



WEST NYANGAY SOLAR FARM VISUAL SCOPING REPORT

Preliminary Visual Assessment

Prepared for
SOLAR FARMS AUSTRALIA
31 July 2024



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CONTENTS

1.	Introduction	3
2.	Visual Context	4
	2.1. The Site	4
	2.2. Surrounding Visual Context	4
3.	Visual Catchment	5
	3.1. Residential Locations & Potential Visual Exposure	6
	3.1.1. Potential Viewer Sensitivity Summary of Risks	6
4.	Summary & Conclusions.....	7
	Disclaimer.....	8

Appendix A Viewshed mapping

Appendix B Preliminary Assessment Tool Viewpoint Table

INTRODUCTION

Urbis Ltd, has prepared this Visual Impact Scoping Report in relation to a proposed application on behalf of Australian Solar Farms Pty Ltd (**Australian Solar Farms**) for West Nyangay Solar Farm (**the project**).

This Scoping Report provides a brief overview of the proposed development, the visual context and character of the site and surrounding area, and analysis of potential visibility within 10km of the site to identify viewpoints that require detailed assessment in the EIS.

This Scoping Report follows the guidance for Preliminary Assessment of Visual Impacts set out in the NSW Department of Planning and Environment Technical Supplement for Landscape and Visual Impact Assessment (Large-Scale Solar Energy Guideline- the technical supplement).



Figure 1 Site location, approximate boundaries indicated in red.

Source: Urbis

VISUAL CONTEXT

THE SITE

The Project is located at Cobb Highway, Boorooban, approximately 40km south of Hay, within the Edward River Council local government area. The site is approximately 5,500 hectares (ha) and is zoned RU1 – Primary Production Zone under the *Conargo Local Environmental Plan 2013*.

The site is approximately halfway between major regional centres Wagga Wagga (250km east) and Mildura (250km west), 6.5km south-east of the South West Woodland Nature Reserve, an expansive site covering an area of 14,055 hectares. The town of Hay serves as a local junction where multiple highways converge, including the Cobb Highway which connects south through Boorooban to Deniliquin, a further 75km south toward the Victorian border.

The site is within NSW Riverina Bioregion, which is predominantly characterised by a series of overlapping, low gradient alluvial fans, floodplains with overflow lakes and tributaries leading to the Murray River on the Victorian border. Typical features of this region include wetlands, stands of vegetation, open plains with gradual changes in topography and patches of remnant vegetation interspersed with modified landscapes for agricultural purposes. Nyangay Creek and The Forest Creek converge 4.5km southwest of the southern boundary, with both creeks connecting to a constructed irrigation channel, Coleambally Outfall Drain.

The site itself includes large open, flat to undulating plains, where the landscape gently rises to the east towards riparian corridors and areas of vegetation. There are no existing structures or properties located within the project site. Nyangay Creek runs through the lower portion of the site, winding northeast from the centre of the southern boundary, toward the centre of the eastern boundary. Several ponds of various sizes and ephemeral creeks are present and visible in aerial photography.

Vegetation is present in the northwest corner of the site, including isolated stands of trees, areas of low grass and the riparian corridor associated with Nyangay Creek. Vegetation patterns may contribute to potential screening effects in views to the site from close locations along Cobb Highway.

SURROUNDING VISUAL CONTEXT

Boorooban is the closest town, located approximately 2.8km from the southeastern corner of the site along Cobb Highway, near Coleambally outfall Drain. There are approximately 15 rural residential properties within 20km of the town centre.

The immediately surrounding landscape and visual context within 7km reflects the bioregion characteristics, in that the subregional landscape is relatively flat, open but culturally modified to facilitate cropping and grazing as evidenced for example by visible structures, striations in form and colour across the land, water diversion structures including for example, Coleambally Outfall Drain. Built form is minimal, limited to sheds and ancillary structures associated with agricultural production. Other built forms include dwellings typically with pitched roof forms, sheds, silos, water tanks, livestock fencing, dams and solar panel installations (of a residential scale). Surrounding residential settlement patterns are disparate, where rural residential dwellings are widely dispersed. The closest dwellings are between 2 and 6km from the site.

Surrounding vegetation patterns are highly modified, where linear plantings along road reserves, shelter belts along property boundaries and access trails are the most evident. We note the presence of some riparian vegetation and stands of remnant or regenerating native vegetation.

VISUAL CATCHMENT

Urbis have used elevation and topographical data to understand potential visibility to any part of the site or proposed development from the surrounding visual catchment. The potential visual catchment is the theoretical area within which parts of the site including the proposed solar array (approximately 5.2m above natural ground level) may be visible.

The visibility of any proposed development varies depending on constraints such as the blocking effects of intervening topography, vegetation, and built form. Visibility also considers the extent to which the proposal would be physically visible, identifiable for example as a new, novel, contrasting element or alternatively as a recognisable but compatible feature. Noting the view shed map is accurate, based on numerical inputs the actual potential visibility will need to be 'ground truthed' or accurately tested from specific view places.

The viewshed map (**figure 2**) shows the likely visibility based on a 2P configuration at maximum tilt (60 degrees) to the top of the proposed panels and is based upon topography only (no vegetation).

Urbis have determined the extent of localised potential visibility to the proposed development by analysing aerial imagery and Google Earth data to consider potential blocking effects of topography (indicated by viewshed) and intervening vegetation (indicated by coloured dots) in relation to surrounding dwellings within 7km of the site.

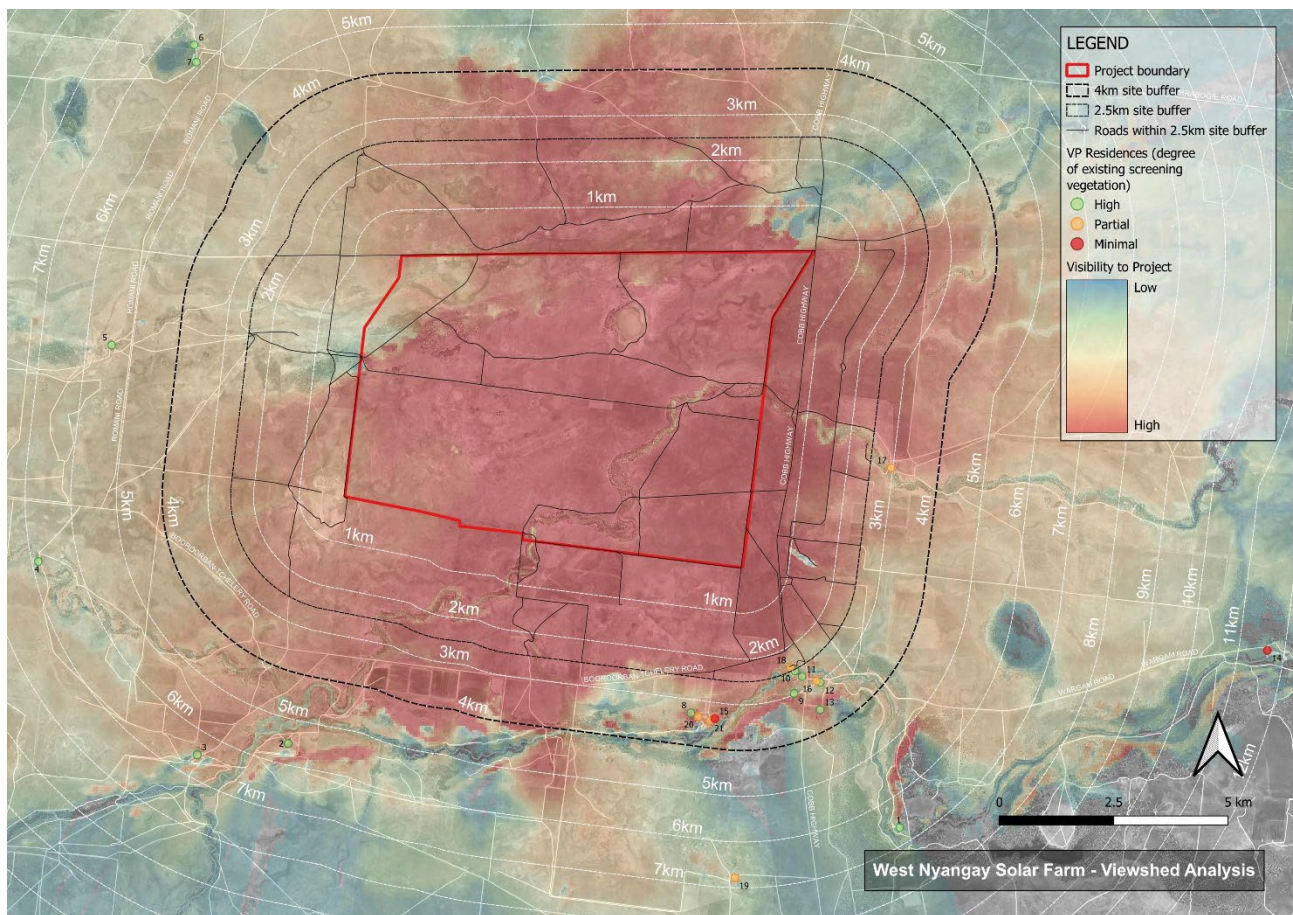


Figure 2 Viewshed mapping, indicating potential visibility (topography only, no vegetation).

Source: Urbis

The viewshed indicates that the visual catchment is expansive but likely highly constrained given the landscape is predominantly flat, but there are limited elevated viewing opportunities surrounding the site to view the proposal. Visibility to the site is limited to close locations and is unlikely to extend beyond any areas indicated in yellow or orange. The viewshed indicates potential visibility to the proposal is likely to be constrained to immediate surrounding areas as follows:

- High visibility is concentrated across the centre of the site and a short distance beyond the southeastern corner of the site.

- High visibility is constrained to within 1-2km of the eastern site boundary and reaches a maximum distance of 4.5km beyond the southern site boundary.
- Visibility to the proposal from the north is intermittent and constrained to within 3km of the northern site boundary.
- Visibility to the proposal from the southwest, west, northwest, north and north-east is limited.
- The northwestern and southwestern corners of the site are identified as areas of low visibility, indicating there is limited visibility to the proposal from within the site itself.

The closest public domain locations with potential visibility include sections of Cobb Highway, located approximately 1km of the site's eastern boundary and Boorooban-Tchelery Road approximately 3km to the south. Wagam Road is located approximately 3km east of the south-eastern corner of the site and falls outside the visual catchment.

It is likely that blocking effects from riparian vegetation (Nyangay Creek and Coleambally Outfall Drain) and the Southwest Woodland Nature Reserve – Boorooban will further constrain visibility to the site from more distant locations within the visual catchment.

RESIDENTIAL LOCATIONS & POTENTIAL VISUAL EXPOSURE

Urbis have followed steps 3-7 of the technical supplement to determine whether the identified viewpoints may require further detailed assessment. The calculations principally determine the vertical and horizontal field of view that a development is likely to occupy when viewed from each viewpoint, and is influenced by distance, height, elevation and horizontal extent (width) of a project.

Based on the preliminary assessment, analysis within 7km of the site, and our observations of solar panels in the natural landscape, we provide the following summary of potential visual effects for private dwellings. We note that additional factors can reduce the ability to perceive solar farms in the landscape, such as lighting conditions, surface reflections, visual prominence and contrast with surrounding landscape features as well as the screening effects of vegetation.

Residents are classified in relation to their zone of visibility as per the viewshed map (Figure 2), i.e. High (red zone) or low (blue zone). In addition, the coloured dots indicate the level of surrounding vegetation and potential screening effects in views towards the site.

Potential Viewer Sensitivity Summary of Risks

Low Risk

- Private domain potential visibility and view impacts are likely to be **low to negligible**.
- There are a total of 17 residential dwellings located within 10km of the site, the majority of which **are not included in a high visibility zone** and are, effectively, situated **outside the visual catchment**.
- 11 of the 17 residential dwellings are located in either low visibility zones or fall outside of the visual catchment and have high levels of vegetative screening (green dots).
- The 5 remaining residential dwellings are protected by partial vegetative screening (orange dots).
- In our opinion, based on the information available there is a **low risk of any significant visual effects** for residences – that is, low **potential ability** to perceive the low-height, linear visual change, and identify it as contrasting, within the surrounding landscape setting.
- The **majority of dwellings within 7km** are at **low risk** of potential exposure to any significant visual effects and are highly unlikely to be subject to any significant visual effects.
- The results of the Preliminary Visual Assessment Tool found that no viewpoints within 4km of the site met the threshold for further assessment under Section 3.1 of the NSW Technical Supplement for Landscape and Visual Impact Assessment).

SUMMARY & CONCLUSIONS

- Public domain view impacts are anticipated to be low and acceptable.
- A preliminary viewshed analysis indicates the majority of dwellings within 7km of the site are unlikely to see or perceive any visual change, or be exposed to any significant visual impacts.
- Potential view impacts for dwellings are indicative, have not been ground-truthed, and based on the information available, do not fully contemplate the screening effect of existing intervening vegetation, which may further reduce visibility to the site.
- Actual visibility from inside dwellings towards the proposal and view impacts are dependent on the formal presentation of each dwelling, location of windows and their associated room uses.
- Potential public and private domain view impacts can be specifically identified and, if required, subject to future visual impact mitigation strategies including the design and implementation of screen planting.

DISCLAIMER

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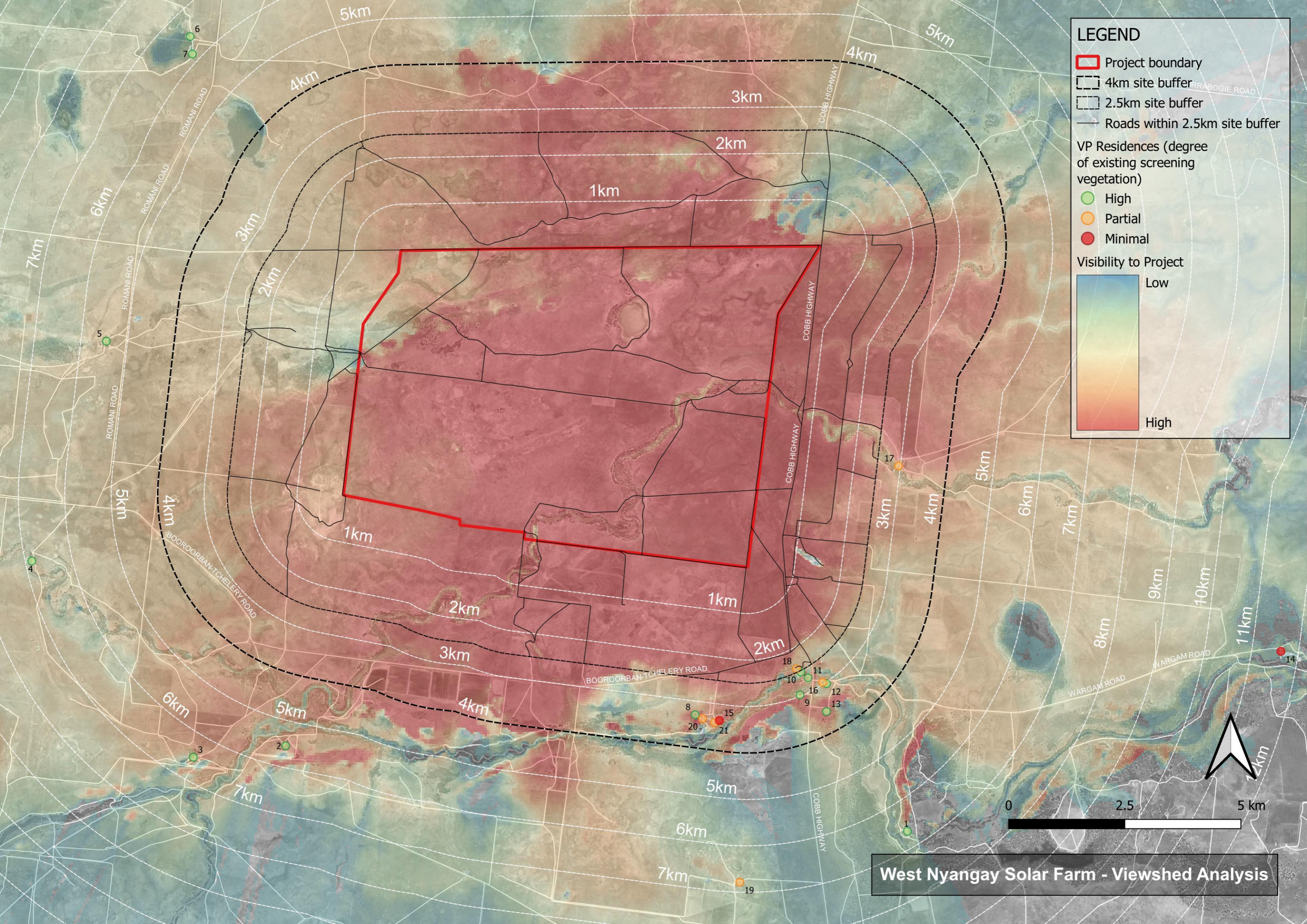
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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A

VIEWSHED MAPPING



LEGEND

- Project boundary
- 4km site buffer
- 2.5km site buffer
- Roads within 2.5km site buffer

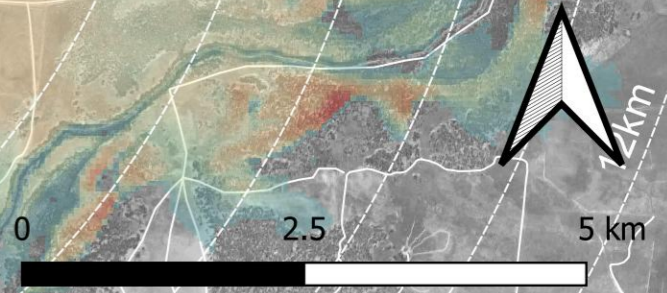
VP Residences (degree of existing screening vegetation)

- High
- Partial
- Minimal

Visibility to Project

Low
High

West Nyangay Solar Farm - Viewshed Analysis





APPENDIX B

PRELIMINARY ASSESSMENT TOOL VIEWPOINT TABLE

Preliminary Assessment of receivers within 2.5km

Viewpoint (VP)	Type	Address (Location)	Distance to Solar Panel Area (m) (* Exceeds 4km radius - No assessment required)	Receiver Viewpoint Elevation (m)	Receiver Viewpoint Elevation + 1.5m (m)	Solar Panel Area Max Elevation (m)	Solar Panel Area Max Elevation +3.5m (m)	Solar Panel Area Min Elevation (m)	Relative Height Difference	Vertical Field Of View (FOV) - sector from graph	Horizontal FOV (category)	Assessment requirements following preliminary assessment phase	Visibility to project (viewshed only)	Assesment recommendation
VP1	Residential	6666 COBB HIGHWAY BOOROORBAN	6645.51*	87.506	89.006	92.9	96.4	82.2	14.2	0°	51-60°	No	Yes	No
VP2	Residential	LOT 2 - 931 BOOROORBAN-TCHELERY ROAD BOOROORBAN	5540.43*	84.908	86.408	92.9	96.4	82.2	14.2	0°	51-60°	No	Yes	No
VP3	Residential	LOT 51 - 931 BOOROORBAN-TCHELERY ROAD BOOROORBAN	6505.17*	82.746	84.246	92.9	96.4	82.2	14.2	0°	41-50°	No	Yes	No
VP4	Residential	931 BOOROORBAN-TCHELERY ROAD BOOROORBAN	6859.98*	81.056	82.556	92.9	96.4	82.2	14.2	0°	31-40°	No	Yes	No
VP5	Residential	377 ROMANI ROAD BOOROORBAN	5454.15*	83.606	85.106	92.9	96.4	82.2	14.2	0°	41-50°	No	Yes	No
VP6	Residential	2490 ROMANI ROAD HAY SOUTH	6469.26*	84.036	85.536	92.9	96.4	82.2	14.2	0°	51-60°	No	Yes	No
VP7	Residential	2496 ROMANI ROAD HAY SOUTH	6173.29*	83.925	85.425	92.9	96.4	82.2	14.2	0°	51-60°	No	Yes	No
VP8	Residential	7162 COBB HIGHWAY BOOROORBAN	3293.42	88.553	90.053	92.9	96.4	82.2	14.2	0°	31-40°	No	Yes	No
VP9	Residential	7187 COBB HIGHWAY BOOROORBAN	2973.6	86.673	88.173	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP10	Residential	LOT 2 - 7257 COBB HIGHWAY BOOROORBAN	2531.99	84.787	86.287	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP11	Residential	7219 COBB HIGHWAY BOOROORBAN	2715.67	85.933	87.433	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP12	Social/Cultural	LOT 7303 - WARGAM ROAD BOOROORBAN	3029.5	85.793	87.293	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP13	Residential	LOT 7303 - COBB HIGHWAY BOOROORBAN	3540.49	86.294	87.794	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP14	Residential	876 WARWILLAH ROAD WANGANELLA	11626.6*	88.785	90.285	92.9	96.4	82.2	14.2	0°	31-40°	No	Yes	No
VP15	Residential	7162 COBB HIGHWAY BOOROORBAN	3350.93	85.686	87.186	92.9	96.4	82.2	14.2	0°	41-50°	No	Yes	No
VP16	Social/Cultural	LOT 7012 - WARGAM ROAD BOOROORBAN	2959.71	85.344	86.844	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP17	Residential	LOT 1 - WARGAM ROAD BOOROORBAN	2959.25	85.788	87.288	92.9	96.4	82.2	14.2	0°	71-130°	No	Yes	No
VP18	Residential	LOT 4 - 7257 COBB HIGHWAY BOOROORBAN	2427.62	85.434	86.934	92.9	96.4	82.2	14.2	0°	61-70°	No	Yes	No
VP19	Residential	LOT 37 - 931 BOOROORBAN-TCHELERY ROAD BOOROORBAN	6786.64*	86.854	88.354	92.9	96.4	82.2	14.2	0°	31-40°	No	Yes	No
VP20	Residential	LOT 25 - 7162 COBB HIGHWAY BOOROORBAN	3357.01	85.553	87.053	92.9	96.4	82.2	14.2	0°	31-40°	No	Yes	No
VP21	Residential	LOT 15 - 7162 COBB HIGHWAY BOOROORBAN	3411.14	85.459	86.959	92.9	96.4	82.2	14.2	0°	41-50°	No	Yes	No