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## Solar Renewable Energy Facility

Bairnsdale Solar Farm

Visual Impact Assessment

Date: 27/04/2023

Prepared for Bison Energy Pty Ltd by

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Project: Bairnsdale Solar Farm - Visual Impact Assessment  
Commissioned by: Bison Energy Pty Ltd  
Prepared by Yonder Landscape Architecture, PO Box 1198, Albury NSW 2640 Australia ABN 68 437 343 209

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STATUS	DATE	BY	REVISION
Client Review	27.04.23	LL	A



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## Introduction

### Purpose

Yonder Landscape Architecture has been commissioned by Bison Energy to undertake a visual impact assessment for a proposed 50 megawatt (MW) Solar Photo Voltaic Generation (SPVG) facility, at Princes Highway, Bairnsdale. The proposal covers an area of approximately 7.6 hectares (Ha), in the Local Government Area (LGA) of East Gippsland Shire Council in Bairnsdale Victoria.

This visual impact assessment delivers an objective statement of the probable impacts on the visual environment resulting from the construction of the proposed development. The report outlines the results from site assessment undertaken in April 2023, describing the present landscape character. It documents the assessment of visual impact resulting from the proposal and provides an indication for suitable mitigation measures.

### Statutory Framework

The DRAFT Solar Energy Facilities - Design and Development Guidelines prepared by Victorian Government Department of Environment, Land, Water and Planning outlines the assessment and development process for large scale solar energy facilities in Victoria. The guidelines address landscape values and visual amenity and include using best practice design will help minimise impacts on visual amenity for surrounding land users, with specific consideration of:

- ▶ screening the site using vegetation or other barriers.
- ▶ implementing methods to reduce the impact of glint, glare and light spill, such as screening and panel row orientation.
- ▶ designing fencing and other security measures to reduce impacts on surrounding
- ▶ land use
- ▶ designing the height, siting and layout of panel arrays and related infrastructure to minimise visibility from surrounding viewpoints
- ▶ choosing materials with colours and textures that provide minimal contrast with the landscape
- ▶ using the topography of the site and the surrounding landforms to reduce visibility.

### Methodology

The visual impact assessment involved the following activities:

- ▶ Desktop review using aerial photography to confirm the extents of the proposed development on the site and check for any prominent land features and vegetation in and around the site.
- ▶ Investigation of possible viewsheds along Princes Highway, Old Station Road, Bengworden Road and Merry Street where the proposed development may be seen from and document the views with photos as well as descriptions. The views will be documented according to the sensitivity and if the proposed development is visible will be recorded. The nature of the visual impact and rating will also be carried out.
- ▶ Describing and evaluating the existing landscape character and visual environment in order to establish a baseline for the visual assessment.
- ▶ Mapping the visual envelope based on field studies and data while identifying sensitive visual receivers. Sensitive visual receivers are individuals or people who have the potential to be visually affected by the proposal.
- ▶ Undertaking a visual impact assessment using the grading matrix, considering visual sensitivity and the magnitude of the visual change. This report considers the visual impact of the development from Princes Highway, Old Station Road and Bengworden Road.

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## Visual Impact Assessment Method

The methodology adopted in this Landscape Character and Visual Impact Assessment is based on the NSW Government Roads and Maritime Service Environmental Impact Assessment Guidance Note (2013): Guidelines for landscape character and visual impact assessment. The methodology has been modified to align with the features and requirements of this particular proposal.

The method to measure impact is based on the combination of:

- ▶ the sensitivity of the existing area or view to change.
- ▶ the magnitude (scale, contrast, quality, distance) of the proposal on that area or view.

### Sensitivity

Sensitivity refers to the qualities of an area, the number and type of receivers and how sensitive the existing character of the setting is to the proposed nature of change.

Visual sensitivity is a measure of how critically a change to the existing landscape is viewed by people from different areas. The assessment is based on the number of people affected, land use, and the distance of the viewer from the proposal (EDAW, 2000).

For example, a significant change that is not frequently seen may result in a low visual sensitivity although its impact on a landscape may be high. Generally the following principles apply:

- ▶ Visual sensitivity decreases as the viewing time decreases.
- ▶ Visual sensitivity decreases as the number of potential viewers decreases.
- ▶ Visual sensitivity can also be related to viewer activity (e.g. A person viewing an affected site whilst engaged in recreational activities is more likely to be affected by change than someone passing a scene in a car on the way to a destination).

### Magnitude

Magnitude refers to the physical scale of the project, how distant it is and the visual contrast it presents to the existing condition. Magnitude will also need to consider cumulative impact, which is a consideration of the result of the incremental impact of the proposal when added to other past, current and known likely future activity. Magnitude is also called visual effect.

- ▶ Low level: occurs when a proposal blends in with its existing viewed landscape due to a high level of integration of one or several of the following: form, shape, pattern, line, texture or colour. It can also result from the use of effective screening ie. Topography and vegetation.
- ▶ Moderate level: occurs where a proposal is visible and contrasts with its viewed landscape however, there has been some degree of integration (e.g. Good siting principles employed, retention of significant existing vegetation, provision of screen landscaping, appropriate colour selection and/or suitably scaled development).
- ▶ High level: results when a proposal has a high visual contrast to the surrounding landscape with little or no natural screening or integration created by vegetation or topography.

### Visual Impact Rating

Visual impact refers to the change in appearance of the landscape as a result of development. (EPHC, 2010). Visual impact is the combined effect of visual sensitivity and visual effect. Various combinations of visual sensitivity and visual effect will result in high, moderate and low overall visual impacts as suggested in Table below.

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Grading matrix

Source: Roads and Maritime Service Environmental Impact Assessment Guidance Note (2013): Guidelines for landscape character and visual impact assessment

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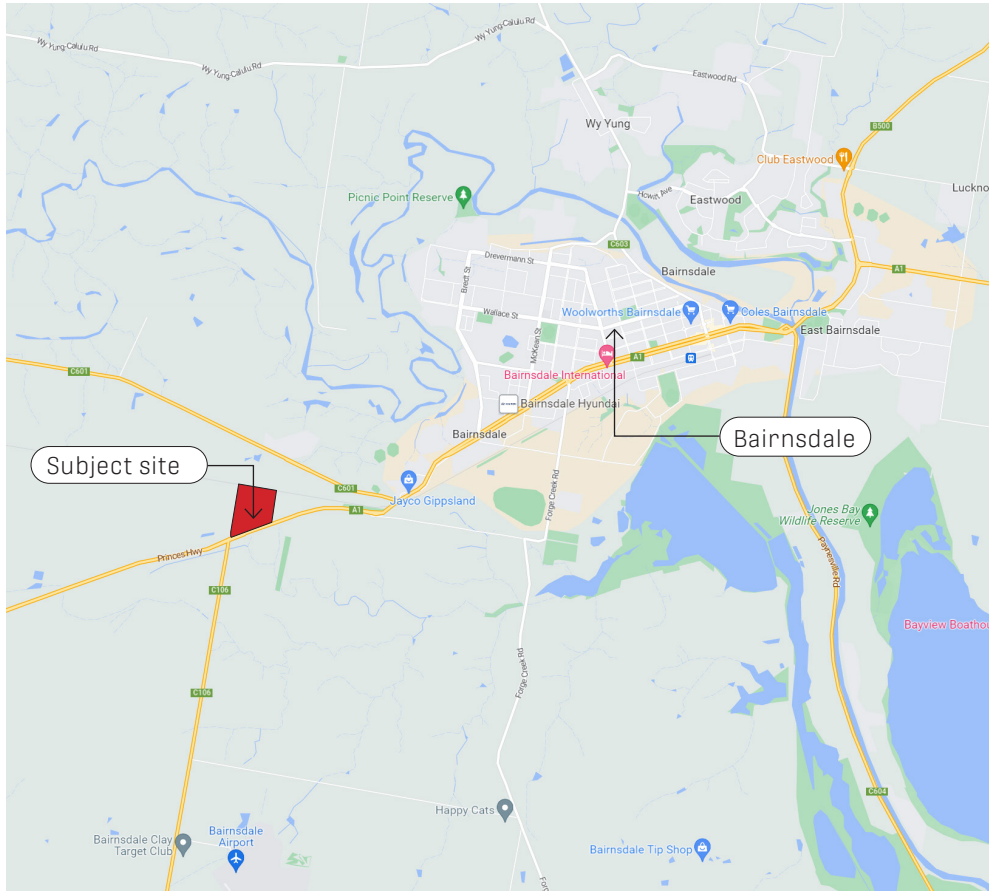
## The site

The development site is located approximately 6km west of Bairnsdale on the Princes Highway. The site is directly adjacent to the Auswest Timbers Bairnsdale and Bairnsdale Power Station on Power Station Road. The site is bounded by the railway line to the north and the Princes Highway to the south.

## Landscape character

Key site characteristics of the regional and local landscape character include:

- ▶ Flat land form with a mix of open areas and landscape buffers.
- ▶ A mix of industrial and rural land uses. Electrical infrastructure is visually prominent telecommunications.
- ▶ Railway lines and assorted buffer planting.
- ▶ Scattered rural buildings.

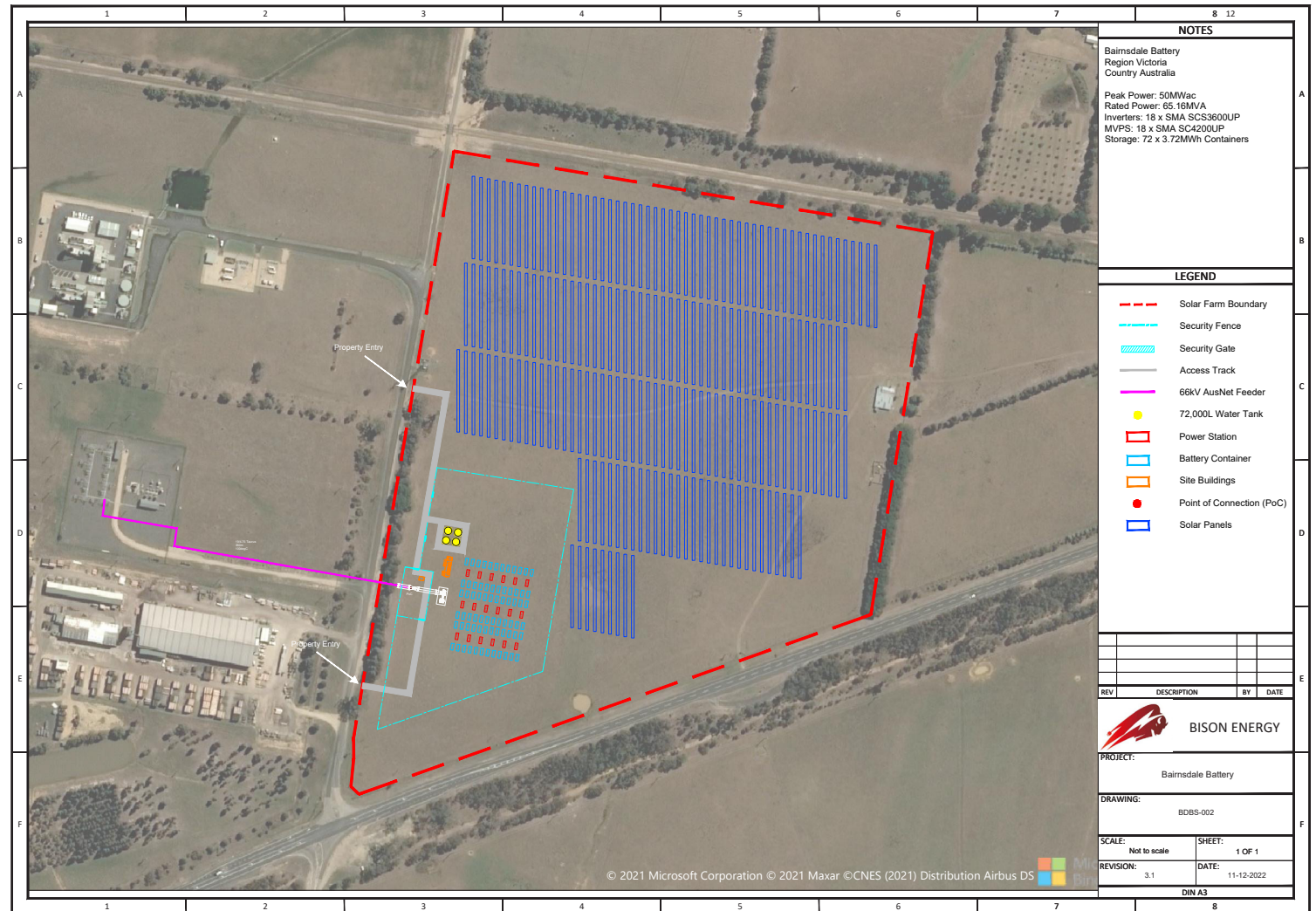


# The Proposal

The Bairnsdale Bairnsdale Battery is a proposed 50 megawatt (MW) solar photo voltaic generation (SPVG) facility.

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## Visual Impact Assessment

Viewshed 1	Sensitivity	Magnitude	Impact
Along Princes Highway looking west from Merry St.	Negligible	Negligible	Negligible



Distant view to the southern side of the site, obscured by existing vegetation.

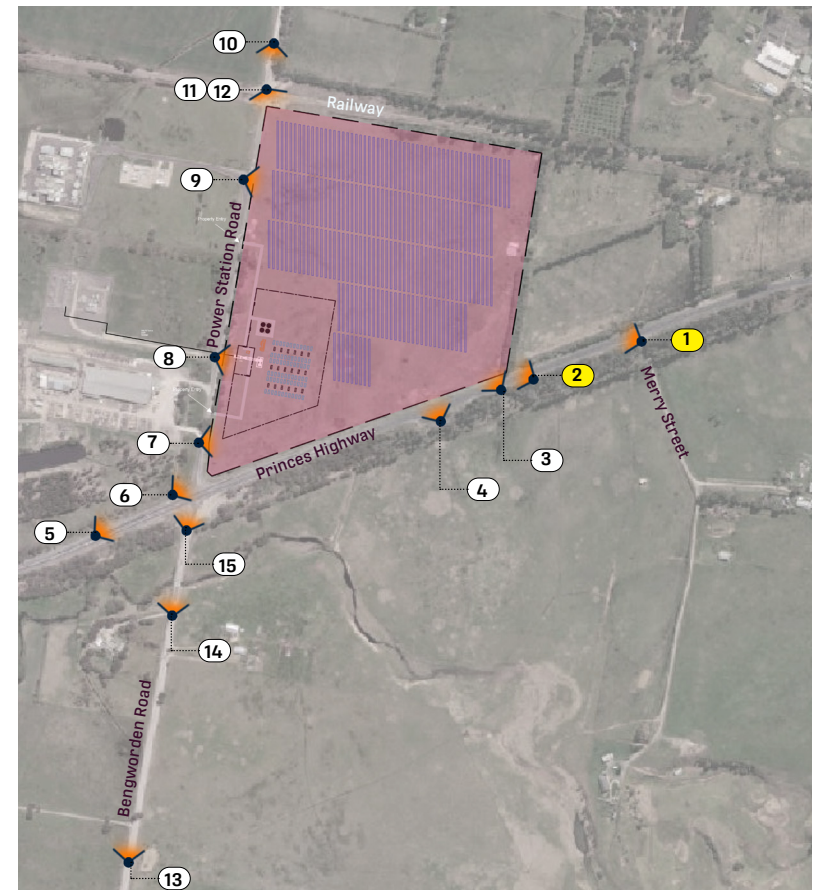
Viewshed 2	Sensitivity	Magnitude	Impact
First glimpse of site towards west on Princes Highway.	Negligible	Negligible	Negligible



Distant view to the site from high traffic road, partially obscured by existing vegetation.

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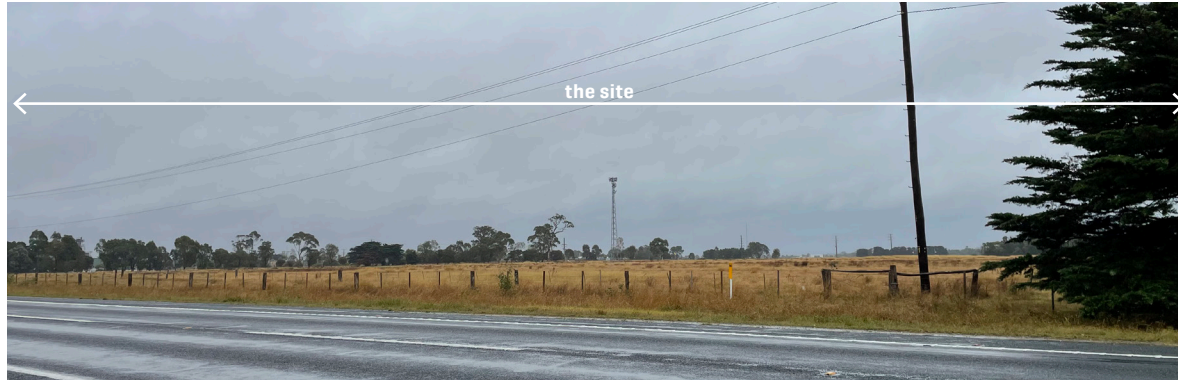


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Viewshed 3	Sensitivity	Magnitude	Impact
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Across road from site boundary on Princes Highway.	High	High	High
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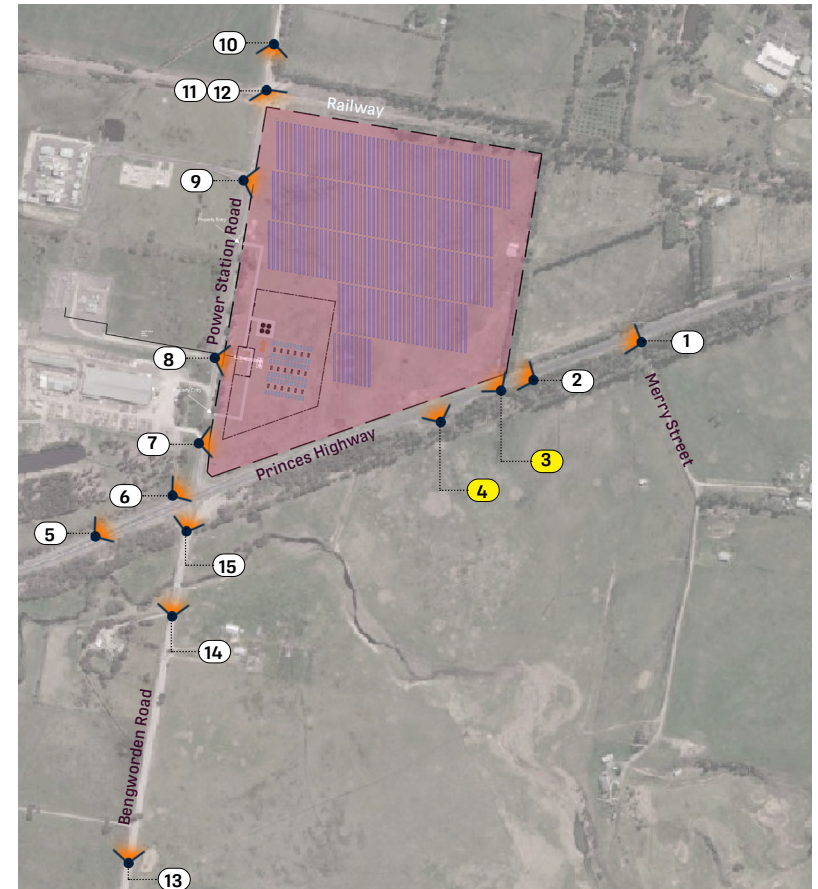
View to the site.

Viewshed 4	Sensitivity	Magnitude	Impact
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Rest area across road from site.	High	High	High
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Panoramic view to the site.





Viewshed 5	Sensitivity	Magnitude	Impact
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First glimpse of site looking east on Princes Highway.  
Negligible      Negligible      Negligible



Distant view to the site from high traffic road.

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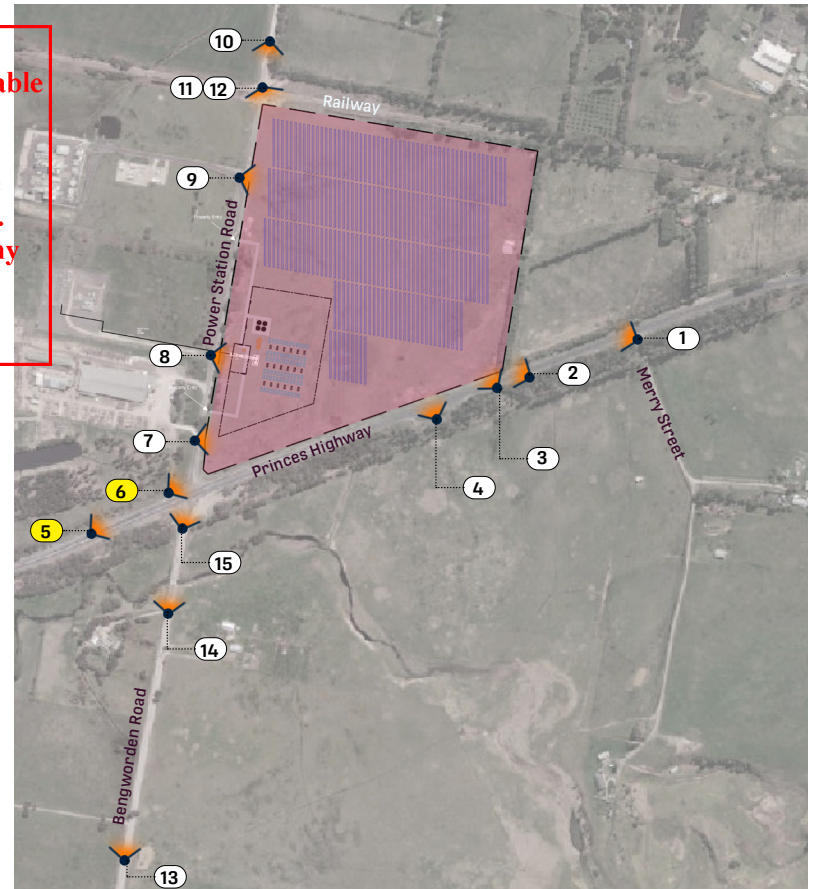
Viewshed 6	Sensitivity	Magnitude	Impact
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Looking east from south-west corner of site on Princes Highway.  
Low      Low      Low



View to the site.

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Viewshed 7	Sensitivity	Magnitude	Impact
Looking east into the site from first gravel driveway on Power Station Road.	Moderate	High	High-moderate



View to the site along western boundary.

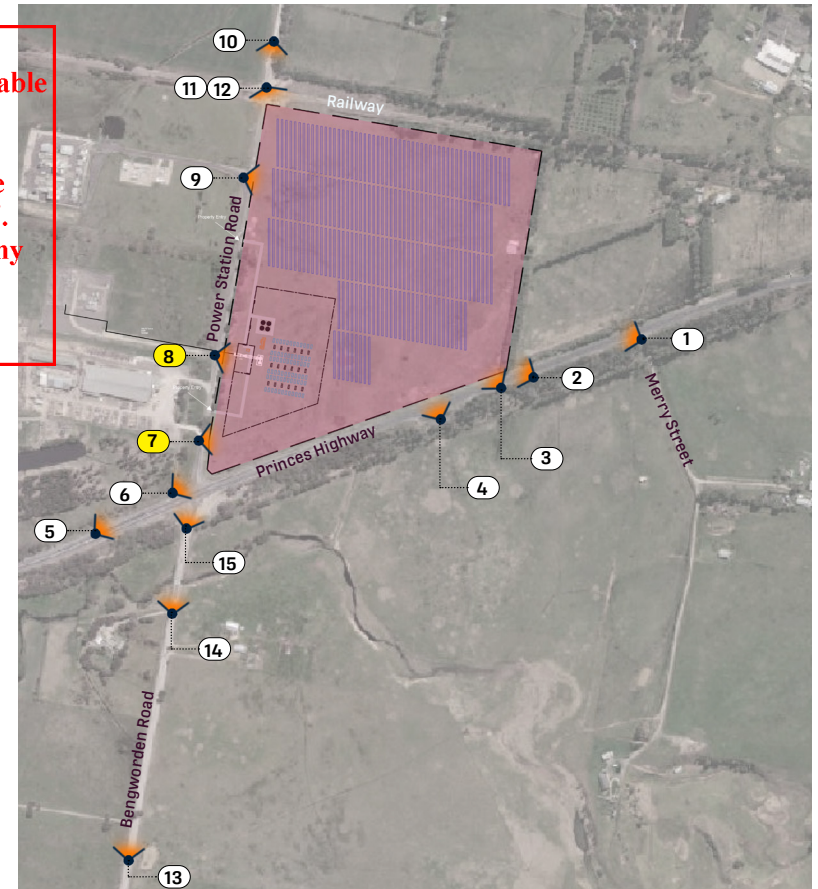
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Viewshed 8	Sensitivity	Magnitude	Impact
Looking east into the site from sealed driveway on Power Station Road.	Moderate	Moderate	Moderate



View to the site along western boundary, partially obscured by existing vegetation.

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Viewshed 9	Sensitivity	Magnitude	Impact
View from access road to power station on Power Station Road.	Moderate	High	High-moderate



Panoramic view to the site from western boundary.

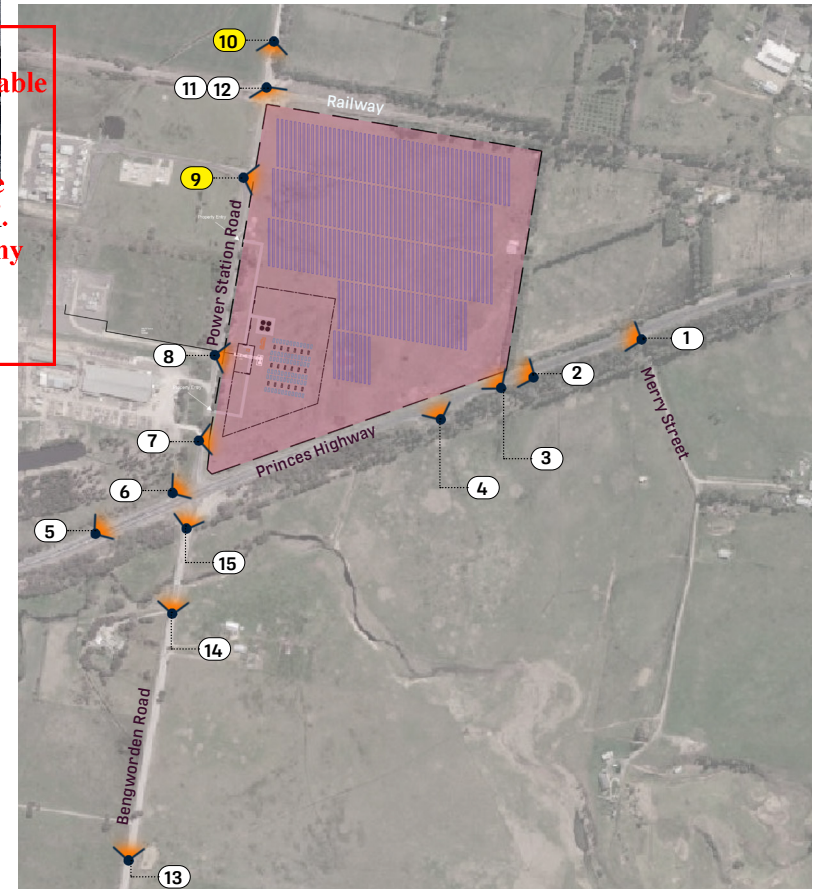
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Viewshed 10	Sensitivity	Magnitude	Impact
View from north of railway track looking south.	Negligible	Negligible	Negligible



Distant view to site, partially obscured by existing vegetation.

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Viewshed 11	Sensitivity	Magnitude	Impact
View from railway crossing looking south-southeast to site.	High	High	High



View to the site.

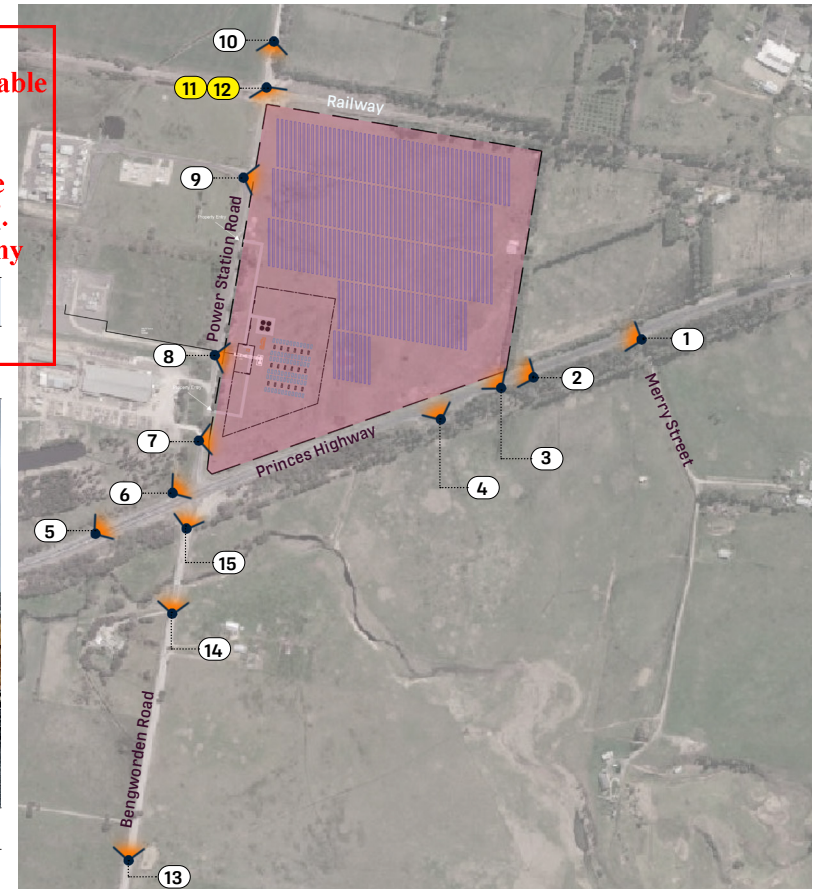
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Viewshed 12	Sensitivity	Magnitude	Impact
View from railway crossing looking southeast to site.	High	High	High



View to the site.

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Viewshed 13	Sensitivity	Magnitude	Impact
View from Bengworden Road looking north.	Negligible	Negligible	Negligible



Distant view to the site, obscured by existing vegetation.

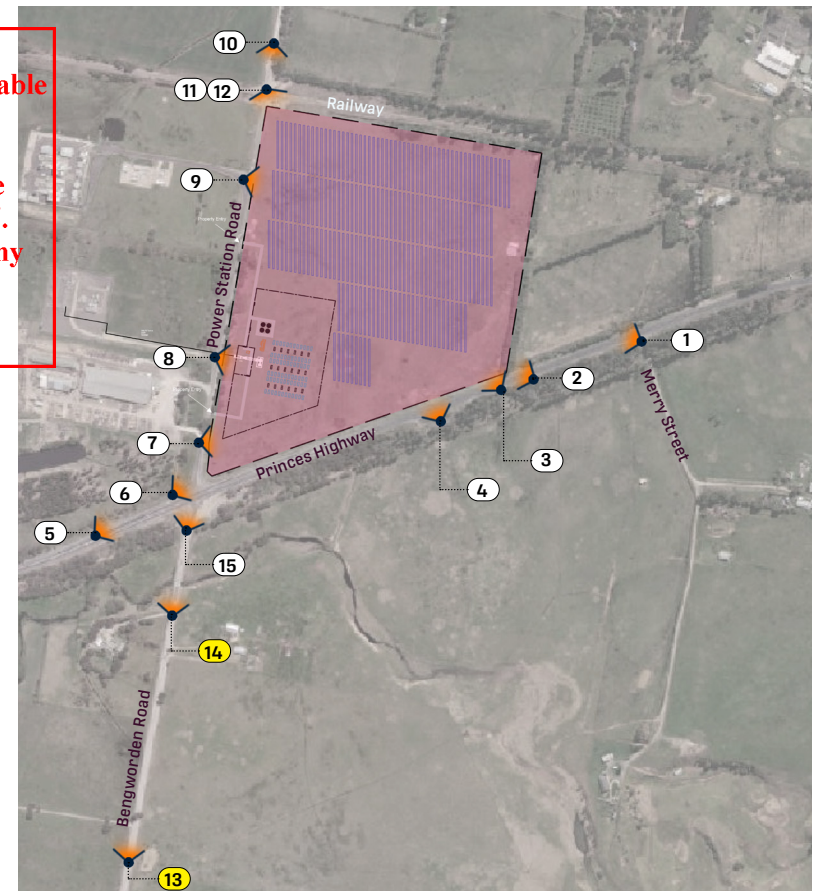
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Viewshed 14	Sensitivity	Magnitude	Impact
View from Bengworden Road (south of Smiths Creek) looking north-northeast	Low	Low	Low



Distant view to the site, partially obscured by existing vegetation.

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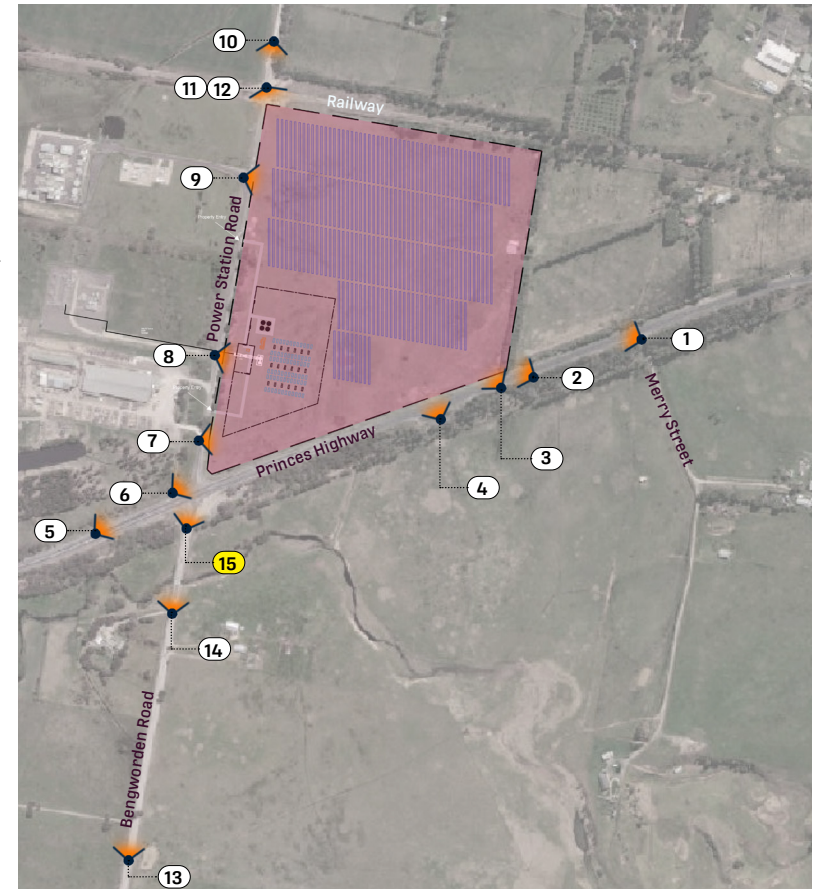
Viewshed 15	Sensitivity	Magnitude	Impact
View from intersection of Bengworden Road and Princes Highway looking NNE	Moderate	Moderate	Moderate



View to the site.

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## Findings and recommendations

### Findings

The visual assessment findings are summarised below:

Viewshed	Impact
1	Negligible
2	Negligible
3	High
4	High
5	Negligible
6	Low
7	High-moderate
8	Moderate
9	High-moderate
10	Negligible
11	High
12	High
13	Negligible
14	Low
15	Moderate

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