-prepare/plant-selection-key).

Planting Methodology

Site Visit:

A site visit would be conducted prior to finalising species selection for the screens. The site visit would include a detailed assessment of the soils across all the areas designated for the vegetation screens. The final species selection would be based on the findings of the soil assessment, noting that a range of soil types occur across the Site. In Oz Trees experience, by matching species selection to soil type, it is possible to increase planting success and optimise growth rates.

Planting Methodology:

Oz Trees recommends using tube stock (seedlings) rather than more established plants as survival rates are higher and any perceived growth advantages are lost over a period of four years due to root stock growth from the tube stock seedlings.

Site preparation to increase available moisture in the soil profile is critical to establishing successful plantings. The two most important factors for increasing moisture in the soil are:

- Controlling competition – weeds and in particular grasses are the biggest reason why seedlings do not establish properly. Weeds directly compete with seedlings for available moisture. By spraying weeds and grasses, soil moisture is allowed to accumulate in the soil prior to planting; and
- Ripping the soil – ripping will ensure that any rainfall is immediately stored in the soil profile. It also provides a good environment for seedling roots by aerating the soil. Ripping is an absolute necessity when planting seedlings.

Spraying:

Each of the rows needs to be sprayed (out to 2m) to remove weeds and grasses to control competition and increase soil moisture. Weeds and in particular grasses are the biggest reason why seedlings do not establish properly. Weeds directly compete with seedlings for available moisture. By spraying prior to planting, soil moisture is encouraged to accumulate in the soil profile which is then available to new plants as they establish.

It is recommended that the site is spayed approximately 3 to 4 weeks prior to land preparation.

Land Preparation:

To prepare the site for planting each row needs to be ripped and mounded about 4 to 6 weeks after spraying. The soil is ripped to a depth of approximately 800 mm using a large winged ripper which piles the excavated soil into a mound adjacent to the rip line (shown in Figure 2). A second pass breaks down any large clods and flattens the top of the mound for planting. The height of the mound when complete varies (a little) depending on the soil type and grass present at time of mounding, but on average the height would be about 400mm. This ripping and mounding process shatters the soil profile making the mounded soil friable and provides a large flat raised soil mass in which to establish the new plantings.

In addition, the rip lines adjacent to the soil mounds allow rainfall to soak into the soil profile providing a moisture store below the soil surface under the mounded soil into which the new plants

are to be planted. This water store encourages the plants to send their roots down towards the moisture stored at depth as the surface soil dries out accelerating root development and in turn increasing plant resilience. It should be noted, it is important to establish the rip lines at least 3 months prior to planting to ensure an adequate moisture store can be created in the soil profile before planting.

The mounding also provides protection for young plants which can be susceptible to waterlogging during flood events if they are planted at natural ground level. This is important in this situation as flooding is known to occur at the Site. A design feature that will be particular to this proposal, will be the need to break up the mound lines intermittently to ensure that flood water can drain unimpeded through the site. This will be achieved by reinstating a 2 m length of the soil mound into the rip line between each of the planting locations as shown on Figure 2. This will mean that each plant will be planted into a mound of soil approximately 2m long and 2 m wide.

This planting methodology has been included in the flood assessment for the Site and has been deemed suitable for flooding events (Flood Assessment).

Figure 3: Mounding process

Spraying:

A pre-planting spray would be applied about 3 weeks prior to planting. This residual herbicide spay would provide a shield that would kill germinating weed seeds for up to 7 months preventing weed competition as the new plants establish their roots.

Planting:

The optimal time for tree planting is late autumn or early spring, as this is the best time to plant in this area. It is not optimal to have young unestablished tube stock sitting in cold wet conditions during the early winter months.

Tree Guards:

Plant guards (1 litre milk cartons) would be secured over each new plant to protect them from the weather and pests such as hares, birds and rabbits. Tree guards have been shown to provide the optimal protection for young trees. They create a microclimate around the immature plant,

increasing the growth rate. Protection during their first two seasons of growth is critical to their long-term success rate. Tree guards also protect young plants from climatic extremes and spray drift from follow up weed control.

Fencing

The vegetation screens should be fenced to prevent sheep and cattle grazing in the tree lines.

Maintenance to optimise growth

To ensure optimal success, the tubestock seedlings should be maintained regularly for 2 years and then intermittently over the life of the solar farm. Maintenance should include follow up inspections to monitor survival rates and assess watering and weed management requirements.

Maintenance to reduce bushfire risk

Vegetation screens should be maintained in accordance with advice provided in Appendix D of the 'Bushfire Risk Assessment and Mitigation Plan', which sets out the following principles to reduce potential fuel loads:

- Removal of Dead vegetation within the screens before the declared Fire Danger Period;
- Management of groundcover under the screens to ensure growth does not exceed 100mm during the Fire Danger Period; and
- Removal of branches within 2m of the ground.

For further detail see Appendix D of the 'Bushfire Risk Assessment Report and Mitigation Plan'.

Replants

In the Bookaar area using the planting methodology described above, it is usual to achieve a planting success rate of approximately 90%. As such, to ensure that the screens are successful and don't end up with gaps, it is important to replace any plants that do not thrive as soon as possible. Missing or defective tree guards should also be replaced during regular maintenance in the first 1 -2 years. If the maintenance program is implemented as described no replants should be required beyond 2 years.

Weed Control

Competition from weeds will compromise growth rates and the vigour of young plants. Weeds will need to be sprayed regularly. On average, weed spraying should occur three times over a twelve-month period. Timing will vary depending on weed growth.

Watering

Depending on climatic conditions in any given year, watering is usually not required for seedlings. However, watering can be beneficial depending on the soil moisture levels at the time of planting, and whether a dry summer subsequently develops. As such, the requirement for watering should be monitored throughout the first 24 months to ensure the new plants have a good start.

Existing vegetation screens in the area

Below are some photos of a screen planted by OZ Trees in the surrounding area at 24 months after planting, and at 5 years after planting. As can be seen, if all the steps are followed correctly relatively quick growth rates can be achieved.

Photo: Vegetation screen 24 months after planting.

Photo: Vegetation screen 5 years after planting (it is estimated that these trees are approximately 5m high).

Appendix D. Expert Witness Statement: Visual Impact, Landscape and Visual Impact Assessment – Final May 28, 2019

Bookaar Solar Farm

Bookaar Renewables Pty Ltd

Expert Witness Statement: Visual Impact

Landscape and Visual Impact Assessment

FINAL

May 28, 2019

Bookaar Solar Farm, VCAT Reference No. P2390/2018

Project No:	
Document Title:	Expert Witness Statement: Visual Impact
Document No.:	
Revision:	Draft 1.0
Date:	May 28, 2019
Client Name:	Bookaar Renewables Pty Ltd
Client No:	
Project Manager:	Hayden Burge
Author:	Hayden Burge
File Name:	EWS_LVIA_Lake Bookaar Solar Farm

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Figures

1. Introduction

Bookaar Renewables Pty Ltd (the Proponent) seek to develop an approximately 200MW solar farm (the Bookaar Solar Farm) at 520 Meningoort Road, Bookaar.

The Proponent lodged a planning permit application (Application No: PP2018/060) and supporting documents with the Corangamite Shite Council (Council) to develop a renewable energy facility (REF) and associated infrastructure.

Council issued a notice of decision to refuse to grant a planning permit on 01 October 2018. The reasons for refusal are discussed in detail in 2.1.

The Proponent lodged an application for review to VCAT on 29 November 2018.

The following report will discuss the proposed solar farm in the context of views towards the site to determine the visual implications and appropriateness of the project within the context of the existing landscape setting.

1.1 Expert Evidence – Practice Note

I acknowledge that I have read and complied with the VCAT Practice Note – PNVCAT2, Expert Evidence, 1 October 2014. In compliance with this Practice Note, I provide the following information.

1.2 Name & address

Hayden Burge
Principal Landscape Architect and Visual Impact Consultant
Jacobs Group (Australia) Pty Limited
Level 11, 452 Flinders Street
Melbourne, Victoria 3000

1.3 Qualifications

I am a registered Landscape Architect with over 18 years' experience, I have a Bachelor Applied Science (Landscape Architecture) from RMIT (2000). I am a member and registered Landscape Architect with the Australian Institute of Landscape Architects.

I have given expert evidence on several visual and landscape impact matters over the past 10 years.

A Curriculum Vitae is attached in Appendix A of this report.

1.4 The facts, matters and assumptions on which the opinions in this report are based

The following summarizes the relevant documents upon which this Expert Witness Statement (EWS) has paid regard to.

- Letter of instruction to provide expert evidence – Landscape and Visual Impact Assessment;
- Bookaar Solar Farm Planning Report for the Planning Permit Application prepared by Tract Consultants dated July 2018;
- General Preliminary Layout Plan prepared by Rina Consulting dated 08 May 2018;
- Typical view of tracking structure and panels prepared by Soltec dated 02 June 2017;
- Amended Site Plan prepared by Ecological Australia dated 09 May 2019;
- Bookaar Solar Farm Landscape and visual impact assessment prepared by Tract Consultants dated 9th July 2018;

- Relevant planning scheme documents;
- Officers Report prepared by Corangamite Shire Council dated 25 September 2018;
- Notice of Refusal, prepared by Corangamite Shire Council dated 01 October 2018;
- Application for Review; and
- Statements of grounds received.

1.5 Site Inspections

I inspected the subject site and surrounds on 12 April 2019.

1.6 Instructions

I have been requested by Best Hooper acting on behalf of the Proponent in a letter dated 22 February 2019 to assist them in relation to the proposed Renewable Energy Facility within the Corangamite Shire Council. My instructions as set out in this letter were to:

"review the application and should you be in a position to support it, to prepare an expert evidence statement at the hearing of this matter. Your brief is to undertake a peer review of the analysis undertaken by PagerPower as submitted with the application and to address the landscape and visual impact merits of the proposal"

A copy of this letter is included within the appendices of this report (Appendix B).

1.7 Declaration

I have made all the inquiries I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the tribunal.

2. Statement of Grounds

Bookaar Renewables Pty Ltd (the Proponent) seek to develop a renewable energy facility (the Bookaar Solar Farm) at 520 Meningoort Road, Lots 51 and 52 and Res1 on LP5677 and adjacent parts of Meningoort Road, Bookaar.

The Proponent lodged a planning permit application (Application No: PP2018/060) and supporting documents with the Corangamite Shite Council (Council) to develop a renewable energy facility (REF) and associated infrastructure.

Council issued a notice of decision to refuse to grant a planning permit on 01 October 2018. The reasons for refusal are discussed in detail below.

The Proponent lodged an application for review to VCAT on 29 November 2018.

2.1 Council

On 01 October 2018, Council refused to grant a planning permit. The key reasons for the refusal are:

- *The use and development does not provide an acceptable outcome in terms of the Planning Policy Framework, including the Municipal Strategic Statement and local planning policy;*
- *The use and development will result in the loss of productive agricultural land and will create impacts on the continuation of primary production on adjacent land;*
- *The use and development will result in an unacceptable level of environmental impact which cannot be adequately managed;*
- *The use and development will cause unacceptable landscape and visual impacts within the local area and from key viewpoints;*
- *The use and development will not result in net community or social benefit; and*
- *The absence of solar farm planning and policy guidelines by the State Government provides a lack of direction for planning decision making.*

2.2 Objections received

Council received 86 submissions in relation to the project: 5 in support, 81 opposed. Submissions received in relation to landscape and visual impact included:

- *Degradation of natural beauty;*
- *Loss of Von Guerard's pristine vistas;*
- *Loss of productive agricultural land;*
- *Inadequate mitigations proposed by the applicant and shire advisors during the original planning permit;*
- *The expansive solar panel array (approx. 6.5km wide) will appear as a blight on the natural landscape contrary to both local and state planning policies;*
- *The solar panel array will significantly diminish the cultural heritage and landscape values of the areas as shown in Eugene Von Guerard painting of Meningoort;*
- *Impact on amenity of area and surrounding environment;*
- *Aesthetically unattractive;*
- *Clearing of native vegetation which includes red gums that are hundreds of years old, they provide habitats for bird life and other animals. They are part of the unique landscape;*

- *Aesthetic impact – proposal is to place such a large site in the middle of rolling green pastures, crater lakes and mountains;*
- *Property devaluation due to unacceptable landscape and visual impacts;*
- *The proposed use and development will destroy the existing landscape amenity of the area due to its size;*
- *An eyesore to our Lakes and Craters Area and will be seen from the Camperdown Botanic Gardens;*
- *Excessive scale;*
- *Impact on district amenity;*
- *Proximity to residences;*
- *Visual impact from our property (699 Darlington Road, Bookaar);*
- *Panels won't be adequately screened from view;*
- *The sheer size and scale of the proposed project is quite substantial and will have a negative impact on the adjoining landscape and town of Camperdown and surrounds as well as adjoining landowners, their families and businesses;*
- *unacceptable landscape and visual impact due to the sheer size of the project, there are significant mountains in the surrounding areas such as Mount Elephant and Mount Leura from these two vantage points you will be able to see the proposed project in its vastness; this project will also be seen from Camperdown's Historical Botanical Gardens which will have a visual impact and a devaluation of a historical site;*
- *The use and development will cause unacceptable landscape and visual impacts within the local area and from surrounding key viewpoints; and*
- *Inadequate mitigation of visual impacts, particularly in the early years of the proposed facility.*

3. Subject Site

The proposed Bookaar Solar Farm is located on Meningoort Road, Bookaar approximately 55km north east of Warrnambool and 7.7km north west of Camperdown.

Figure 3.1 shows the site in relation to nearby towns, roads and features.

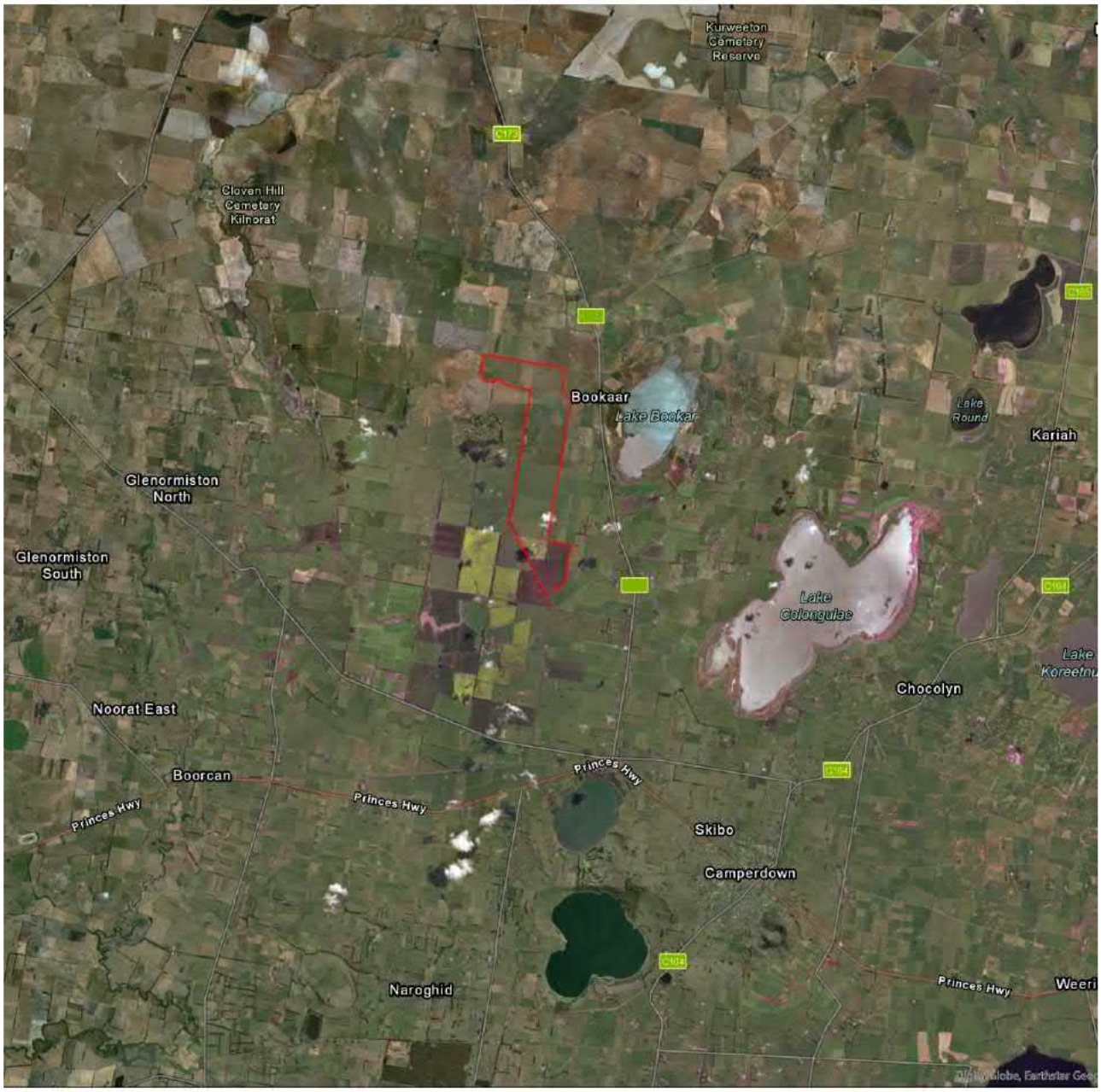


Figure 3.1: Site Location Map

The subject site is zoned Farming Zone and is currently used for cropping and grazing activity. The site is largely cleared with vegetation set along boundary lines.

The subject site at its closest point is set back approximately 580m from Darlington-Camperdown Road which is the only major road in close proximity to the site.

3.1 Surrounding land use

The area surrounding the site is predominantly used for broad-acre agriculture (cropping and grazing) as shown in the following images. All the land surrounding the site is located within the farming zone.

Figure 3.2: Site surrounds – farmland to the south of the site

The site and surrounds are characterized by cleared flat farm land with several volcanic cones visible in the distance as shown in Figure 3.3.

Figure 3.3: Site surrounds – farmland to the north of the site

Lake Bookaar lies to the east of the site on the eastern side of Darlington-Camperdown Road.

Figure 3.4: Site surrounds – Lake Bookaar to the east of the site

3.2 The Site

Meningoort homestead and its associated land holding are approximately 2024 ha in total. The site of the proposed solar farm is approximately 588ha. The project footprint is approximately 490 ha. The remaining 98 ha forms part of a separate lease agreement to a neighbouring farmer who currently uses the balance of the land for dryland cropping. Figure 3.5 shows the sites boundaries, internal layout and features.

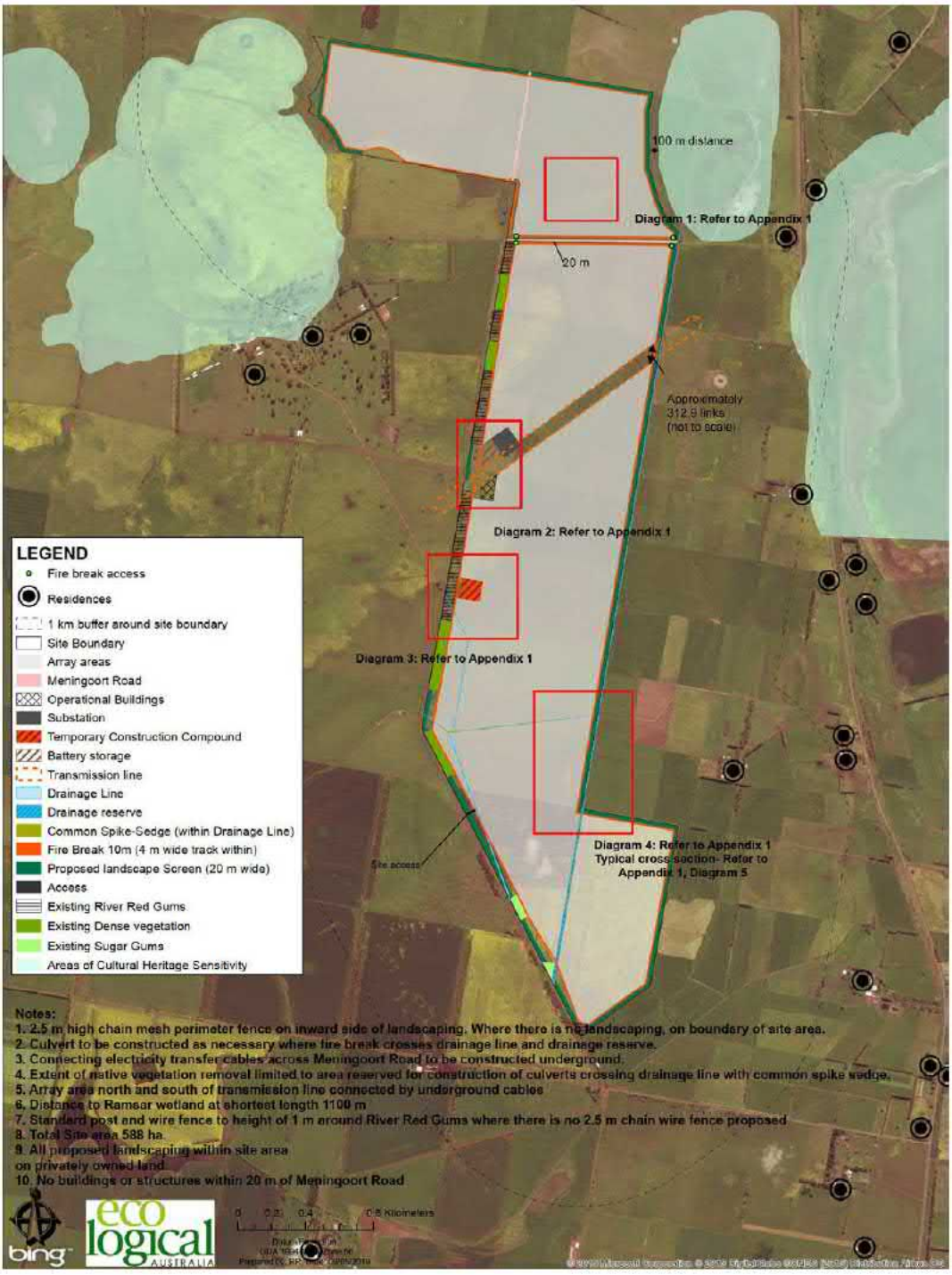


Figure 3.5: Subject site (Source: Amended Site Plan prepared by Ecological Australia 09 May 2019)

The site of the solar farm is generally flat and low-lying.

4. Planning and Policy

This chapter will briefly examine the planning controls that apply to the site and that are relevant to visual impact and amenity issues.

4.1 Policy

Council in their refusal to grant a planning permit considered that the project is inconsistent with several clauses within the Corangamite Shire Planning scheme.

This section will briefly review sections of the Corangamite Shire Planning Scheme relevant to my area of expertise. This is by no means an exhaustive review of the planning scheme, rather this review seeks to understand the objectives and requirements for considering views and visual impact for proposed solar farms in the area.

4.1.1 Clause 12 Environment and Landscape Values

Clause 12 (Environment and Landscape Values) of the Corangamite Shire Planning Scheme states that:

- *Planning should help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species and genetic diversity) and conserve areas with identified environmental and landscape values.*
- *Planning should protect, restore and enhance sites and features of nature conservation, biodiversity, geological or landscape value.*

Clause 12.05-2S (Landscapes) aims to:

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

Strategies to give effect to this objective are to:

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

Clause 21.03 (Environment and Natural Resources) provides local content to support Clause 12 (Environmental and Landscape Values).

4.1.2 19.01 – 2S Renewable Energy

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

Strategies include:

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

4.1.3 21.03 – Environment and Natural Resources

21.03-2 Landscapes

This clause provides local content to support Clause 12 (Environmental and Landscape Values).

Statement of Significance

The Shire's varied topography and vegetation, lake areas, volcanic cones and areas of clear pasture provide significant landscapes of high visual quality.

Lake Gnotuk and Lake Bullen Merri and their surrounds are both recognised nationally and internationally for their outstanding scientific, environmental and landscape significance. They are considered to be volcanic features of international significance in terms of their landform, geology and a as a unique scientific research site. They also form a visually attractive landscape to residents and visitors alike.

The ongoing pressure for dwellings and other developments to take advantage of these exceptional views require careful planning and management. There is significant pressure for development around Lakes Gnotuk and Bullen Merri. The careful siting of all buildings outside the craters' rims is required to protect the visual quality of the lakes and internal crater environment, as well as water quality. Careful siting is also required along the coastline. The disturbance or destruction of these features through inappropriate building, earthworks, vegetation removal and nutrient and sediment pollution must be avoided.

The key objectives include:

Objective 2 – To preserve and protect important landscape features

- *Strategy 2.1 – Maintain locally significant views and vistas*
- *Strategy 2.2 – Ensure development is sensitive to the landscape values of the area*

Objective 3 – To protect the landscape, geological, environmental and scientific significance of the crater slopes and crater rims of Lake Gnotuk and Lake Bullen Merri

- *Strategy 3.1 – Avoid development that may adversely affect the landscape, geologically, environmental or scientific significance of Lake Gnotuk and Lake Bullen Merri.*
- *Strategy 3.2 - Require new use and development around Lake Gnotuk and Lake Bullen Merri to demonstrate that it will:*
  - *Sustain and enhance lake water quality, nutrient and sediment load conditions, in order to maintain the capacity for scientific research and the operation of ecological systems together with appropriate agricultural and recreational uses;*
  - *Not modify the internal crater slopes and the geological integrity of this feature;*
  - *Retain an open visual setting, in order to maintain capacity for geological and landform studies and visual appreciation;*
  - *Be sited and designed outside the crater rims and not be substantially visible from within the crater rims;*
  - *Be sited and designed to afford maximum visual protection from public land zones and roads within the craters, using existing landforms and vegetation to provide screening;*

- *Provide new road access or infrastructure that is designed, constructed and maintained to avoid the formation of visual scars in the landscapes and to minimise surface disturbance, run-off and erosion; and*
- *Provide landscaping that is sited and designed to afford the minimum visual interruption to existing landforms.*

4.1.4 Clause 22.04 – Heritage

This policy applies to all land within the Heritage Overlay.

The objectives of this policy seek:

- *To ensure that Corangamite Shire's natural and cultural heritage is preserved and maintained;*
- *To encourage the retention and conservation of all significant and contributory heritage places;*
- *To conserve and enhance the cultural features of Corangamite's heritage places and precincts to ensure that the form and appearance of any additions, alterations, or new development is respectful of their significance; and*
- *To promote design excellence which clearly and positively supports the ongoing significance of heritage places.*

The heritage overlay applies to an area within the wider property boundary, however it does not extend to the area of the proposed solar farm.

4.1.5 Clause 53.13 – Renewable Energy Facility

Clause 53.13 – Renewable Energy Facility outlines decision guidelines for assessing renewable energy facilities.

The purpose of Clause 53.13 is:

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

The decision guidelines at Clause 53.13-3 state that:

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; and*
- *Whether the proposal will require traffic management measures.*

The decision guidelines for clause 53.13 in part echo the concerns of the objectors in that the project must demonstrate that there will be minimal impact on the amenity of the area.

4.2 Zones and overlays

The subject site is wholly located within the Farming Zone (FZ). A Road Zone (RDZ1) and PCRZ are located to the east of the site. Figure 4.1 shows the zoning of the site and surrounding area.

Figure 4.1: Zoning Map (Source: Landvic)

4.2.1 35.07 Farming Zone

The purpose of the Farming Zone is:

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

4.2.2 Overlays

The wider property boundary is subject to a number of overlays under the Corangamite Planning Scheme. The proposed solar farm sits outside these overlays as shown in Figure 4.2.

Figure 4.2: Overlays Map Source: LandVic

The two overlays that effect the wider property boundary are Significant Landscape Overlay – Schedule 1 (SLO1) and Heritage Overlay (HO80).

Lake Bookar is located to the east of the site within an Environmental Sensitive Overlay (ESO1)

4.2.3 Significant Landscape Overlay (SLO1)

Statement of Significance

The Shire contains some of the State's most significant volcanic landscapes and features. These areas provide visual interest with variation in topography and vegetation and are to be protected from inappropriate development.

One significant area includes Lake Gnotuk and Lake Bullen Merri and their surrounds. These lakes are both recognised for their scientific, environmental and landscape significance. They are considered to be a volcanic feature of international significance, both in terms of their geological form and as a scientific research site and the lakes and their surrounds form an outstanding and unique landscape that is attractive to both residents and visitors.

Landscape Character objective to be achieved:

- *To protect and enhance the visual and environmental quality and character of volcanic features, including crater lakes and scoria cones and their environs;*
- *To provide control over the visual impact of development on prominent volcanic features;*
- *To recognise the landscape, geological, biological, historical and recreational significance of volcanic features, including crater lakes, scoria cones and their environs;*

- *To promote the siting and design of buildings and works, including the choice of building materials that is responsive to the character of the volcanic landscape;*
- *To protect the Lake Gnotuk and Lake Bullen Merri crater slopes and crater rims from development which compromises the significance of these lakes including development that modifies the crater slopes and the geological integrity of this feature; and*
- *To protect the Lake Gnotuk and Lake Bullen Merri crater slopes and crater rims from development, which introduces additional buildings into the lakes' volcanic landscape to further remove it from a natural state or that threatens water quality through effluent or sediment runoff.*

4.2.4 Heritage Overlay (HO80)

The purpose of the Heritage Overlay is:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework;*
- *To conserve and enhance heritage places of natural or cultural significance;*
- *To conserve and enhance those elements which contribute to the significance of heritage places;*
- *To ensure that development does not adversely affect the significance of heritage places; and*
- *To conserve specified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage place.*

Heritage Overlay HO80 refers to the Meningoort Homestead at 520 Meningoort Road, Bookaar. This homestead is included on the Victorian Heritage Register (Ref. No H300).

Meningoort Homestead is located within the wider property boundary; however, the overlay does not extend to the location of the proposed solar farm.

4.2.5 Environmental Significance Overlay (ESO1 - Watercourses, water body and wetland protection overlay)

Statement of Significance

The Shire has Australia's largest permanent lake, Lake Corangamite, which is part of Victoria's Western Lakes Ramsar site. The Ramsar site also includes Lakes Colongulac, Bookar, Milangil, Terangpom and Gnarpurt, as well as Lake Cundare. The volcano complex of Mt Elephant, Mt Leura, Mt Sugarloaf and Mt Emu Creek are also important. The lakes of Bullen Merri and Gnotuk formed within marr craters are of international significance for their contribution to scientific endeavour especially regarding climate change studies. These significant water bodies play an important part in the ecology of the Shire and need to be protected from inappropriate land use and development.

The objectives of the ESO1 are:

- *To maintain the biological, physical and chemical quality and quantity of water within the watercourse, water body or wetland;*
- *To maintain the ability of streams and watercourses to carry natural flows;*
- *To prevent erosion of banks, streambeds and adjoining land and the siltation of watercourses, drains and other features;*
- *To protect and encourage the long-term future of fauna and flora habitats along watercourses;*
- *To ensure development does not occur on land liable to flooding;*
- *To prevent waste discharge, nutrients and other pollutants from entering watercourses and water bodies;*

- *To prevent increased surface runoff or concentration of surface water runoff leading to erosion or siltation of watercourses;*
- *To conserve existing wildlife habitats, close to natural watercourses and encourage regeneration of riparian and fringing vegetation;*
- *To minimise the potential damage caused to human life, buildings and property by flood waters;*
- *To restrict the intensity of use and development of land and to activities which are environmentally sensitive, and which are compatible with potential drainage or flooding hazards;*
- *To promote the use and environmental solutions in siting and design in preference to modification of natural systems through technical and engineering measures;*
- *To minimise the environmental impact on estuarine environments by controls over water releases and sand bar management in line with Southern Rural Water's established protocol;*
- *The natural role of wetlands in filtering nutrients and absorbing soluble pollutants in water shall be maintained. Further loss of wetlands through drainage will be discouraged; and*
- *To protect and ensure the long-term future of fauna and flora habitats in wetland and estuarine areas.*

The ESO specifically refer to the ecology and environmental function of the lakes and does not reference any landscape or visual concerns.

4.3 Other relevant documents – South West Landscape Assessment

Bookaar is located within the Western Volcanic Plains Landscape Character in the South West Landscape Assessment (SWLA).

The Department of Planning and Community Development commissioned this landscape assessment study of South West Victoria to better understand and assess the visual character and significance of the wide range of landscape types, which include the volcanic plains and cones that dominate much of the area, to the Great Dividing Range in the north, and the Grampians in the central west.

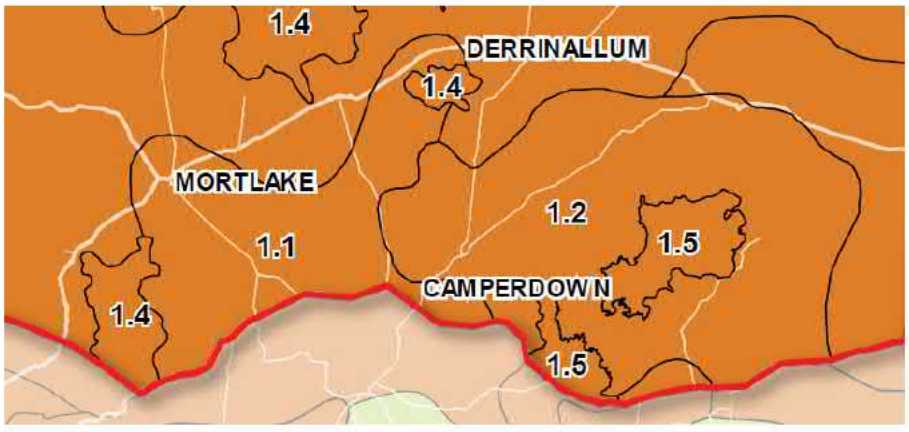


Figure 4.3: Landscape Character Types Map (Source: South West Landscape Assessment)

The subject site is located north of Camperdown within the Western Volcanic Plain 1.2 – Lakeside Stony Rises Character Unit. The Western Volcanic Plain – 1.5 Mount Leura Complex Landscape Unit is located to the south east of the subject site.

4.3.1 Landscapes of State and Regional Significance

Western Volcanic Plain – 1.2 Lakeside Stony Rises (State Significance)

This landscape is composed of dense hummocks of stony rises that circle the southern and eastern sides of Lake Corangamite. These originated from the explosive volcanic activity that occurred at Mount Porndon and the Red Rocks Complex. Few roads cut through the stony rises, and where they exist, they take the form of weaving goat tracks with sharp crests that move around the obstacles in the landscape, rather than formally surveyed roads. Vegetation is low and scrubby, with a windswept, coastal appearance. There are beautifully formed and intact dry-stone walls throughout the area.

There is a distinctive contrast between the rough, lumpy landscape and the smooth, flat waters of Lake Corangamite that are visible at high points. Among the rocks of the rises bracken, grasses and low, scrubby vegetation grows. In some parts the landscape is thick with remnant vegetation. This peters out to more open, cleared areas that remain dotted with rises. There is a stark contrast to areas clear of rocks, where pastures predominantly used for grazing open out. Nestled throughout the stony rises are a number of small lakes and seasonal wetland areas that provide additional visual interest.

Western Volcanic Plain – 1.5 Mount Leura Complex (State Significance)

Mount Leura is a complex nested maar which includes a series of scoria cones and craters that covers an area of 2.5km by 1.7km. Mount Leura is the largest of these, rising to a height of over 300m and offering panoramic views over the surrounding landscape. Separated from Mount Leura by a deep crater is the distinctive Mount Sugarloaf, an unusually symmetrical volcanic rise with a conical shape and a spiralling path indented into the steep side.

The volcanic complex contrasts in texture with the surrounding flat pastoral plains. The undulating hills and crater depressions form a visually interesting, almost surreal landscape which is punctuated by the rising cones of Mount Leura and Mount Sugarloaf.

Cropping on the lower slopes of the hilly complex intensifies the contrast in colour and texture, with lower slopes seasonally enveloped in bright green and giving way to the lighter green steep rises.

The landscape is mostly cleared of vegetation with occasional stands of vegetation and low shrubs peppering the summit of Mount Sugarloaf. Dark green exotic shelterbelts feature in the landscape and scoria mining has scarred the slopes.

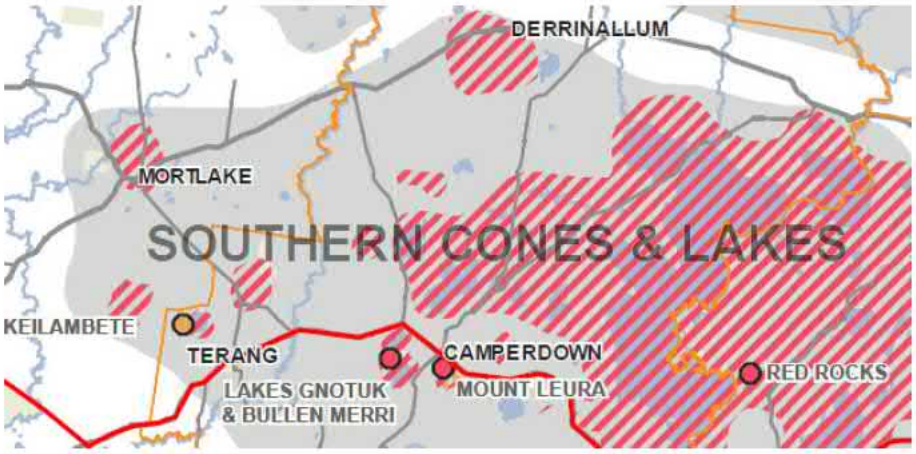


Figure 4.4: Views of State and Regional Significance Map (Source: South West Landscape Assessment)

Two significant viewing locations are located close to the proposed solar farm. These are Significant Viewing Location 1.5 – Mount Leura and 1.7 – Lakes Gnotuk & Bullen Merri.

4.4 Summary of planning considerations

It is clear that the planning policy and various clauses at various levels from state through to local seek to protect the unique landscape and geological features that the western districts of Victoria are renowned for.

These features include the elevated volcanic cones, wide open and flat plains that are punctuated by the many crater lakes found in the district.

The local planning scheme specifically recognises Mt Elephant which is approximately 20km to the north east of the Project and Mt Leura which is approximately 10km to the south east. Crater lakes include Lake Bullen Merri and Lake Gnotuk and are located approximately 5km south of the Project.

With the exception of the area identified by SLO1 to the west and Lake Bookar to the east. The Project is located within an area classified as Western Volcanic Plains is which identified as a landscape of State and Regional Significance. The site itself is within an area that is noted for its clear open areas, generally clear of rocks where the predominant use is grazing and cropping. A use which undergoes regular visual change depending on the farming practices and cropping regime. The project is visible the elevated locations of Mt Leura and the Cranbourne botanic gardens. Views from these locations are discussed at section 7 of this EWS. The is not in close proximity to other significant features identified by the local planning scheme and the SWLA.

Lake Bookar is located approximately 2km to the east of the site and is within an ESO. Lake Bookar is also part of a chain of wetlands and lakes that contribute to the Ramsar wetlands system in south west Victoria. The ESO specifically refers to the environmental and ecological functions of the lakes system and does not reference views, visual impact or amenity concerns.

The Homestead and the area within the Heritage Overlay is to the west of the project area.

5. The Proposal

The proposal seeks to develop an approximately 200MW solar farm approximately 7.7km north west of Camperdown at 520 Meningoort Road, Lots 51 and 52 and Res1 on LP5677 and adjacent parts of Meningoort Road, Bookaar (the Project). The Project will consist of approximately 700,000 individual solar panels, each measuring approximately 2.0m x 1.0m. The solar panels would be fitted to either, or a combination of:

- A single-axis tracking system
- Fixed tilt frames

The Project has a lifespan of approximately 30 years.

Key infrastructure of the development includes:

- Solar panels;
- Inverters;
- Substation;
- Battery storage;
- Site office, associated maintenance buildings and parking;
- Temporary construction compound and laydown area;
- Access tracks;
- Vegetation screens;
- Firebreaks; and
- Fencing.

Figure 5.1 shows the original proposed indicative layout submitted as part of the planning permit application and assessed by Tract in the original LVIA. These plans provide detail on the key components of the project, panel orientation, configuration and heights as well as the location of the proposed buffer and boundary plantings.

Amended plans prepared by Ecological were circulated via email on 10 May 2019. The changes relevant to landscape and visual impacts include an increase in the width of firebreak from 5.0m in the application plans to 10.0 m, a reduction is the maximum height of infrastructure within the battery storage area from 8.0 m to 5.0 removal of a short section of landscaping within the transmission line easement along the eastern boundary; re-location of the of proposed temporary construction compound further south and removing all solar arrays from Res 1 on LP4677. These changes are shown in the amended plan at Figure 5.2.

For reasons of preparing accurate photomontages that are based on a dimensioned and defined project layout, the plan circulated as part of the original application material has been used for the preparation of the photomontage discussed in Viewpoint 7 later in this report. My assessment of the project includes knowledge the changes brought about by the S5.57A application which excised areas of cultural sensitivity.

The original application plans provide a detailed panel layout that can be identified and discussed with respects to the location, set-back, spacing and orientation of the proposed solar panels and other project infrastructure. The proposed panel areas and project setbacks from key project boundaries were similar for both the original submitted plans and those that were amended and circulated on the May 10.

The following provides more detail on the key components of the Project relevant to visual impacts.

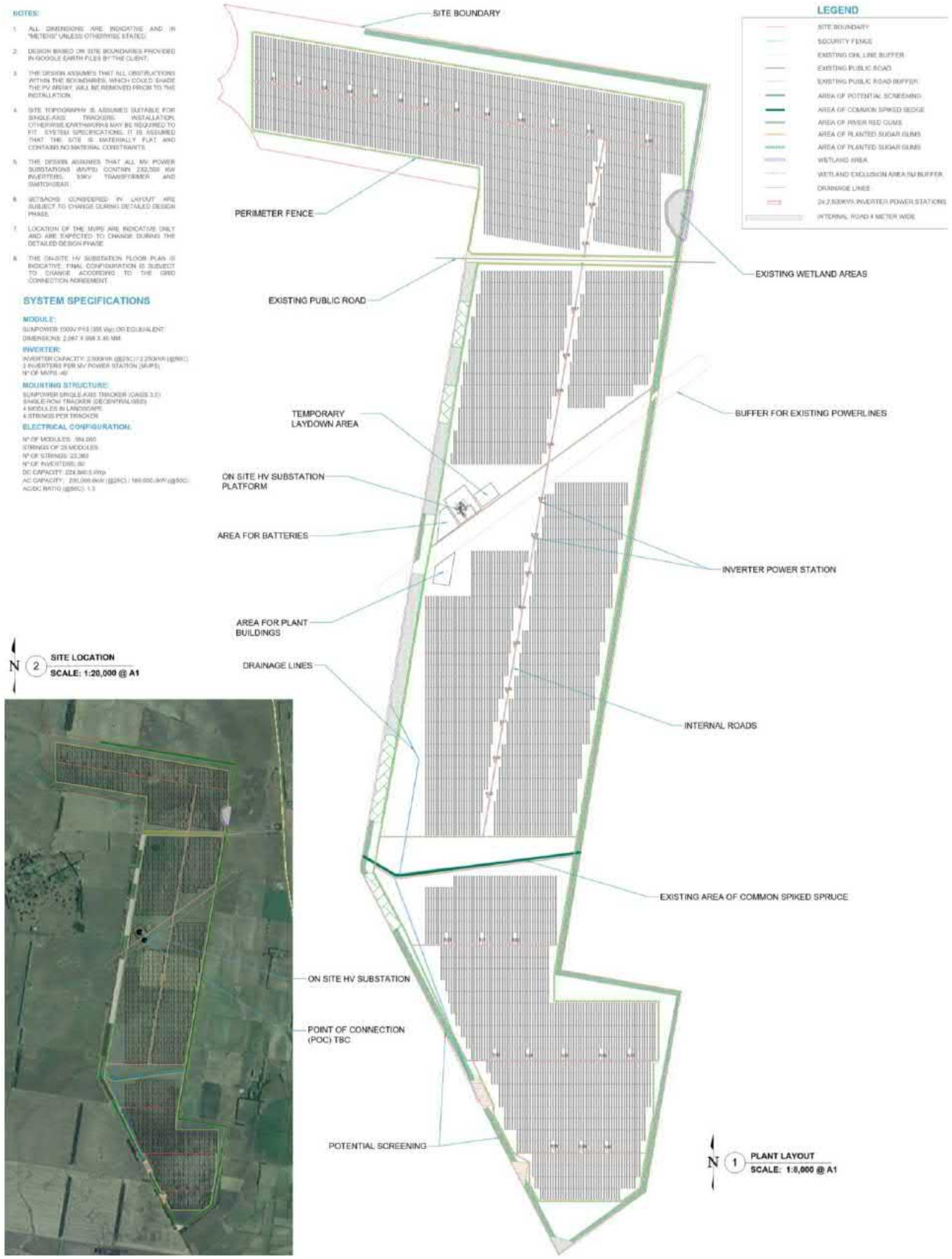


Figure 5.1: Site Layout (Source: Indicative Layout, Rina Consulting 08 May 2018)

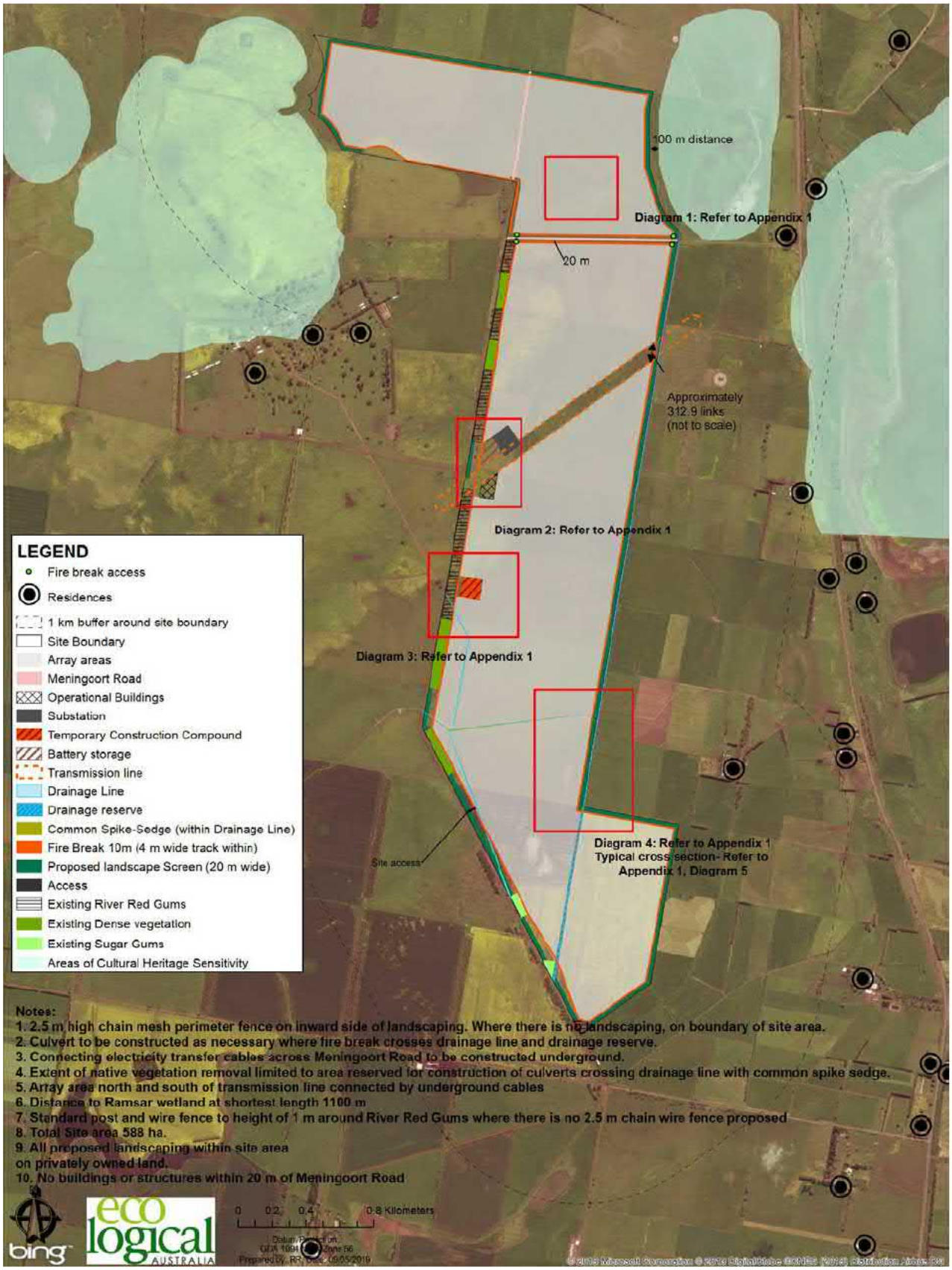


Figure 5.2: Amended Site Plan (Source: Amended Site Plan prepared by Ecological Australia 09 May 2019)

5.1 Solar Panels

The solar array will consist of approximately 700,000 individual solar panels, these would be fitted to either, or a combination of:

- A single-axis tracking system – tracking the sun from east to west as it moves throughout the day. At solar noon, panels face directly upwards. In the evening they face 60 degrees to the west and vice versa in the morning; and/or
- Fixed tilt frames – orientated so the panel faces upwards at approximately 25 to 30 degrees in a north, north-west or north-easterly direction.

Figure 5.3 and Figure 5.4 shows the key panel features relevant to views and visual impact.

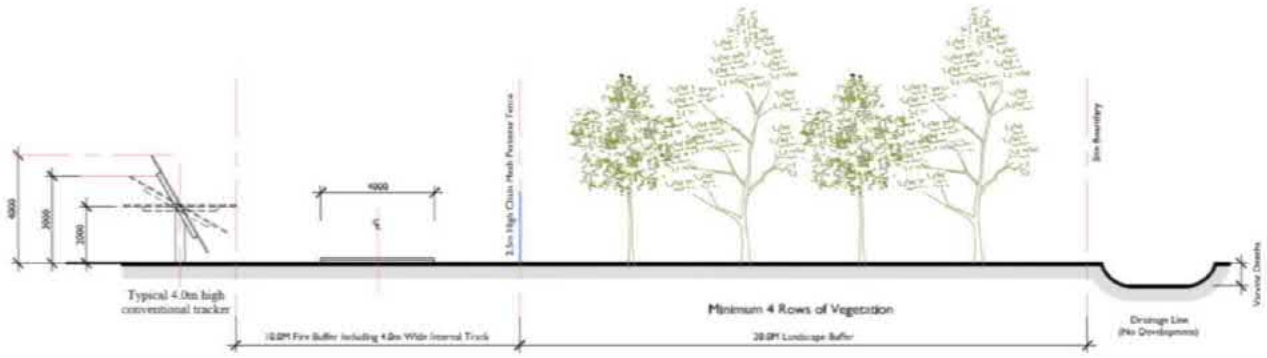


Figure 5.3: Indicative solar panel design (Source: Amended Plans Diagram 5 prepared by Ecological Australia 09 May 2019)

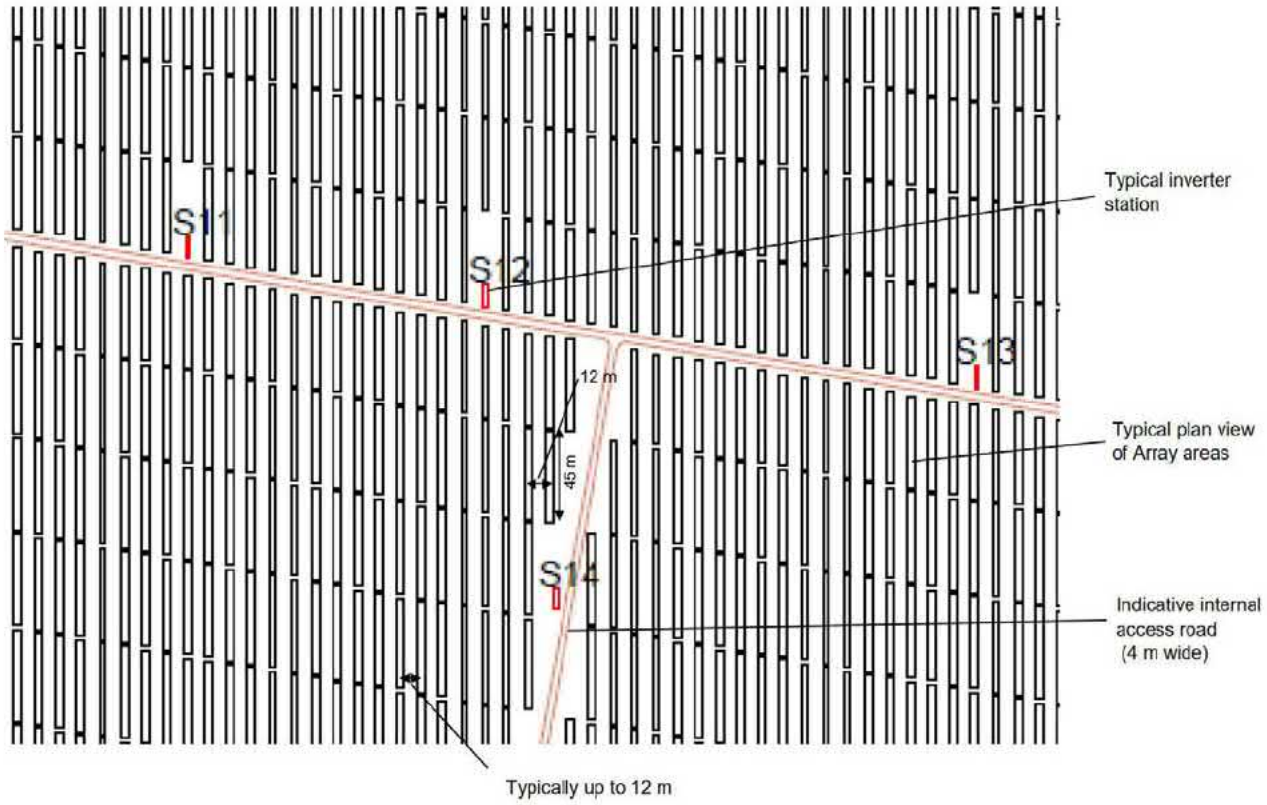


Figure 5.4: Indicative panel array and inverter layout (Source: Amended Plans Diagram 1 prepared by Ecological Australia 09 May 2019)

The largest of the proposed panel types has an overall height of 4 meters, to be conservative this assessment has been based on the larger of the two panel configurations. This configuration has also been adopted for the basis of the photomontage described further in this assessment.

5.2 Inverters

PV panels produce Direct Current (DC) electricity which would be converted to Alternating Current (AC) at a number of central inverters. Up to 60 central inverters will be located throughout the development (place together in groups of two or singularly).

Inverters are typically housed in containers or located on platforms, either singularly the size of a 20ft container, measuring approximately 6.1m (l) x 2.9m (h) x 2.5m (w), or doubly the size of a 40ft container, measuring approximately 12.2m (l) x 2.9m (h) x 2.5m (w).

Figure 5.5: Indicative Double Inverter Unit

The inverters will be visually similar to a shipping container when viewed from locations beyond the site.

5.3 Substation and Battery Storage

The onsite substation would be the point of connection to the existing 220 kV line that crosses the site. The final design specifications are subject to a grid connection agreement with AEMO and would likely contain the following items:

- One or two 220 kV transformers;
- High voltage (HV) circuit breakers and switch gear;
- Metering equipment;
- Control room;
- Battery area up to 1ha and up to 5m high situated adjacent to the substation (battery components are modular and are typically housed within shipping containers or look similar to this);
- Low Voltage (LV) power connection;
- Overhead cables connecting the substation to the existing 220 kV line;
- Parking space for service vehicles;
- Perimeter fencing; and
- Perimeter screening.

Figure 5.6 shows the indicative layout of this infrastructure.

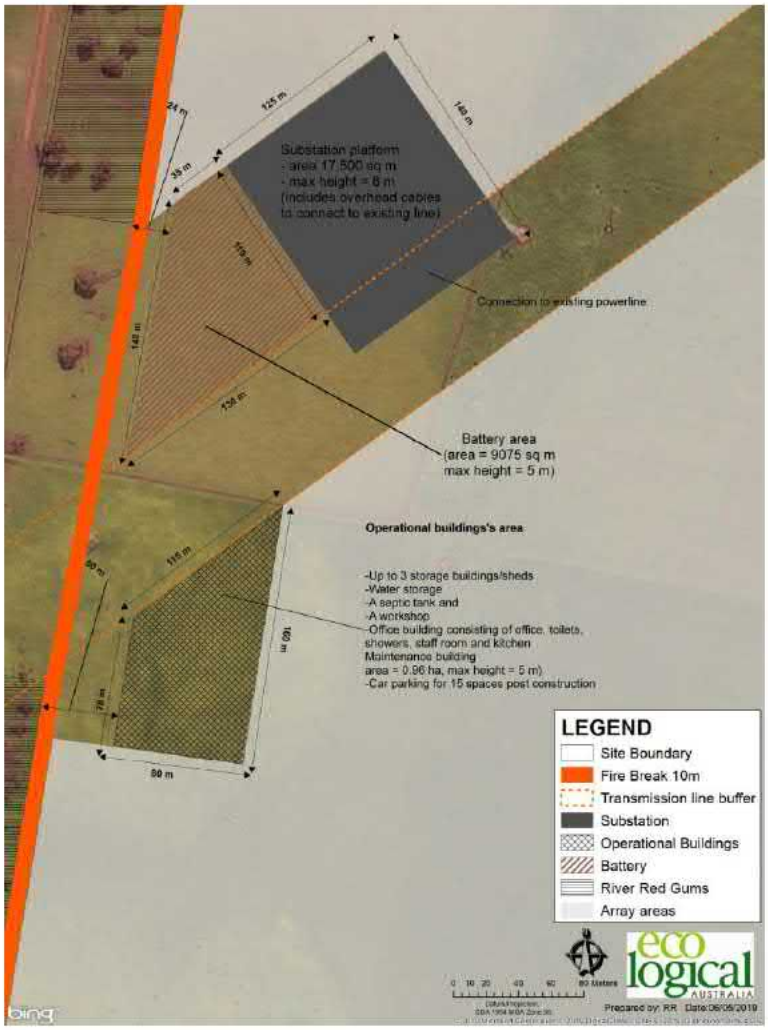


Figure 5.6: Indicative Substation layout (Source: Amended Plans Diagram 2 prepared by Ecological Australia 09 May 2019)

5.4 Site office, associated maintenance buildings and parking

South of the substation would be supporting buildings and infrastructure. The support buildings and associated parking would take up an area of approximately 0.96ha and may include the following:

- Up to 3 storage buildings/sheds;
- Water storage;
- Septic Tank;
- Workshop;
- Office building, consisting of office, toilets, showers, staff room and kitchen; and
- Maintenance building; and
- Car parking for 15 spaces post construction.

5.5 Access

The site will be accessed from Meningoort Road as indicated on the 'Indicative Layout' shown in Figure 5.1.

5.6 Access tracks

Internal tracks will be constructed of compacted gravel to an approximate depth of 150mm depending on soil conditions. Internal access tracks will be up to 4m wide with intermittent wider stretches for passing, parking and at corners. Small culverts over identified drainage lines would also be constructed.

5.7 Fencing

A 2.5 m high chainwire fence will be installed around the perimeter of the project. This fence is proposed to be located internal the Project boundary and behind the proposed landscaping screening so as to be screened from views external to the site. The proximity of the proposed fencing in relation to the landscape screening is shown in Figure 5.8. Once operational all access points will be gated.

5.8 Proposed Landscaping

The project proposes to install a 20.0 m wide band of native vegetation along the majority of the northern boundary, all of the eastern boundary with the exception of the area where the overhead transmission line enters the site and returning along part of the southern boundary where gaps in existing boundary planting exist.

Oz Trees have prepared a detailed methodology which sets out key steps and tasks for the implementation of the landscape screening proposed by the project. Key steps include:

- an initial spray out of weeds;
- deep ripping to a depth of approximately 800 – 900mm;
- fencing of the areas to be planted to limit soil compaction;
- a second spray out of weeds;
- planting selected species in either tube stock or cells;
- installing tree guards; and
- maintenance.

In addition to the installation methodology, other factors which influence a success planting outcome is the selection of sourced seed, suitability of the plant species to the soil and climate, the size of plants at installation, and the time of the year that planting is undertaken.

I have spoken with Michael Turner from Oz trees, who I understand install over 150,000 trees per year with a success rate of up to 99%. His view is that if the above methodology is implemented, the plants will be self-sustaining at the time of planting and will require little to no watering or maintenance.

This view is supported by plantings undertaken by Oz Trees at Meningoort Homestead which can be seen at various locations across the property. Figure 5.7 shows one such example of existing plantings along the Meningoort Road and to the west of the solar farm site.

Figure 5.7: Existing plantings

These plantings appear to be up to 50.0 m wide and several rows of trees and of a single species.

The amended plans prepared by Ecological show a minimum of four rows of plantings within the 20.0 wide landscape screening.

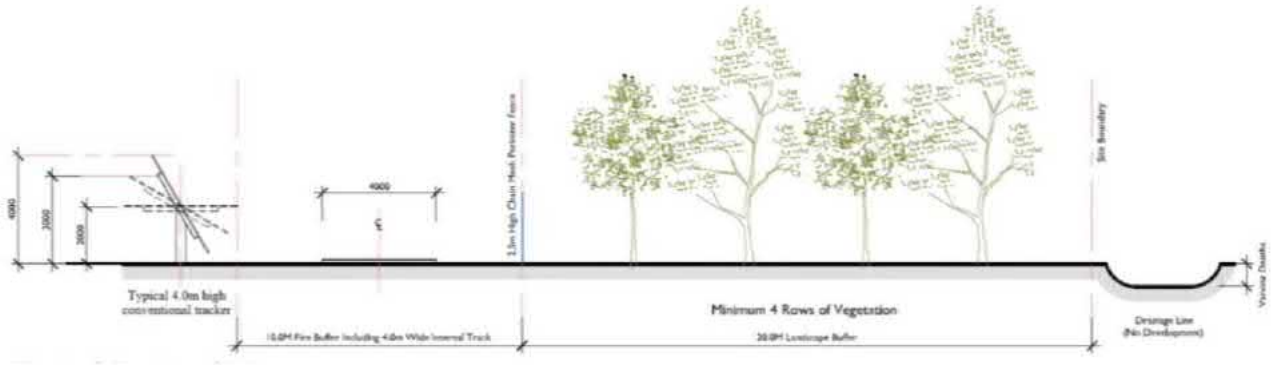


Figure 5.8: Proposed Landscaping Section Detail (Source: Amended Plans Diagram 5 prepared by Ecological Australia 09 May 2019)

Figure 5.9 below shows a recent example from northern Victoria where a 20.0 m wide landscape strip has been established with 4 rows of layered planting. This is a different climate with less rainfall and different soils, however the composition of the vegetation is structurally and visually similar to species which are found within the region of the project and many existing examples at the site.

Figure 5.9: Example 20m wide planting strip

Figure 5.10 shows the view at right angles to the planting and in close proximity where breaks in vegetation would be more noticeable that if viewed from several hundred meters.

Figure 5.10: Example 20m wide planting strip

The fourth row of planting, which is approximately 5.0 m in height and taller than the proposed panels. Even at this close range, there are no discernible breaks in vegetation that would permit views through to the proposed solar farm.

These proposed plantings would not be dissimilar to existing landscape and wind break plantings found in many areas in proximity to the site and the immediate project boundary.

Based on the above, I believe that the prosed 20.0 m wide landscaping buffer with 4 rows of trees will be successful at screening views towards the project.

6. Methodology

The criteria for assessing visual impact are different for publicly accessible and residential viewpoints. The visual assessment is also assisted by the preparation of a photomontage of the proposed solar farm.

6.1 Public viewpoints

In assessing the visual impact of a development from the public domain the scale of effects is primarily based on the following four criteria:

- **Visibility:** The visibility of a development which can be affected by intervening topography, vegetation and buildings;
- **Distance**: The distance of the viewer from the proposed solar panels. The level of visual impact decreases as distance increases.
- **Landscape character and viewer sensitivity:** The character of the surrounding landscape, both around the site and adjacent to the viewing location, must be considered. Generally, a modified landscape is considered to have a lower sensitivity to that of a pristine or natural landscape which is considered to be highly sensitive.
- **Number of viewers**: The level of visual impact decreases where there are fewer people able to view the solar farm. Alternatively, the level of visual impact increases where views are from a vantage point that is recognisable or causes a viewer to stop along their journey.

These four criteria need to be considered in the assessment of each viewpoint. However, the ratings of each criterion are not numerically based and cannot be simply added together and averaged to arrive at an overall rating.

For example:

- If the distances to the proposed solar farm are great then even if the viewer numbers and the landscape sensitivity were high, the overall visual impact would be minor because the proposed solar panels would be barely discernible;
- If there were few viewers (i.e. few people can see the project from a publicly accessible viewpoint), then even if the project was near to a key vantage point and the landscape sensitivity was high, the overall visual impact would be low because the change in views or visual impact would be limited to few viewers; and
- If the landscape sensitivity was low due to factors such as extensive modification, a non-sensitive use or the landscape is not one that is rare or threatened, then even if the project was near the viewpoint and visible to many viewers, the overall visual impact would be low because the viewpoint is not in a landscape of such sensitivity that further change would be an unacceptable change in views.

Therefore, the assessment of the overall visual impact needs to be informed by these criteria and a balanced judgement made as to the overall visual impact.

6.2 Residential viewpoints

The assessment of visual impact from residential properties is slightly different to one undertaken from publicly accessible viewpoints.

An assessment of viewer numbers is not applicable, nor is landscape sensitivity. Sensitivity at a residential dwelling and the immediate areas of attached private open space is always rated as high. This high sensitivity recognises that people feel most strongly about the view from their house and from their outdoor living spaces.

The visibility of a solar farm and the distance between the residential location and the project are the two criteria that vary within an assessment of the visual impact from a residential property.

6.3 Scale of Effects

The scale of effects for assessing the overall visual impact of the solar farm from a publicly accessible viewpoint ranges from negligible to high visual impact.

6.3.1 Negligible visual impact

Negligible – minute level of effect that is barely discernible over ordinary day-to-day effects. The assessment of a "negligible" level of visual impact is usually based on distance. That is, the solar farm is at such a distance that, when visible in good weather, it would be a minute element in the view within a modified landscape or will be predominantly screened by intervening topography, vegetation or buildings and structures.

6.3.2 Low visual impact

Low – visual impacts are those where the project is noticeable but that will not cause significant adverse impacts. The assessment of a "low" level of visual impact will be arrived at if the rating of any one or more of the four criteria, (visibility, distance, viewer numbers and landscape sensitivity), are assessed as low.

Therefore, an additional piece of infrastructure in a landscape which is man-modified, and which already contains many examples of existing infrastructure may be rated as a low level of visual impact.

6.3.3 Medium visual impact

Medium/Moderate – visual impact may occur when several of the four assessment criteria are considered as higher than "low" or the visual effects are able to be mitigated / remedied from an initial rating of High. This will of course be moderated by the context of the existing view and the modifications within the landscape.

6.3.4 High visual impact

High or unacceptable adverse effect – extensive adverse effects that cannot be avoided, remedied or mitigated. The assessment of a "high or unacceptable adverse effect" from a publicly accessible viewpoint requires the assessment of all criteria to be high. For example, a highly sensitive landscape, viewed by many people, with the proposed solar panels in close proximity and largely visible would lead to an assessment of an unacceptable adverse effect.

6.4 Photomontage preparation

Photomontages are used within the report to show the anticipated change to the existing landscape created by the development of the solar farm.

6.4.1 Lens size and photos used within the photomontages

Photomontages typically show the changes in a 60° horizontal field of view. The 60° horizontal field of view represents the central cone of view in which symbol recognition and colour discrimination can occur. When defining vertical field of view, either 10° or 15° can represent the central field of view of human vision as shown in Figure 6.1.

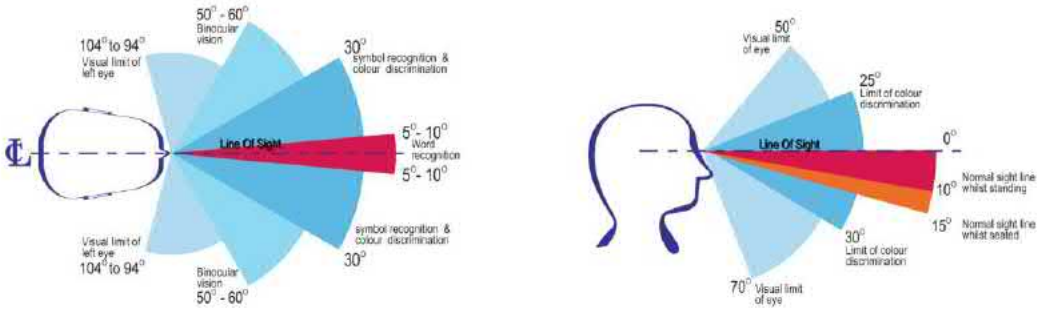


Figure 6.1: Horizontal and Vertical field of view (Human Dimension and Interior Space, Julius Panero & Martin Zellnik, Witney Library of Design,1979)

Similar data can be found in the more recent publication entitled 'The Measure of Man and Woman, Revised Edition', Henry Dreyfuss Associates, John Whiley & Sons, 2012.

The 60° horizontal field of view is important if the photomontage images represent the change in the landscape. The A3 photomontages, which are appended to this report in Appendix C, include a 60° horizontal field of view. One of the sheets within the photomontage set shows a wireframe view of the computer model to illustrate how the photomontages were derived. Vertical 'poles' within this wireframe are merely points on the landscape such as a group of trees, a corner of an existing building etc., which allow the computer model (prepared in 3D Studio Max) and the photograph to be accurately aligned. This ensures that the proposed facility is accurately located within the photograph and then the rest of the model is removed, and the tower and the proposed landscape are rendered into the image.

6.4.2 Photographs

A 70 mm lens on a Nikon D850 digital camera has a picture angle of 26.5° and a horizontal angle of view of approximately 21.3°. https://imaging.nikon.com/lineup/dslr/basics/19/01.htm.

Four photographs overlapped 1/3 to create an image approximately the same as the central cone of view of human vision, i.e. 50-60° horizontal and 15° vertical. Figure 6.2 demonstrates this theory.

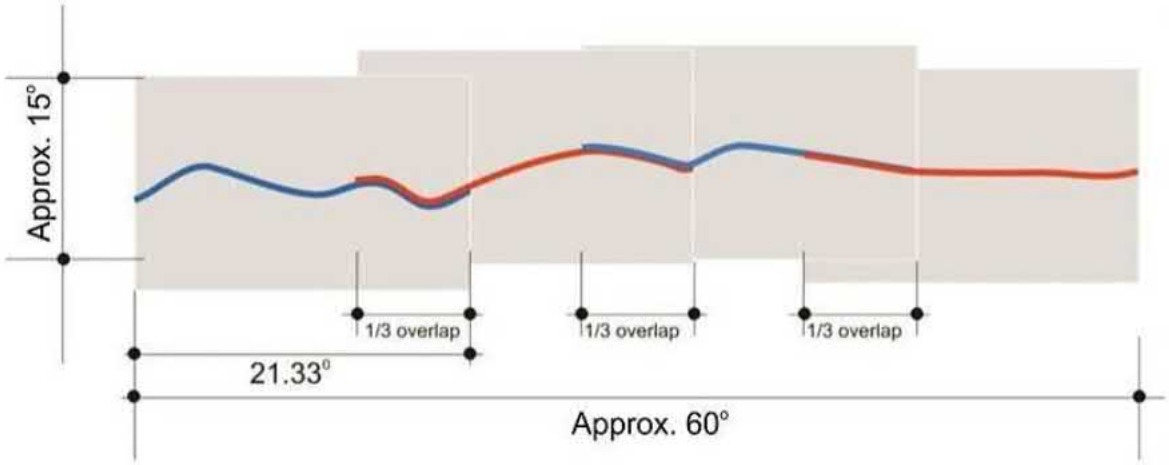


Figure 6.2: Photomontage Layout

6.4.3 Computer modelling and the wireframe model

Cadastral data as well as the proposed development are modelled within a computer program (3D Max). A virtual camera is set up in the model at the GPS coordinates for each of the photographs that are being used within the panorama.

The digital model or wireframe view is then overlaid on the photographic panorama. Known points within survey information such as topography, building locations or other infrastructure are registered into the base photographs (or other predetermined points). For technical accuracy, these points must align. This verifies the location and apparent height and scale of the proposed development.

After the background reference points have been aligned, the wireframe is removed, leaving only the proposed Solar farm facilities, which are rendered, either to match the lighting conditions at the time the photographs were taken or, more typically, to maximise their visibility by increasing their contrast against the background sky.

Photomontages are prepared with a 60° field of view, which follows the parameters of human vision. Wider panoramas are also used to indicate the full extent of the proposed Solar farm facilities where appropriate.

Panel modelling

The panel orientation described in Typical View of tracking Structure and panels in Figure 6.3 shows the individual panels being oriented in portrait format. The System Specification in the Indicative layout in Figure 5.1 which was included in the original planning permit application as a typical possible layout, describes the individual panels being orientated in landscape format. The difference in the two configurations is shown in Figure 6.3 below.

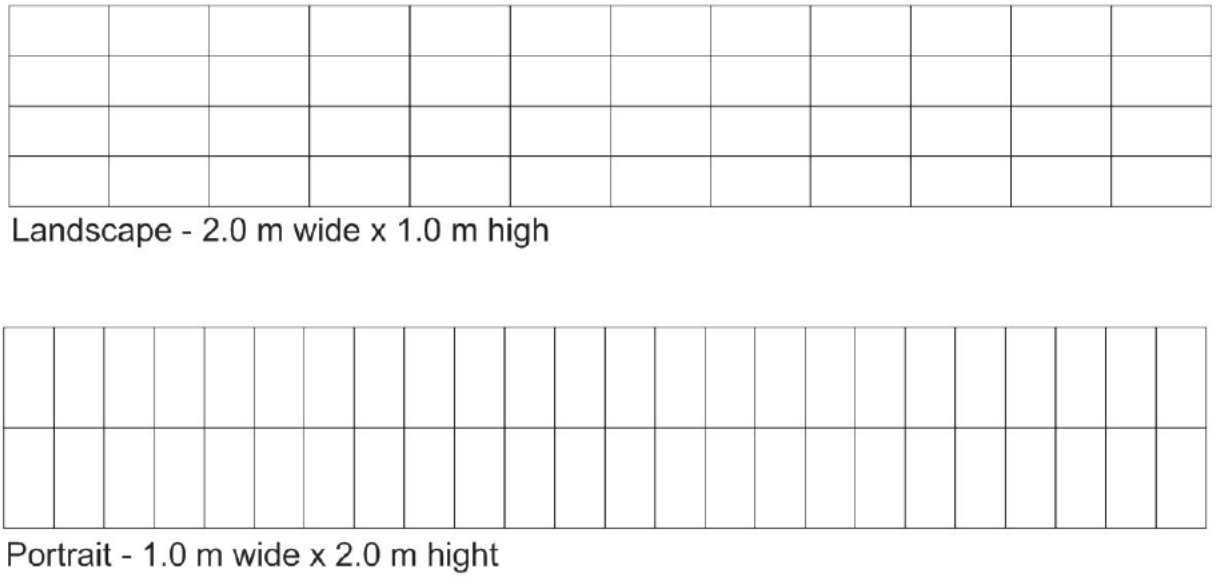


Figure 6.3: Panel alignment in photomontage

My view is that the landscape format is a more noticeable configuration and has therefore been the layout which has been used within the photomontage.

6.4.4 GPS Coordinates and distance to the solar farm

The Nikon D850 camera also records the GPS coordinates as part of the metadata. GPS coordinates are also taken based on a separate hand-held GPS and the locations from which the photographs were taken is also marked on a digital map at the location of each photograph.

6.4.5 Photomontages

One photomontage has been prepared from public viewpoint VP07. This viewpoint is indicative of the views from Darlington- Camperdown Road. This photomontage is appended to this report (Refer Appendix C for A3 size photomontages with a 60° field of view).

It is recognised that the small photographs and the A3 photomontages included within this assessment are not indicative of the actual visual impact. The A3 images, which are appended to this report (Appendix C), are clearer than the smaller images in the text.

However, to view the photomontages in a way that they appear perceptually accurate, they need to be printed and viewed on A0 sized sheets and held at arms' length. When viewed at A0 the photomontages are representative of the level of visual alteration.

6.5 Mitigation measures

Mitigation measures may also include additional landscape treatments, both around the proposed renewable energy facility and, if required, on impacted residential sites.

Potential mitigation measures, if appropriate, will be discussed after an analysis of the visual impact from each viewpoint.

7. Visual Assessment

Several objections raised concerns in relation to views and visual impact from the surrounding road network and the impact that the project might have on the character of the area.

The preceding sections have described the location of the site, the proposed height and scale of the Project components and the area available for landscape screening as relevant to views and visual impact.

This chapter will examine the visibility of the proposed solar farm from publicly accessible viewpoints.

7.1 Publicly Accessible Viewpoints

Ten viewpoints have been selected from a range of locations around the project. These locations have been chosen to represent views from locations of theoretical project visibility and from where people are likely to view the project.

In addition to providing for the types of views that are likely to be afforded to the project, the selected views also provided an understanding of the nature of visibility of the project area with regards to distance and the features of the surrounding landscape.

The location of the viewpoints in relation to the project are shown in Figure 7.1.

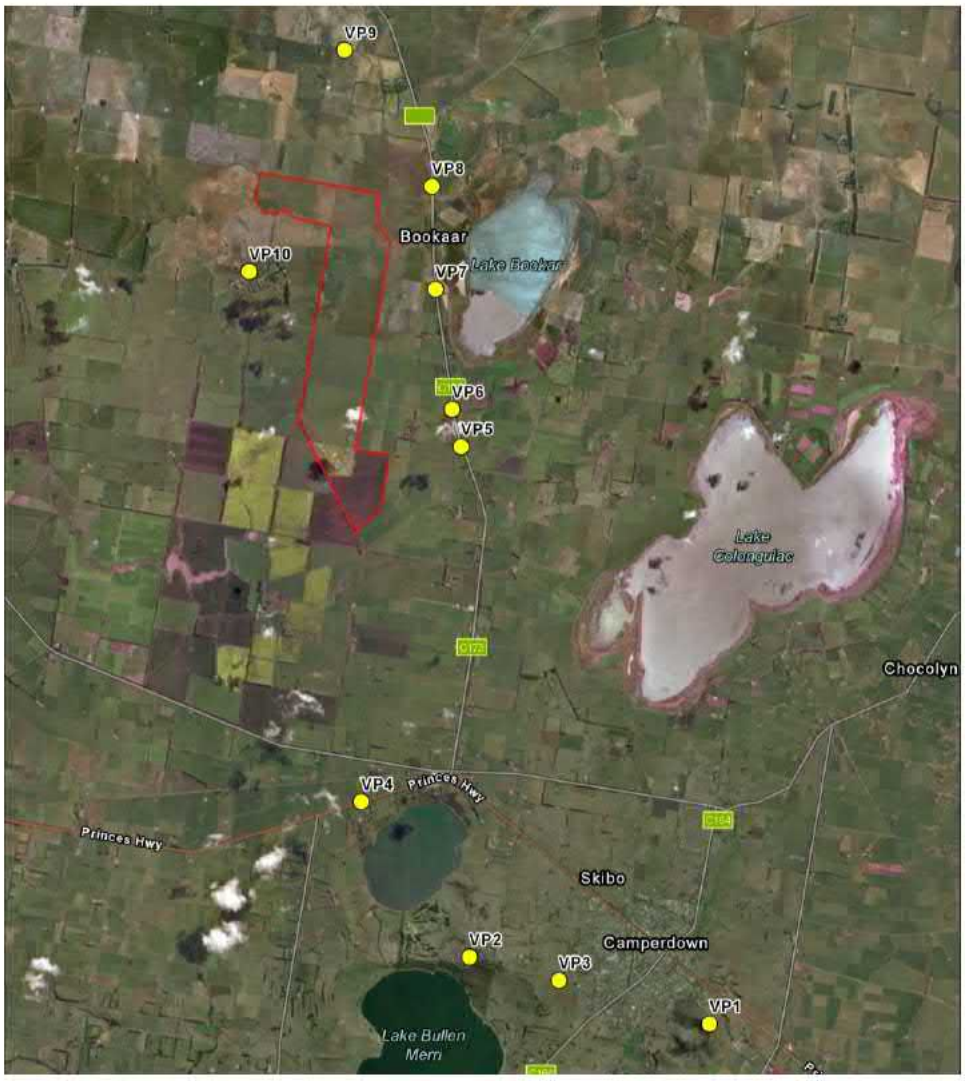


Figure 7.1 Viewpoint Map

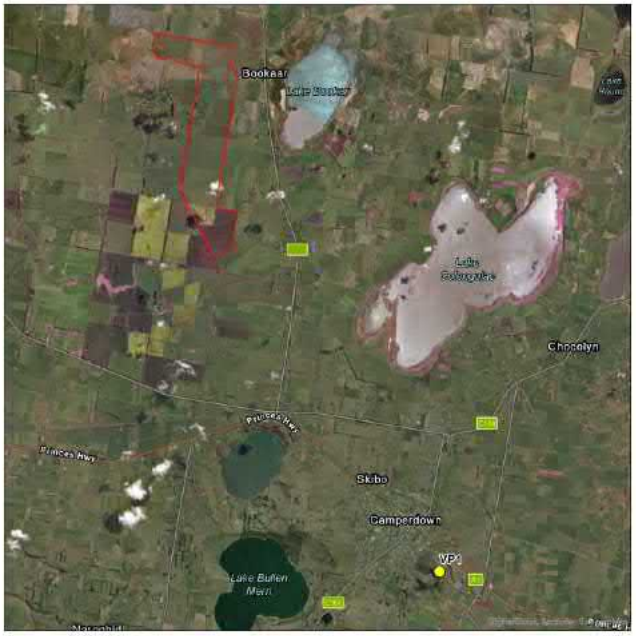
7.1.1 Viewpoint 1 – Mt Leura Lookout

Viewpoint 1 is located at the Lookout on the top of Mt Leura to the south east of the Project site.

The nearest site boundary is approximately 10km north west of this viewpoint.

This viewpoint was selected as Mt Leura was identified as a significant viewing location within the SWLA. It was also one of the few locations that was requested by Council to be considered by the original Visual Impact Assessment.

Figure 7.2 shows the view looking north west towards the project site from the lookout.



(54H 688825 E, 5764868 S)

Figure 7.2: Viewpoint 1 – View looking north east from Mt Leura Lookout

The approach to Mt Leura winds its way from Camperdown to the northern side of the mountain up the northern and eastern faces towards a carpark located to the south of the summit. There is a short walk of approximately 150-200m from the carpark to the lookout located at the summit.

From the summit there are generally 360o views which take in the vast volcanic plains that the district is renowned for. The elevated volcanic cones punctuate the otherwise flat horizon. The various lakes of which Lake Corangamite being the largest in the area visually contrast against the tapestry created by the various agricultural activities and wind breaks in the region.

On a clear day the project would be visible from parts of the walking trail located on the northern faces of Mt Leura. 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.

Although the project is at a distance that for ground level views it would not discernible in views, because of the elevation of the viewing location the project would be visible. However, for the reasons outlined above the visual impact would be negligible to low over the ordinary day to day and seasonal changes of views across the landscape.

7.1.2 Viewpoint 2 – Camperdown Botanic Gardens

Viewpoint 2 is located in the Camperdown Botanic Gardens to the south of the Project site.

The nearest site boundary is approximately 7.3km north west of this viewpoint.

This viewpoint was selected as views from Lake Bullen Merri and Lake Gnotuk were identified as significant viewing locations within the SWLA. Views from the Botanic Gardens are taken from elevated locations on the eastern edge of these lakes.

Figure 7.3 shows the view looking north towards the project site.

(54H 684873 E, 5765968 S)

Figure 7.3: Viewpoint 2 – View looking north from carpark

Figure 7.3 shows the view from the edge of the Botanic Gardens carpark. Views are directed out to the west across Lake Bullen Merri and Lake Gnotuk which are recognised as significant landscape features in the Corangamite Planning Scheme.

The project is not visible and will not compete with key views towards these features from any area within the Botanic Gardens. From the carpark views to the north towards the project are screened by existing topography and vegetation.

Figure 7.4 shows the view looking north west from the picnic area in the northern section of the Botanic Gardens.

Figure 7.4: Viewpoint 2 – View looking north west from picnic area (54H 685006 E, 5766121 S)

Views to the north west towards the project from the picnic ground are filtered by existing vegetation.

There may be views towards the project from other locations within the Botanic Gardens and the nearby caravan park. Similar to the views from Mt Leura, the project would be at such a distance that it would not be a dominant element in views. The visual impact would be negligible to low over the ordinary day to day and season changes of views across the landscape.

7.1.3 Viewpoint 3 – Park Lane

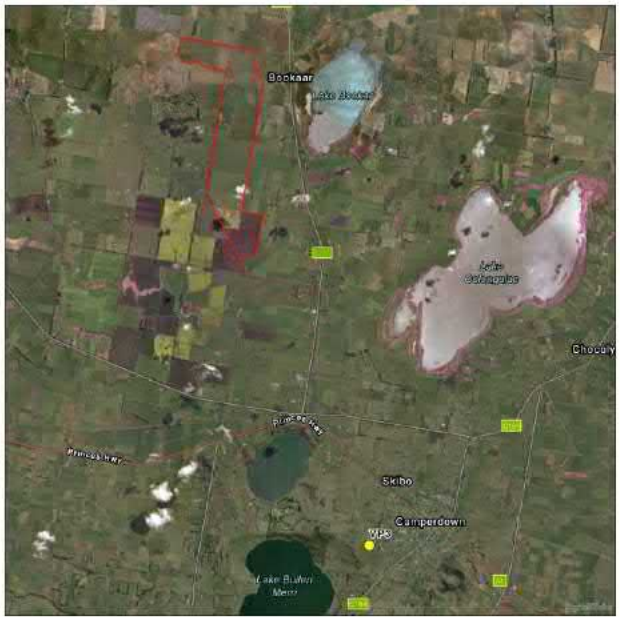
Viewpoint 3 is located on Park Lane approximately 500m west of Bowen Street to the south of the Project site.

The nearest site boundary is approximately 8.1km north west of this viewpoint.

This viewpoint was selected as representative of views from roads to the south east of Camperdown that have views to the north and towards the project site.

This location is at a lower elevation to the views from Mt Leura and Camperdown Botanic Gardens but more elevated than views from within the town.

Figure 7.5 shows the view looking north west towards the project site.



(54H 686347 E, 5765584 S)

Figure 7.5: Viewpoint 3 – View looking north west from Park Lane

Although this viewpoint is still elevated, it is lower than the views from Mt Leura and Camperdown Botanic Gardens described in the preceding views.

At this lower viewing angle, the wind break and shelterbelt plantings that define the property boundaries across the landscape, mesh together to limit views of the clear open paddocks and landscapes at lower elevations and within the plains, even for the nearby paddocks between this viewing location and the project.

At a distance of 8.1km the solar farm may be visible but will not be a dominant element in the view. Further, the proposed landscaping would further assist to filter or screen views of the project over time.

For these reasons, the visual impact is negligible.

7.1.4 Viewpoint 4 – Princes Highway

Viewpoint 4 is located on the Princes Highway approximately 700m east of Sandys Lane to the south of the Project site.

The nearest site boundary is approximately 4.5km north of this viewpoint.

This viewpoint was selected as representative of views from the Princes Highway that runs to the north of Camperdown.

Figure 7.6 shows the view looking north towards the project site.

(54H 683093 E, 5768524 S)

Figure 7.6: Viewpoint 4 – View looking north from Princes Highway

The existing site and the area of the proposed project is not visible due to the distance, low viewing angle and existing vegetation found in the landscape between the Princes Highway and the site.

There will be no views and therefore no visual impact of the project from this and any other locations observed along this section of the Princes Highway.

7.1.5 Viewpoint 5 – Darlington-Camperdown Road #1

Viewpoint 5 is located on Darlington-Camperdown Road approximately 380m north of Hinkleys Road to the east of the Project site.

The nearest site boundary is approximately 1.2km south west of this viewpoint.

This viewpoint was selected as it represents views from Darlington-Camperdown Road while heading north towards Darlington.

Figure 7.7 shows the view looking west towards the project site.

(54H 684735 E, 5774369 S)

Figure 7.7: Viewpoint 5 – View looking west from Darlington-Camperdown Road

Existing vegetation will filter or screening views to the southern section of the project which is approximately 1.2km to the west. A break in existing vegetation will permit views to the northern section, which from this location would be approximately 2km.

The Darlington-Camperdown Road is the main road between Darlington and Camperdown, due to a combination of the overall distance to the project, screening afforded by existing vegetation and the speed of the road being 100km/hr the visual impact prior to the establishment of landscape screening would be low. Overtime, the proposed 20m wide landscape planting, located along the entire eastern boundary will screen all views to the project which would reduce the visual impact to Negligible-Nil.

7.1.6 Viewpoint 6 – Darlington-Camperdown Road #2

Viewpoint 6 located on Darlington-Camperdown Road approximately 1.0km north of Hinkleys Road to the east of the Project site

The nearest site boundary is approximately 1.3km south west of this viewpoint.

This viewpoint was selected because of the relatively open nature of views to the project from the Darlington-Camperdown Road.

Figure 7.8 shows the view looking west towards the project site.

(54H 684589 E, 5774982 S)

Figure 7.8: Viewpoint 6 – View looking west from Darlington-Camperdown Road

Even though there are potentially open views to the project, from this location along the Darlington-Camperdown Road the views will be oblique and relatively short in duration due to the presence of existing vegetation between the site and the Darlington-Camperdown Road.

It is also clear that the project does not reside in any key or prominent views of vistas to the landscapes that are protected by the planning scheme, nor recognized within the SWLA.

It is recognized that these images within the report as small, however an important point of reference in all views is the high voltage transmission towers which bisect the site.

Similar to the previous viewing location, due to a combination of the overall distance to the project, screening afforded by existing vegetation and the speed of the road being 100km/hr the visual impact prior to the establishment of landscape screening would be low. Overtime, the proposed 20m wide landscape planting, located along the entire eastern boundary will screen all views to the project which would reduce the visual impact to Negligible-Nil.

7.1.7 Viewpoint 7 – Darlington-Camperdown Road #3

Viewpoint 7 is located on Darlington-Camperdown Road approximately 2.7km south of E Hill Road to the east of the Project site

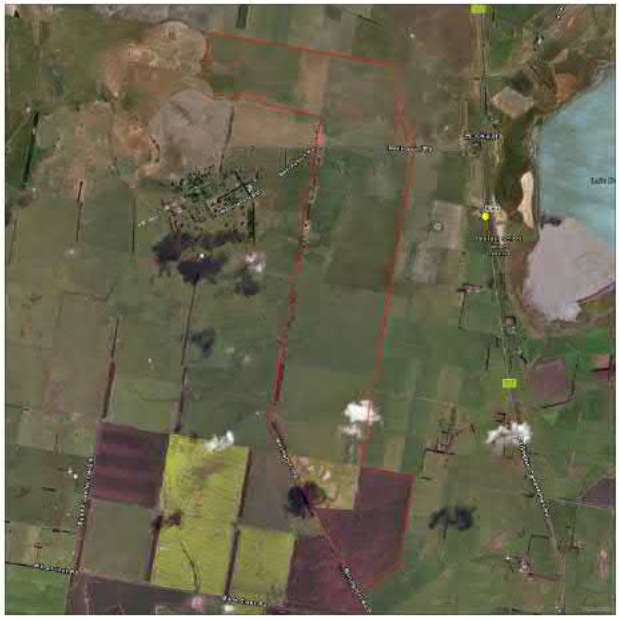
The nearest site boundary is approximately 870m west of this viewpoint.

This viewpoint was selected as it is one of the more open views towards the project from Darlington-Camperdown Road.

It also allows for views to the proposed substation located midway along the western boundary through a break in the indicative panel layout.

For these reasons, I have selected this location from which to prepare a photomontage of the Project. A larger A3 version of the photomontage has been included in the Appendices (Appendix C). It is emphasised that a larger A0 print showing the 60-degree field of view, should be relied upon to determine the likely visibility of the Project in this view.

Figure 7.9 shows the view looking west towards the project site.



(54H 684317 E, 5776955 S)

Figure 7.9: Viewpoint 7 – existing view looking west from Darlington-Camperdown Road

Although this figure demonstrates the potential for clear open views towards the project, it also demonstrates the potential screening provided by the proposed landscape as evidenced by existing vegetation seen to the left and right of the image.

Figure 7.10 shows a photomontage of the same view.

Figure 7.10: Viewpoint 7 – Photomontage (without proposed vegetation)

The photomontage shows that at this distance the panels would sit low in the otherwise flat landscape and would not be a visually dominant feature or element in these views.

Figure 7.11 shows an enlargement of the photomontage. This view does not show the proposed vegetation.

Figure 7.11: Viewpoint 7 – Photomontage enlargement (without proposed vegetation)

Figure 7.11 also includes the substation located mid-way along the western boundary, the largest feature being the substation which would connect the project to the existing overhead powerline which bisects the site. Even before landscape screening, it is clear that the project and its key elements will not be dominant features in views, nor will they compete with views to the elevated hill to the west of the Meningoort Homestead.

For these reasons, the visual impact is considered to be Low.

Overtime, the proposed 20m wide landscape planting, located along the entire eastern boundary will screen all views to the project which would reduce the visual impact to Negligible-Nil.

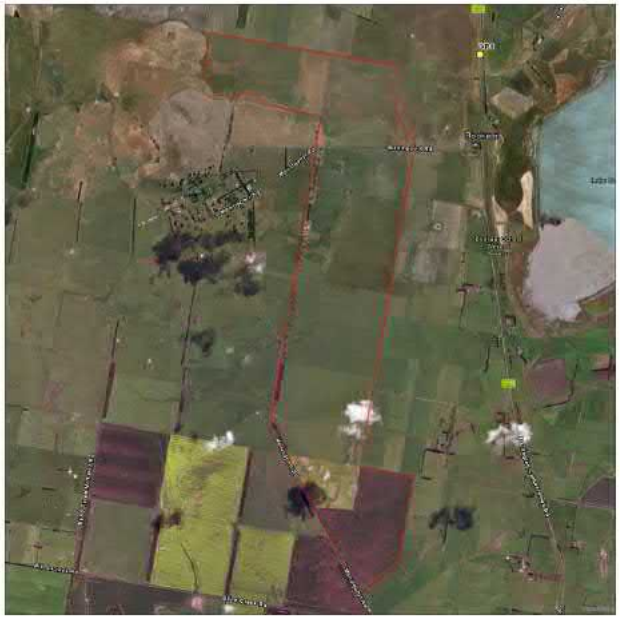
7.1.8 Viewpoint 8 – Darlington-Camperdown Road #4

Viewpoint 8 is located on Darlington-Camperdown Road approximately 1.0km south of E Hill Road to the east of the Project site

The nearest site boundary is approximately 580m south west of this viewpoint.

This viewpoint was selected as it represents a clear open view from Darlington-Camperdown Road when heading south from Darlington. This view is also the point where the project boundary is the closest to Darlington-Camperdown Road.

Figure 7.12 shows the view looking south west towards the project site.



(54H 684256 E, 5778656 S)

Figure 7.12: Viewpoint 8 – View looking south west from Darlington-Camperdown Road

Even though there are potentially open views to the project, from this location along the Darlington-Camperdown Road these views will be oblique and relatively short in duration.

It is also clear that the project does not reside in any key or prominent views of vistas to the landscapes that are protected by the planning scheme, nor recognized within the SWLA.

The proposed project elements will sit low in the landscape and will not detract from views to the elevated hill to the west of the Meningoort Homestead.

For these reasons, the visual impact would be assessed as low. Overtime, the proposed 20m wide landscape planting, located along the entire eastern boundary will screen all views to the project which would reduce the visual impact to Negligible-Nil.

7.1.9 Viewpoint 9 – Kilnoorat Road

Viewpoint 9 is located on Kilnoorat Road approximately 930m west of Darlington-Camperdown Road to the north of the Project site.

The nearest site boundary is approximately 2.2km south of this viewpoint.

This viewpoint was selected as it is representative of views from local roads to the north of the project.

Figure 7.13 shows the view looking south towards the project site.

(54H 682820 E, 5780892 S)

Figure 7.13: Viewpoint 9 – View looking south from Kilnoorat Road

Even though there are potentially open views to the project, from this location along Kilnoorat Road, this is a local road with few users.

It is clear from the image above that the project does not reside in any key or prominent views of vistas to the landscapes that are protected by the planning scheme, nor recognized within the SWLA, nor does it detract from views to the elevated hill to the west of the Meningoort Homestead.

For these reasons, the visual impact would be assessed as low. Overtime, the proposed 20m wide landscape planting, located along the northern boundary will screen all views to the project which would reduce the visual impact to Negligible-Nil.

7.1.10 Viewpoint 10 – Meningoort Homestead

Viewpoint 10 is from the Meningoort Homestead which is the host landowner of the Project. This viewpoint has been included not for the purposes of views or visual impact as they are privately held views and the residents are directly associated with the project. Rather, the inclusion of this section explores the concerns raised within objector statements for the impact to the heritage significance of the homestead and the change in views as documented by the Eugene Von Guerard painting dated 1861.

The nearest project boundary is approximately 1.2km east of this viewpoint. This view is approximately 1.5 times the distance of that shown in the photomontage prepared for Darlington-Camperdown Road.

Figure 7.14 shows the view looking south east towards the project site from a location that this proximal to the location captured in the Eugene Von Guerard painting.

(54H 681250 E, 5777252 S)

Figure 7.14: Viewpoint 10 – View over the top of the homestead

The Figure 7.15 shows an enlargement of this view which focuses on the approximate area capture by the Eugene Von Guerard Painting. Figure 7.16 shows the Eugene Von Guerard painting.

Figure 7.15: Viewpoint 10 – View over the top of the homestead

Figure 7.16: Painting of the homestead – Eugene Von Guerard (Source: Scottish Migrants and the Western District article by Ben Wilkie)

Overtime, the view in which the original painting has evolved and matured in several ways. This includes the expansion of the original homestead from its original modest proportions to include several new wings, out buildings and verandas. The fabric of the building has also been modified from the original painting from corrugated iron roofing to slate tiles and replacement/cladding of the original redbrick chimneys to split face bluestone and the introduction of more modern features such as skylights in the western lean-to.

Further, the original landscape plantings which comprises of young trees within the painting and cottage gardens have matured to include the many mature and exotic trees within proximity to the dwelling and the native trees within the nearby paddocks and property boundaries. This vegetation screens views towards the elevated features including Mt Leura and the hill on which the Camperdown Botanic Gardens are now located.

The feature that has remained is the existing driveway central to both views and the elevated volcanic cones in the distance. The Project will not impact in any meaningful way on the scene and setting captured within the Eugene Von Guerard painting as it will sit low in the landscape, filtered by existing vegetation around the homestead and will not block views towards the key elevated features of Mt Leura. Further, it must also be recognised that this location is within a privately held property, that is seldom open to the public.

7.2 Residential dwellings

Several objections to the project raised concerns regarding views and visual amenity from nearby residential dwellings. These dwellings are predominantly located to the south and east of the Project. The nearest of these dwellings, not associated with the Project is approximately 450 m to the south east of the nearest project boundary.

Landscape screening is an accepted measure to reduce visual impacts of a project for a range of projects where a predicted visual impact from sensitive receptors such as residential dwellings would be greater than moderate.

The recent VCAT decision for the Glenrowan Solar Farm concluded that landscape screening can reduce visual impacts from sensitive residential viewing locations where a high level of visual impact prior to the establishment of landscape screening was predicted.

Similar to the Bookaar Solar Farm, the Glenrowan Solar Farm also proposed 4.0 m high solar panels, an on-site substation, PCUs and maintenance facilities. The landscape buffer in this instance was 5.0 m wide, not 20 m as proposed by this project.

For the Glenrowan Solar Farm there were several nearby residential dwellings were a high level of visual impact was predicted. This high visual impact was due in part to the:

- dwellings sharing an immediate boundary with the proposed solar farm,
- the close proximity of the dwellings to the project; and
- limited to no intervening vegetation, topography and buildings that would filter views to the project.

Condition 9 (e) of the permit for the Glenrowan Solar Farm required that for dwellings that were assessed as having a high level of visual impact prior to landscape mitigation being effective….50% of the landscape screen planting be installed as established trees to 2 metres in height, for a length of 100 metres. This was to achieve immediate visual screening of the renewable energy facility when viewed from the affected dwellings. The nearest dwelling to the Glenrowan Solar Farm was less 70 m from a project boundary and perimeter fence, and approximately 200 m from the nearest solar panel. The nearest dwelling to the proposed Bookaar Solar Farm is approximately 450 m.

The photomontage shown at Viewpoint 7 of this report and included in the Appendices shows that existing vegetation established along fence lines or property boundaries will be effective at filtering or screening views to the Project. This vegetation is often contained within a fenced reserve less than 5.0 m in width and in a single row. This vegetation has also been established without any requirement for landscape management, or prescriptive care and maintenance program typically required by a permit condition for landscape.

The preceding analysis of views from the surrounding areas demonstrates that landscape plantings are effective and can be established within the site boundary, sufficient to mitigate sensitive views such as those from nearby residential dwellings to the east and south of the project.

The Project proposes to install a 20.0 m wide landscape strip around the perimeter of the project and in the areas where there is the potential for views towards the project from nearby residential dwellings. There are also several examples of vegetation within the project site that are similar to the proposed plantings. These examples demonstrate the effectiveness of vegetation growth in the area and its ability to screen sensitive views.

Further, the preceding analysis and report have identified that 4 rows of vegetation will be effective in this area as demonstrated by the many plantings in close proximity to the site that are similar to the landscape buffer.

There were no locations observed where the proposed landscape screening comprising 4 rows of planted vegetation would not be effective at filtering or screening sensitive views towards the project should this be required.

For these reasons, I am of the view that the visual impact from nearby residential dwellings can be effectively managed by the project and there are no further locations where I would recommend additional planting be installed. In addition to this, many of the dwellings observed while on site, appeared to include screening and vegetation between the dwelling and the project and were at distances where the Project would not be visually dominant.

8. Conclusion

Although the project has a large footprint, the proposed solar panels will form a small element in views from the area surrounding the project. While there would be a change to views, the visual impact would be minor for even the most sensitive of viewers.

8.1 Views from the elevated locations

On a clear day the project may be visible from parts of the walking trail located on the northern faces of Mt Leura and locations in and around the Camperdown Botanic Gardens. 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.

8.2 Views from the road network

Darlington-Camperdown Road is the only major road in proximity to the Project which is approximately 580 m at it nearest point. The photomontage demonstrates that even in clear open views, the proposed solar panels would not be dominant features in these views, nor would they detract from key views to features such as the elevated volcanic cones and the various lakes dispersed across the district.

Overtime the project would be completely screened from views by the proposed landscape plantings around the perimeter of the site.

8.3 Impact on the heritage precincts

Several Objections raised concerns regarding the impact of change to the original scene captured in the Eugene Von Guerard Painting which captures the view over the original Meningoort Homestead.

Overtime, this original view has evolved and matured to include the expansion of the original homestead, a change in the building fabric from corrugated iron roofing to slate tiles and cladding of the original redbrick chimneys to split face bluestone.

The original landscape plantings, which at the time of the painting captured young trees and cottage gardens, which have now matured to include the many mature and exotic trees within proximity to the dwelling and the native trees within the nearby paddocks and property boundaries. The latter screening and filtering views to much of the project area.

From a visual impact perspective, the Project will not:

- bring about an un-acceptable visual outcome in terms of the Planning Policy Framework, including the Municipal Strategic Statement and local planning policy;
- result in an unacceptable level of visual change in the context of the altered view from the location where the Eugene Von Guerard painting was captured. This is due in part to the already modified view, and the vegetation which has matured between the time of the painting and now;
- cause unacceptable landscape and visual impacts within the local area and from key viewpoints;
- degrade the of natural beauty of the area;
- appear as a blight on the natural landscape contrary to both local and state planning policies;
- diminish the cultural heritage and landscape values of the areas as shown in Eugene Von Guerard painting of Meningoort;
- impact on amenity of area and surrounding environment;
- result in a net recruitment of canopy vegetation brought about by the proposed boundary plantings;
- Impact in any appreciable way on the rolling green pastures, crater lakes and mountains; and
- destroy the existing landscape amenity of the area due to its size.

The photomontage has demonstrated that the panels which have been modelled at four meters in height, sit low within the landscape and will not be visually prominent. 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.

I see no reasons from a landscape and visual impact perspective that should preclude the project from being granted a permit. This position is supported by the following conclusions derived from the observations and conclusion reached in the preceding analysis.

I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance, which I regard as relevant, have to my knowledge been withheld from the Tribunal.

Appendix A. Hayden Burge CV

JACOBS

Hayden Burge

PRINCIPAL LANDSCAPE ARCHITECT

Hayden has over 20 years' experience in Landscape Architecture, Visual Impact Assessment, Master Planning, Rehabilitation and Landscape Construction across Australia. Hayden's project experience and background brings depth, creativity and practical solutions to a variety of projects.

Stakeholder and user groups are demanding more from our clients than a "fit for purpose" project. Hayden has responded to this by developing a specialisation in projects that require innovative solutions and strategies to navigate a broad range of social, environmental and legislative complexities for projects in the built environment. Hayden is a critical thinker who enjoys the challenge of developing beneficial project outcomes to help our clients overcome the increasing and ever-changing demands from stakeholders and user groups, ensuring an outcome that is more than "fit for purpose" while minimising exposure to cost, time and legislation.

Hayden quickly develops an understanding of key project design issues to develop practical solutions for project delivery. His knowledge of planning, environmental and land use legislation will assist to predict amenity concerns and to develop design and mitigation solutions.

Prior to joining Jacobs, Hayden was ERM's APAC lead for Landscape and Visual Assessment. Hayden regularly appears before appellant bodies and independent planning panels as an expert witness in, visual impact assessment and landscape architecture.

Areas of Expertise

- Landscape Architecture
- Master planning
- Urban Design
- Visual Impact Assessment
- Rehabilitation.

Relevant Project Experience

Expert Evidence

Client: Multiple

Scope/Description: Provision of expert evidence statements for planning panels and tribunals

Responsibility: Hayden has delivered Landscape Architectural, Urban Design and Visual Impact Assessments expert evidence for a range of projects including:

- Glenrowan Solar Farm, January 2019
- Tivendale Road, Officer, June 2018
- Sunbury South Precinct Structure Plan, Oct 2017
- Ryan Corner and Hawkesdale Wind Farm, Aug 2017
- Berrybank Wind Farm, Nov 2017
- Wangaratta Solar Farm, Nov 2017
- Carlton Housing Precincts-Development Plan, Dec 2006
- Former Rusden Campus, Blackburn, March, 2007

EDUCATION/QUALIFICATIONS

Bapp.Sci Landscape Architecture and Urban Design, RMIT, 2000

REGISTRATIONS/ CERTIFICATIONS

Registered Landscape Architect, AILA

MEMBERSHIPS AND AFFILIATIONS

VPELA

LANGUAGES

English

PUBLICATIONS

- Visual Assessment for Renewables – MAV Planning Conference, May 2018
- Mining as a scar on the landscape – ACG Global Mine Closure Conference, Brisbane 2012
- Visual Impact Assessment – Presentation to the Victorian Planning and Environmental Law Association, 2010.

Hayden Burge
PRINCIPAL LANDSCAPE ARCHITECT

- Wallace Avenue Toorak, July, 2007.
- Queens Road, South Melbourne, August, 2007
- Serpells Road, Templestowe, July 2008

Wangaratta Solar Project

Client: Country Wide Energy

Title: Wangaratta Solar Farm

Start/End Dates: 2017

Scope/Description: Hayden undertook a peer review of the proposed Wangaratta Solar Farm Project, prior to providing expert visual advice at a Ministerial Call In convened specifically for the project. The project was supported by the independent planning panel and is now in advanced planning.

Glenrowan Solar Project

Client: ESCO Pacific

Title: Glenrowan Solar Farm

Start/End Dates: 2016– 2019

Scope/Description: Hayden prepared the Landscape and Visual Impact Assessment for the proposed Glenrowan Solar Farm in North East Victoria. Further, Hayden prepared expert evidence regarding landscape and visual impacts of the project in 2019. The project received a planning permit.

Winton Solar Farm

Client: FRV

Title: Winton Solar Farm

Start/End Dates: 2017

Scope/Description: Hayden prepared the Landscape and Visual Impact Assessment for the Winton Solar Farm in North East Victoria. The project received a planning permit and is now in advanced design development.

Dundonnell Wind Farm

Client: Newen/Trustpower/Tilt

Title: Dundonnell Wind Farm

Start/End Dates: 2010 –2018

Scope/Description: Hayden was involved in the preparation of the Landscape and Visual Impact Assessment of the then proposed Dundonnell Wind Farm which formed part of the original Environmental Effects Statement (EES). Hayden's role has continued with the project to provide advice and supporting documentation for the recently approved turbine height increase and to assist with various permit conditions relevant to landscape and visual impact.

Lal Lal Wind Farm

Client: West Wind/ Macquarie Capital/ Lal Lal Wind Farms

Title: Lal Lal Wind Farm

Start/End Dates: 2008 – 2018

Hayden Burge
PRINCIPAL LANDSCAPE ARCHITECT

Scope/Description: Hayden was involved in the preparation of the original Landscape and Visual Impact Assessment of the proposed Lal Lal Wind Farm. Hayden role in the Lal Lal Wind Farm continued in 2017 by providing advice on permit implications relating to landscape through the transaction phase as well as delivering the landscape strategy for key stakeholders.

Moorabool Wind Farm

Client: Gold Wind

Title: Moorabool Wind Farm, Turbine height increase

Start/End Dates: 2016– 2018

Scope/Description: Hayden prepared the Landscape and Visual Impact Assessment of a proposed turbine height increase for the approved Moorabool Wind Farm.

Ryan Corner and Hawkesdale Wind Farms

Client: GPG Pty Ltd

Title: Ryan Corner and Hawkesdale Wind Farms

Start/End Dates: 2009 – 2017

Scope/Description: Hayden was involved in the preparation of the Landscape and Visual Impact Assessment for the proposed Ryan Corner and Hawkesdale Wind Farm's in Western Victoria. Hayden's role continued with the project's to provide advice, supporting documentation and expert testimony for the recently approved turbine height increases for both projects.

Gullen Range Wind Farm

Client: Epuron / Goldwind

Title: Gullen Range Wind Farm

Start/End Dates: 2009 – 2015

Scope/Description: Hayden's involvement in the Gullen Range Wind Farm includes the preparation of the Landscape and Visual Impact Assessment, Stakeholder Engagement, Community Consultation. Following completion of construction, Hayden was retained to prepare a consistency review for to be provided to the NSW State Government.

Berry Bank Wind Farm

Client: GPG

Title: Berrybank Wind Farm

Start/End Dates: 2017

Scope/Description: Hayden provided advice, supporting documentation and expert testimony for the recently approved turbine height increases for Berrybank Wind Farm and grid connecting infrastructure.

Appendix B. Instructions

Contact: Edward Mahony
Direct line: 03 9691 0228
Email: emahony@besthooper.com.au
Principal: John Cicero
Our Ref: JDC:EJM:181273

22 February 2019

Jacobs
Attention: Mr Hayden Burge
Principal Landscape Architect
Floor 11, 452 Flinders Street
MELBOURNE VIC 3000

By email only: hayden.burge@jacobs.com

Dear Hayden,

520 Meningoort Road, Lots 51 & 52 and Res 1 on LP4677, Bookaar VIC 3260

We act for the Permit Applicant/Applicant for Review, Bookaar Renewables Pty Ltd, in relation to the above matter, which relates to a renewable energy facility and associated works.

Our client wishes to retain you to review the application and should you be in a position to support it, to prepare an expert evidence statement at the hearing of this matter. Your brief is to undertake a peer review of the analysis undertaken by PagerPower as submitted with the application and to address the landscape and visual impact merits of the proposal.

Your witness statement is due for circulation by 27 May 2019, however we request a copy of same by **13 May 2019.**

The compulsory conference and hearing dates/locations have been confirmed. You are not required to attend the compulsory conference. At this stage, you will need to be available for the following dates to provide oral evidence:-

- **24-27 June 2019,** and
- **1-2 July 2019**

We will have a clearer idea of the exact timing that you are required to give evidence closer to the hearing.

We request that you carefully review each of the conditions, included in the Council Officer report contained within your brief, and provide your comment on the conditions relating to your respective area of expertise by **8 March 2019**. This will assist us in preparing for the compulsory conference.

The brief includes a presentation from the client that gives an understanding of the practical nature of the application. You are to assume that the solar panels used are the panels with a 4m high maximum tilt.

Our client will be directly responsible for your fees, therefore please ensure your fee proposal is sent directly to the client. Our client's details are as follows:

Bookaar Renewables Pty Ltd
Contact: Jane Ross and Richard Seymour
44 Quayle Street, Sandy Bay, TAS 7005
J.Ross@infinergy.co.uk / R.Seymour@infinergy.co.uk
0418 632 727 / +64 22 033 1587

We enclose an electronic brief of documents for your review. Please advise if you require any further information to complete your evidence statement.

Yours faithfully
BEST HOOPER

John Cicero
Principal

Enc.

Appendix C. Photomontage

Bookaar Solar Farm

VIEWPOINT 7 – Darlington-Camperdown Road #3

View looking south to north

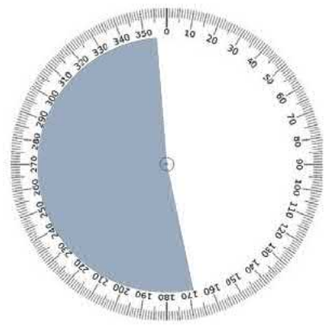
(GPS 54 H, 684317 m E, 5776955 m S)

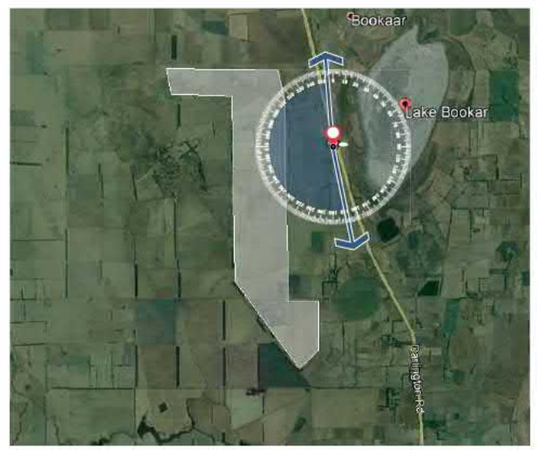
Existing view

See Sheet 2 | See Sheet 3 | See Sheet 4

Photomontage

See Sheet 2 | See Sheet 3 | See Sheet 4





Distance to Project: Approximately 870m west

Viewpoint location and orientation

Viewpoint Map

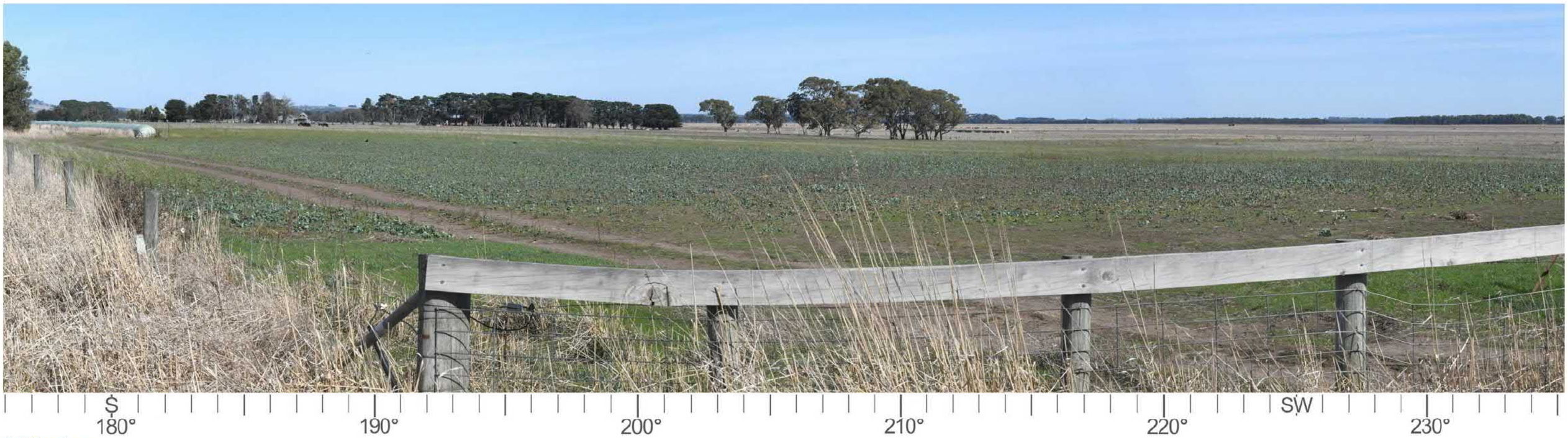
JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 1/5 DATE: 27/05/2019

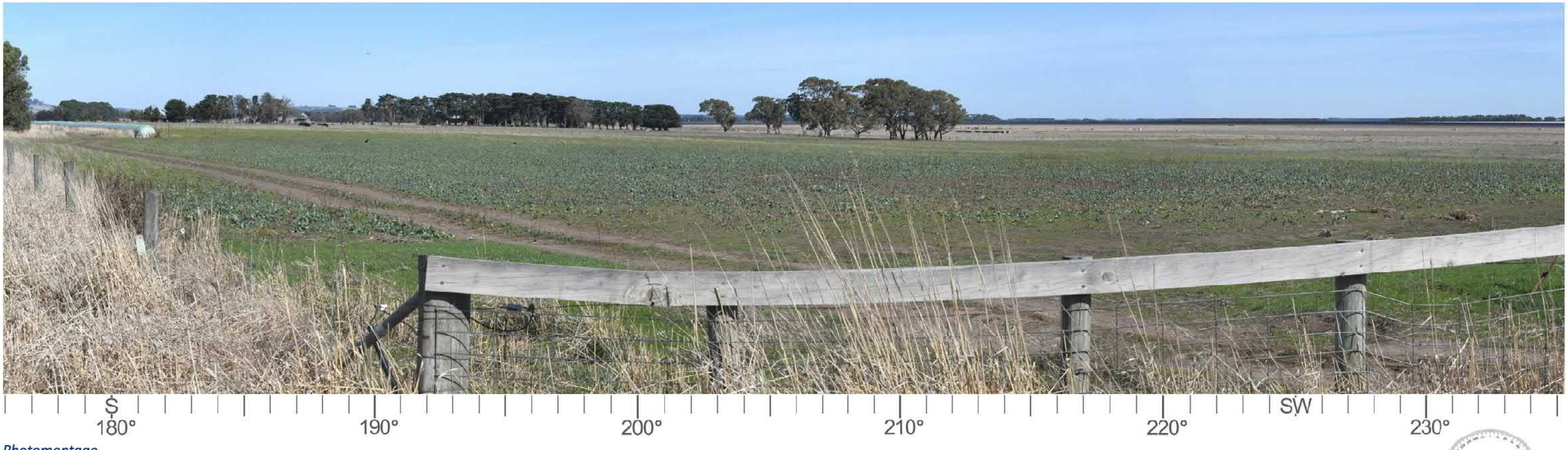
VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south to south west

(GPS 54 H, 684317 m E, 5776955 m S)



Existing view



Photomontage

JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 2/5 DATE: 27/05/2019

Distance to Project: Approximately 870m west

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking south west to west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 3/5 DATE: 27/05/2019

Distance to Project: Approximately 870m west

VIEWPOINT 7 – Darlington-Camperdown Road #3

60 Degree view looking west to north west

(GPS 54 H, 684317 m E, 5776955 m S)

Existing view

Photomontage

JACOBS

Bookar Solar Farm: VP 7 – Darlington-Camperdown Road #3
COORDINATES: GPS 54H 684317 m E, 5776955 m S
PREPARED BY: HB
SHEET: 4/5 DATE: 27/05/2019

Distance to Project: Approximately 870m west

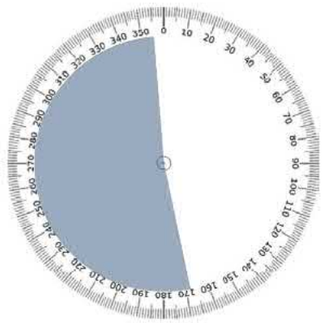
VIEWPOINT 7 – Darlington-Camperdown Road #3

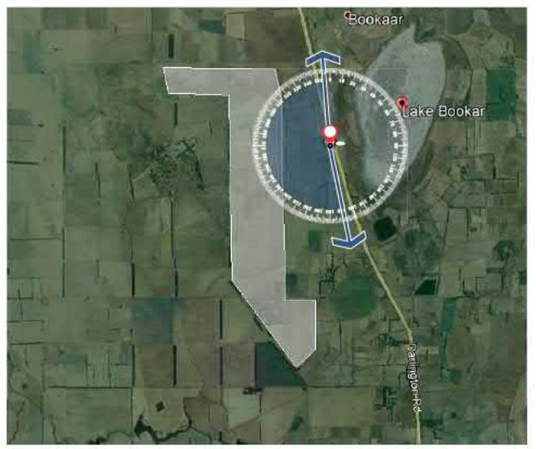
Wireframe view looking south to north

(GPS 54 H, 684317 m E, 5776955 m S)

Existing wireframe view

Wireframe view





Distance to Project: Approximately 870m west

Viewpoint location and orientation

Viewpoint Map

Appendix D. Oz Trees screen planting detail

From: Michael Turner

Company: Oz Trees Colac Pty Ltd

To: Richard Seymour

Of: Infinergy Pacific Ltd

Hi Richard,

Further to your enquiry regarding the proposed Solar Farm, we provide the following details and proposed steps to complete the tree screening component of the project.

We have as a company provided our tree planting services to property owners in the Bookaar area including the property that is proposed for the Solar Farm. In our experience this area is particularly good for growing trees and some pretty good growth rates have been achieved when the correct preparation and follow up maintenance has been carried out. It is particularly important to plant the correct trees into the different soil types that normally occur when planting over a large area as proposed.

Site Visit:

We have the knowledge to predict what the soil changes will be, from visiting the site prior to preparation, and normally tweak the final break down once the soil has been worked up, this allows a clear understanding of the soil profile and its changes.

Spraying:

To achieve the fastest growth rates, we would recommend the site be pre-sprayed in the Spring prior to planting to remove weed growth and grass root matter to allow for the best soil shattering when ripped and for a good tilth in the mounded soil.

Autumn spraying prior to mounding is essential to reduce the weed seed bed and to aid in the final soil preparation.

Land Preparation:

Ripping and Mounding of the soil would take place 3-4 weeks after spraying. A ripping depth of approximately 800mm would be achieved using our Large winged ripper for maximum shattering of the soil profile to allow for fast root movement through the soil, in the same process a soil mound will be produced over the rip line giving a large soil mass for the trees to establish in.

A final pass with our Rotary Bed Former will break down any large clods and flatten the top of the mound providing the perfect bed to maximise plant performance.

Fencing:

Once soil preparation is complete the planting site would require fencing to prevent cattle or sheep entering the site to compact the site or shift the chemical from the top of the mound.

Spraying:

Pre-plant spraying of residual herbicide would be applied once a green shoot appears, normally around 3 weeks prior to planting this will provide a shield that will kill germinating weed seeds for up to 7 months.

Planting:

Tree planting would take place Late Autumn Early Spring, this is the best time to plant in this area as you don't want the young seedlings sitting in the cold wet conditions during the first winter.

Guarding:

1 litre Milk cartons would be applied at the point of planting to protect from the weather and from vermin such as Hares, Birds and Rabbits.

Maintenance:

Following the initial planting the plantations may need some replanting to replace any losses from the elements and vermin damage, we aim for approximately 90% strike over the summer months and follow up with a maintenance run in Autumn to re-plant losses and fix up any destroyed guards.

Spraying:

Follow up spraying is essential for the continued speed of growth of the trees, the elimination of weed and grass competition until the trees have occupied the planted area and have reached canopy cover is critical.

Spraying: 1st Autumn after planting

Autumn spraying of the whole tree area with a mix of Chemicals to kill all weed and Grass

Replanting;

Replant any losses and repair damaged guards.

Spraying: 2nd Autumn after planting

Autumn the following year the final spray of all weeds and grasses.

No re-plants or guard repair would be required if all the above process is followed and no sheep or cattle have invaded the planted area.

Good fences are very important and consideration for both sheep and cattle is important.

Project complete!

Taking into consideration that neighbouring properties will need to have their views of the Solar farm softened, we propose that the following species and design be considered for the project (depending on soil type).

A minimum of 7 rows (20m) will give the required cover over the life of the project, less rows may lead to an insufficient cover when trees reach maturity. Considering that the estimated height of the project will be between 2-4 metres and views will be mainly from passing vehicles it would be best to focus on small to medium height trees with a smaller % of taller species.

Suggested Species: Taken from a species list from a plantation planted in 2008 at a site near the proposed Solar Farm.

Eucalyptus maculata **Spotted Gum**

Eucalyptus ovata **Swamp Gum**

Eucalyptus camaldulensis **Red Gum**

Eucalyptus viminalis **Manna Gum**

Eucalyptus Leucoxylon **Pink Flowering Yellow Gum**

Acacia implexa **Light Wood**

Acacia melanoxylon **Black Wood**

Melaleuca ericifolia **Swamp Paperbark**

Melaleuca decussata **Totem Poles**

Banksia marginata **Honeysuckle**

Casuarina glauca **Bulloak** proposed site.

Note. This species list would alter for heavy soil types.

Below are some photos of the above plantation 24 month after planting & at 5 years

As you can see by the above photos if all the steps are followed correctly quite quick growth rates can be achieved.

I am available for a site visit if required or if you require any more information please give me a call.

Regards.

Mick Turner.

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PLANTATION SERVICES

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