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Strontian Solar Farm & BESS

Preliminary Visual Impact Assessment

We at Moir Studio acknowledge the traditional custodians of the lands and waters of Australia - most notably the Awabakal Nation in which our office resides and the Wiradjuri Nation, on whose traditional land this Project resides. As a practice, we recognise First Nations' ongoing contribution to Country and deep spiritual connection to Place. We pay our respects to Elders both past and present.

Strontian Solar Farm & BESS

Preliminary Visual Impact Assessment

Prepared for
WolfPeak Group (trading as WolfPeak)

Project Number
2603

Revision	Date	Author	Checked	Comment
A	10/12/2024	AK	AR	Draft Report for Review
B	29/07/2025	CA/CD	-	Draft Report for Review
C	12/08/2025	CD	-	For Submission
D	03/09/2025	CD	-	For Submission
E	17/09/2025	CD	-	For Submission
F	2/10/2025	CD	-	For Submission

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1.0 Introduction

1.1 Introduction

WolfPeak Group (trading as WolfPeak) has commissioned Moir Landscape Architecture Pty Ltd (trading as Moir Studio) to prepare a Preliminary Visual Impact Assessment (PVIA) of the Strontian Solar Farm & BESS (the Project) on behalf of Grupo Cobra as the owner of Strontian Solar Farm Pty Ltd (the Applicant).

The purpose of this PVIA is to provide a preliminary assessment of the potential visual impacts associated with the Project.

The PVIA for the Project has been prepared in accordance with the following documents:

- Large-Scale Solar Energy Guideline (referred to hereafter as 'the Guideline) developed by the Department of Planning, Housing and Infrastructure (November, 2024)
- Technical Supplement for Landscape Character and Visual Impact Assessment, Large-Scale Solar Energy Guideline (referred to hereafter as 'the Technical Supplement') developed by the Department of Planning, Housing and Infrastructure (November, 2024)

This PVIA will form part of the Scoping Report seeking the Secretary's Environmental Assessment Requirements (SEARs) in order to prepare an Environmental Impact Statement (EIS).

1.2 Professional Experience

The Technical Supplement states: "*professional assessment skills are critical to an effective visual impact assessment. The applicant is expected to engage relevant professionals (for example, landscape architects, architects, environmental planners, geographers, or other visual assessment specialists) with demonstrated experience and capabilities*".

Moir Studio is a professional design practice and consultancy specialising in Landscape Architecture, Urban Design and Landscape and Visual Impact Assessment. Our team has extensive experience undertaking Landscape and Visual Impact Assessments for large-scale infrastructure and renewable energy projects. In the context of our knowledge and with guidance from the Guideline and the Technical Supplement, we have developed methodologies to ensure a comprehensive and qualitative assessment of the Project.

Recent experience includes the preparation of LVIAs for the following solar farm projects of similar scale:

Bendemeer Solar Farm LVIA (Bendemeer, NSW)

Richmond Valley Solar Farm LVIA (Casino, NSW)

Blind Creek Solar Farm Project LVIA (Bungendore, NSW)

Glenellen Solar Farm LVIA (Glenellen, NSW)

Oxley Solar Farm LVIA (Castledoyle, NSW)

Stubbo Solar Farm LVIA (Stubbo, NSW)

1.3 Overview of PVIA for Solar Farm

The Technical Supplement states: "A preliminary visual assessment must be included in an applicant's scoping report as part of their request for the Secretary's Environmental Assessment Requirements (SEARs)" (DPHI, 2024b). It further explains that the visual assessment process consists of three key stages:

Stage 1 - Simple assessment (part of the PVIA, which is included in the Scoping Report)

Stage 2 - Intermediate assessment (part of the later EIS submission)

Stage 3 - Detailed assessment (part of the later EIS submission)

This PVIA forms part of Stage 1 - Simple assessment and will be submitted to the Department of Planning, Housing & Infrastructure (DPHI) along with the Scoping Report as part of the SEARs request. This stage is used to identify viewpoints or receiver locations that will require further intermediate assessment, as part of the EIS phase.

1.3.1 Stage 1

Preliminary Assessment involves using the Simple Assessment Tools, which help identify potential viewpoint locations where a solar project may have visual impacts and may require further consideration. This stage also allows for early identification of potential impacts, which can inform and refine the proposed development layout. These tools assist in pinpointing locations and viewpoints likely to experience minimal to no impact, which is valuable for early consultation, ensuring fieldwork and assessments focus on areas with potential visual impacts.

1.4 Report Structure

The following table provides an overview of the requirements outlined in the Guideline and Technical Supplement and indicates where each requirement has been addressed in the PVIA:

Report Section	Description
Section 1.0 Introduction	Introduction of the report.
Section 2.0 Project Overview	Overview of the Project, including the regional context and Project details.
Section 3.0 Define the Study Area	Identify two visual study areas: 2.5 km from the proposed development for public roads & 4 km from the proposed development for other private receivers and public viewpoints.
Section 4.0 Viewshed Mapping	Determine the visual catchment to identify the extent of visibility of Project infrastructure and eliminate the need to assess additional viewpoints in the EIS phase due to lack of visibility.
Section 5.0 Preliminary Visual Impact Assessment	Application of Preliminary Assessment Tools to determine receivers with potential visibility and sensitivity.
Section 6.0 Cumulative Visual Impacts	Broadly identify surrounding large-scale energy developments that may have impacts on visual amenity of surrounding receivers.
Section 7.0 Preliminary Landscape Character Assessment	Undertake a desktop assessment to determine the existing landscape character including key landscape features and preliminary landscape character zones which will inform the baseline analysis in the EIS phase.
Section 8.0 Summary and Next Steps	A summary of the information gathered from the PVIA assessment and next steps to inform the siting, design and detailed assessments of the Project.

2.0 Project Overview

2.1 Regional Context

The Project is located in Sandigo, approximately 18 kilometres (km) south of Narrandera, within the Narrandera Local Government Area (LGA).

The Project Site (refer to **Figure 01**) spans a total area of approximately 670 hectares (ha) and the land which is used for agricultural purposes is zoned RU1 Primary Production under the Narrandera Local Environmental Plan 2013 (LEP). It is located adjacent to Buckingbong State Forest and Avonlie Solar Farm. The topography is flat, with minimal undulations within the Study Area. The Murrumbidgee River corridor running north of the site and The Rock National Reserve to the southeast forms a part of the key characteristics within the broader context.

2.2 The Project

The Applicant, Strontian Solar Farm Pty Ltd (SSF), proposes to develop the Strontian Solar Farm & BESS (the Project) to provide a reliable and clean source of electricity, contribute to reducing greenhouse gas emissions associated with energy generation and to enhance national energy security.

The Project involves the development of a 370 megawatt (MW) direct current (DC) utility-scale solar photovoltaic (PV) plant (connection capacity of 328MWac), integrated with a 335MW/670MWh Battery Energy Storage System (BESS). Other infrastructure includes 166 central inverters, switchgear, 335MWDC/670MWH BESS, on-site substation, perimeter fencing and internal access tracks.

An existing 330 kilovolt (kV) transmission line (Wagga 330 to Darlington Point) crosses the Project Site. As part of the Project, an on-site grid connection is proposed to existing powerline infrastructure, along with a 330kV substation to allow for energy to be exported to the electricity grid.

Descriptor	Site Details
Address	Strontian Road, Sandigo, New South Wales, 2700
Local Government Area	Narrandera Shire Council
Legal Description	Lot 1 DP 220430 Lot 1 DP 548128 Lot 23 DP 754538 Lot 71 DP 754538 Lot 44 DP 754538
Site Area	The total Project site area is approximately 670 ha

Table 01 Project Site Details

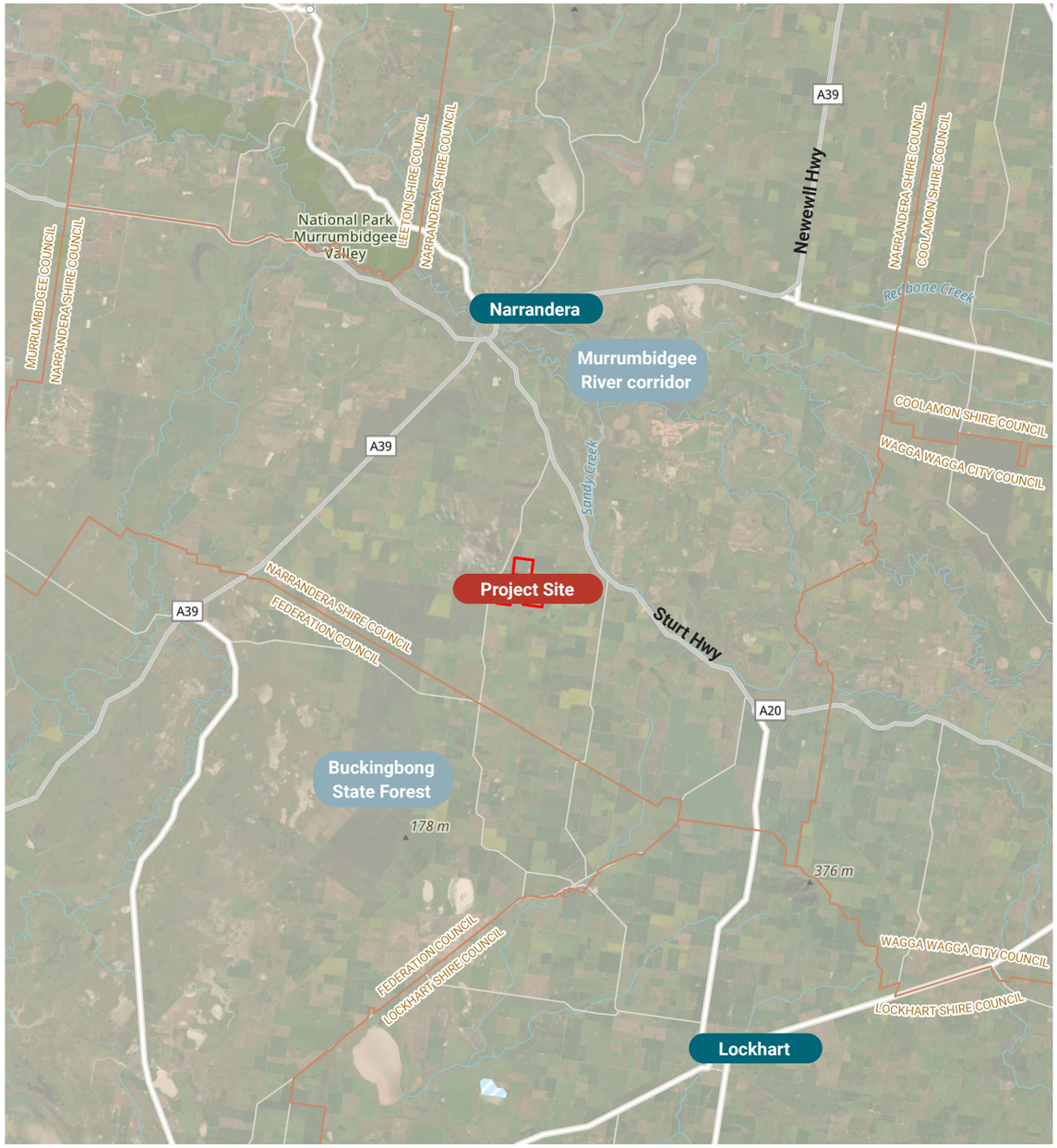


Figure 01 Regional Context
Basemap Source - ArcGIS, 2024

2.3 The Solar (PV) Array

The PV Array will be the most significant component of the Project. It will comprise approximately: 654,000 PV Modules installed on single-axis tracking structures. Each PV module measures 1.3 m by 2.4 m with rows spacing at a minimum of 6 m apart (refer to **Figure 02**).

The tracking system structure axis runs from north to south, enabling the PV modules to follow the sun's path from the east in the morning through to the west in the afternoon, maximising energy production throughout the day. A backtracking function ensures that the module rows are not shading each other. The operational rotation range of the tracking system is typically +/- 60 degrees from the horizontal position. The maximum height of the PV modules above natural ground is up to **2.8 m**, as shown in **Figure 02**.

The final number of PV module arrays and tracker designs will depend on detailed design, equipment availability and commercial considerations. These dimensions may alter based on site constraints such as all geotechnical and topographic conditions, boundaries, riparian zones, existing vegetation and access tracks. The assessment has been completed using the worst-case scenario with the panels assumed at their highest pitch.

Throughout the report, the PV Array is referred to as the Development Footprint.

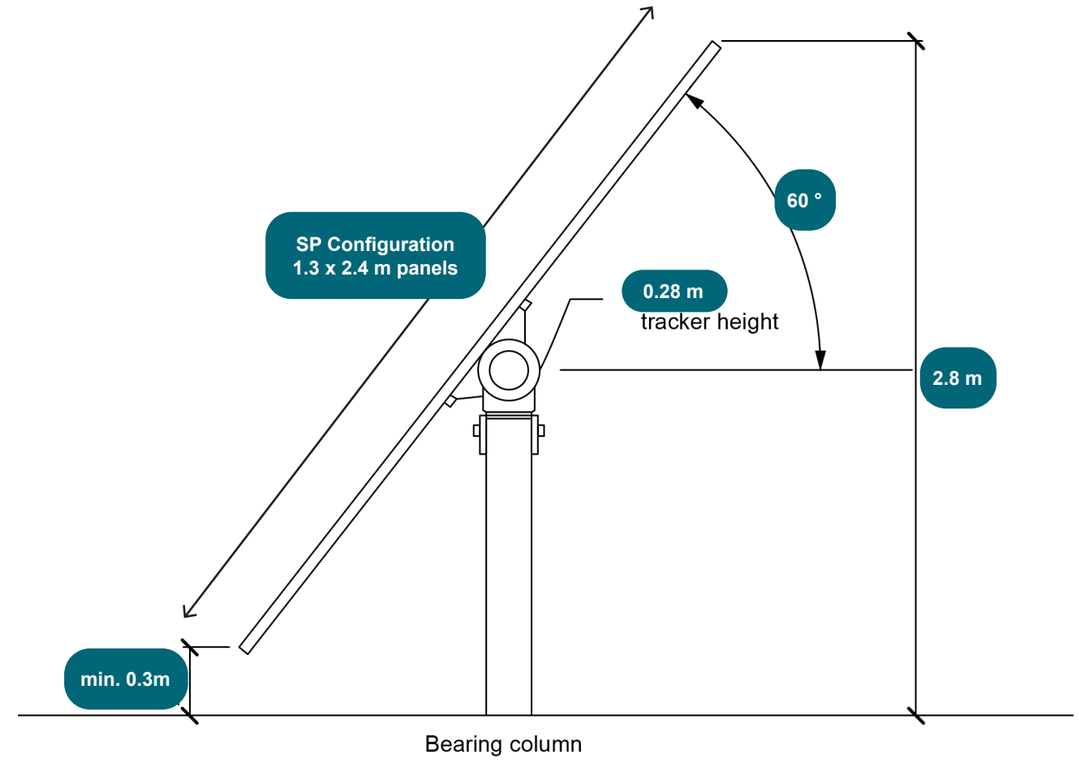
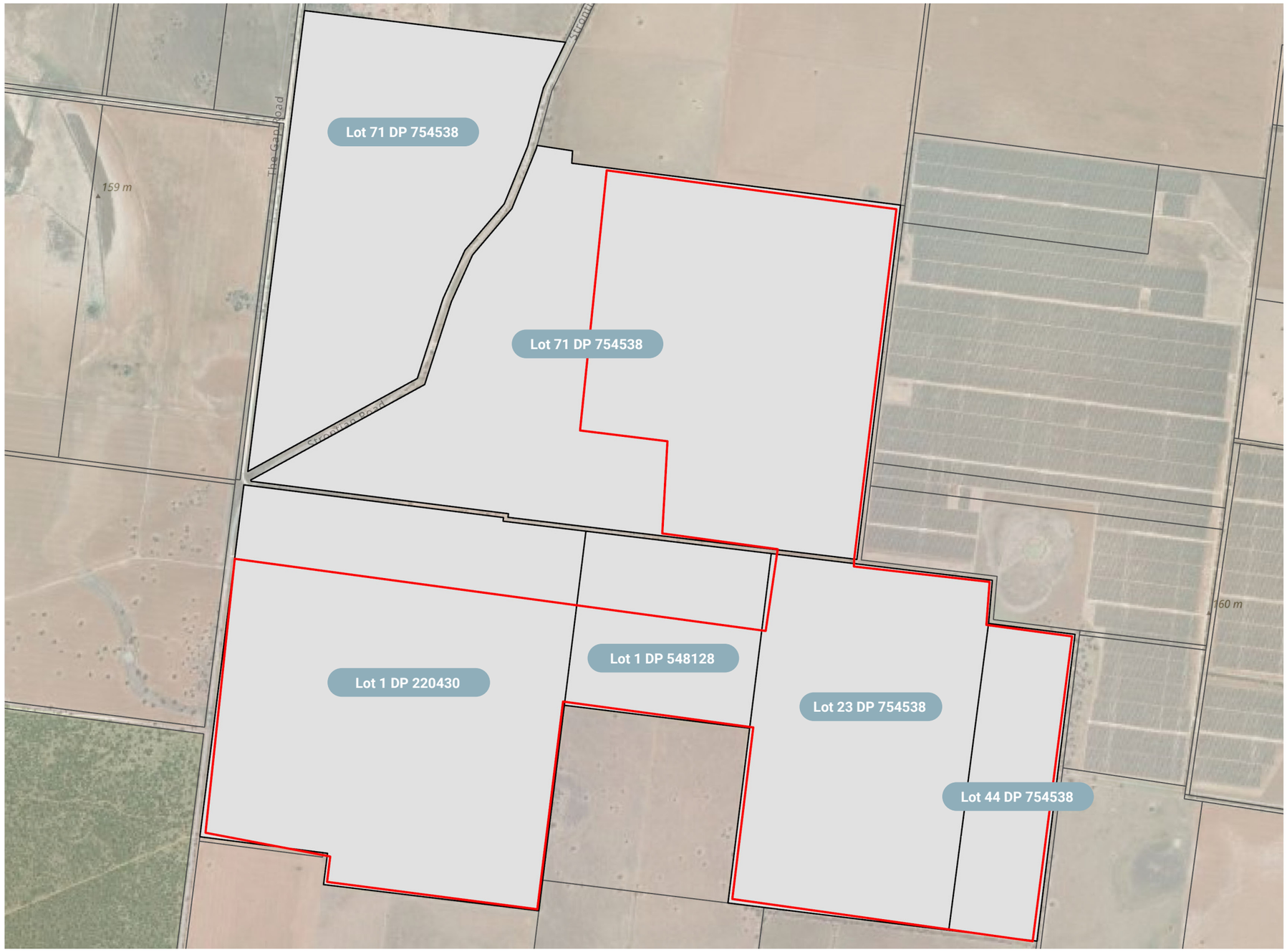


Figure 02 Solar Panel Parameters



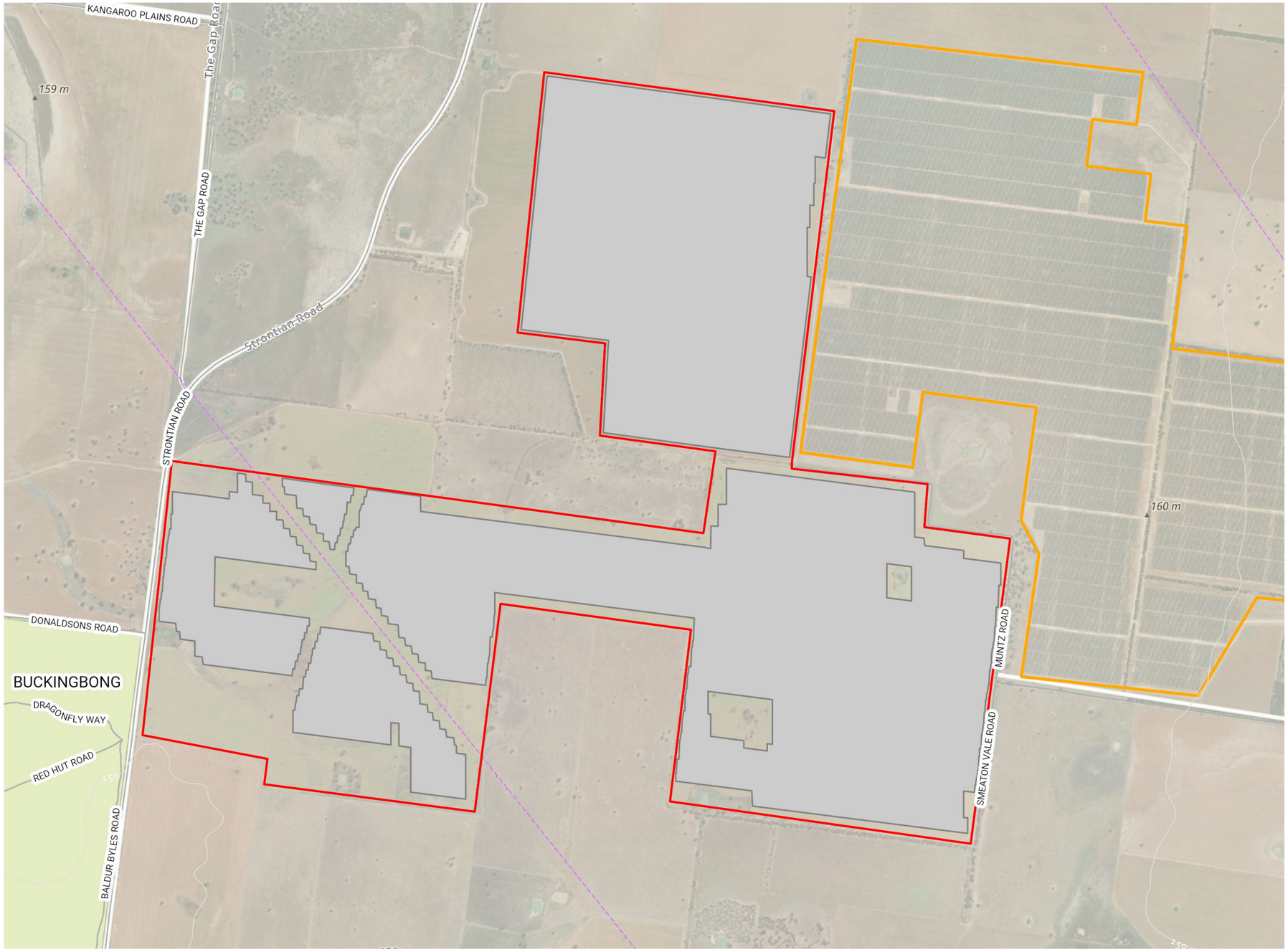
Project Lots

Refer to Section 2.2

LEGEND

- Project Site
- Project Lots
- Lot

Figure 03 Project Lots
Basemap Source - ArcGIS, 2024



Project Layout

Refer to Section 2.2

LEGEND

- Solar Panel Array
- Project Site
- 10m Contours
- Existing Transmission Line
- Roads
- Watercourses
- State Forest
- Avonlie Solar Farm

0 0.5 1 km

Figure 04 Project Layout
Basemap Source - ArcGIS, 2024

3.0 Study Area

3.1 Define the Study Area & Identify Receivers

The first step of the scoping stage is for the Applicant to identify two visual Study Areas of:

- **2.5 km** from the proposed development for public roads:
- **4 km** from the proposed development for other private receivers and public viewpoints.

The following sections outline the identified elements within the two defined Study Areas.

3.1.1 2.5 km from the Proposed Development for public roads

A number of public roads have been identified with 2.5 km from the Study Area. These roads include:

- Strontian Road
- The Gap Road
- Muntz Road
- Smeaton Vale Road
- Red Hut Road
- Dragonfly Way
- Donaldsons Road
- Quilters Road
- Kangaroo Plains Road
- Green Lane
- Forbidden Road
- Maryvale Road
- Telephone Road
- Birrego Road

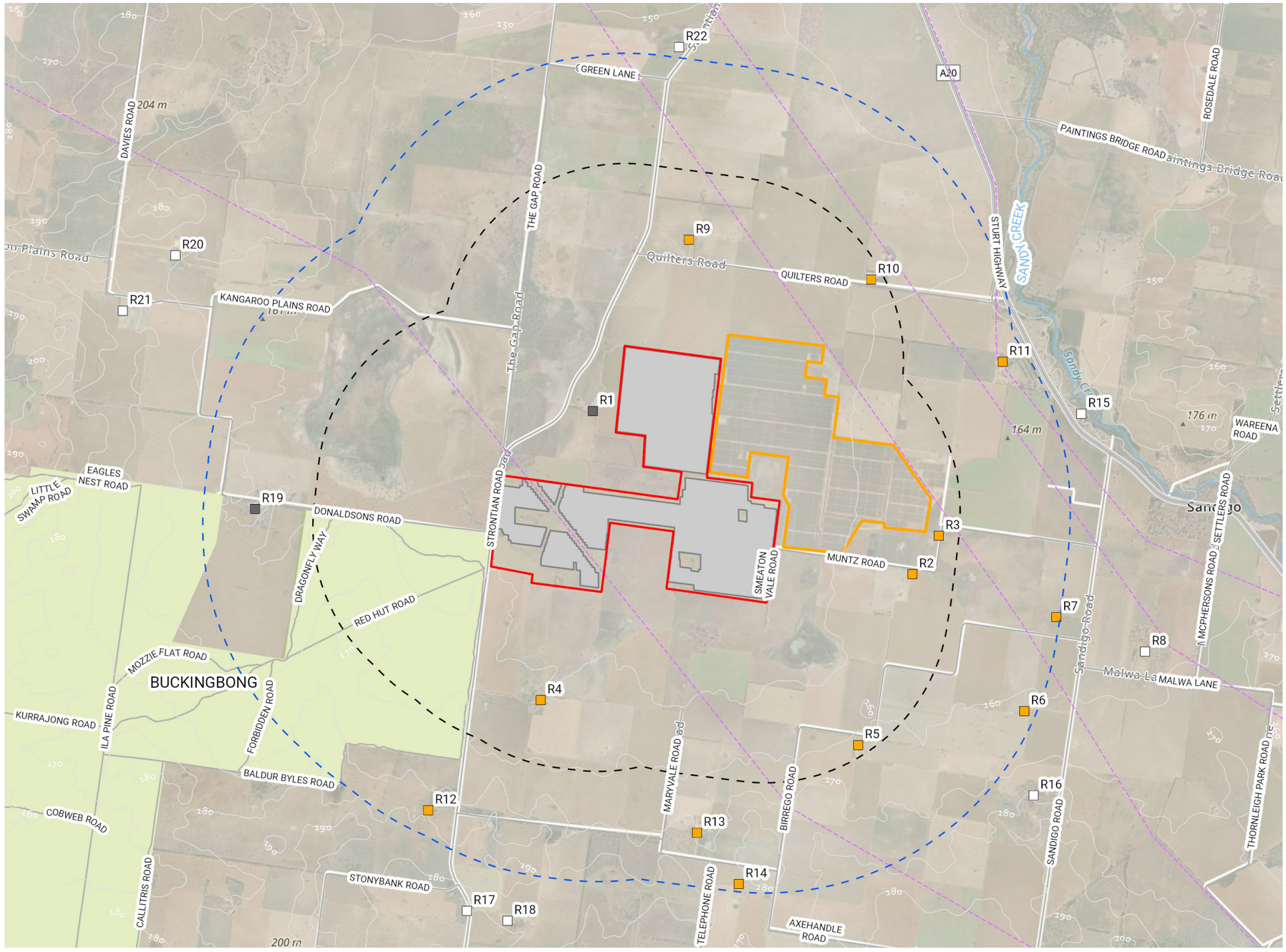
3.1.2 4 km from the proposed development for other private receivers and public viewpoints

In accordance with the Technical Supplement, other public and private viewpoints within 4 km of the Study Area must be identified and assessed.

12 private receivers not associated with the Project were identified within 4 km of the Project Area (refer to **Figure 05**).

Two (2) private receivers (R1 & R19) were idenified as associated with the Project and have therefore been removed from the assessment.

"The calculations can be based on either the project area, or the development footprint depending on the level of information available at the time. A more refined approach that uses the development footprint, may result in less viewpoints requiring assessment" (DPHI, 2024b).



Study Area

Refer to Section 2.1

LEGEND

- Project Site
- Solar Panel Array
- Public Viewpoint Study Area (2.5 km from PV Array)
- Private Receiver Study Area (4 km from PV Array)
- Private Receivers within Study Area
- Private Receivers outside Study Area
- Private Receivers associated with Project (No Assessment Required)
- 10m Contours
- Existing Transmission Line
- Roads
- Watercourses
- State Forest
- Avonlie Solar Farm

0 0.5 1 2 3 4 km

Figure 05 Study Area
Basemap Source - ArcGIS, 2024

4.0 Viewshed Mapping

4.1 Viewshed Mapping

A viewshed map identifies all areas from which a development may be viewed. Viewshed mapping has been undertaken using geographic information systems (GIS) that account for topography and line of sight between viewpoints and the Project. The purpose of the viewshed map is to eliminate the need to assess viewpoints that fall below the lines in the Preliminary Assessment Tool if the analysis shows there is intervening terrain that would block the line of sight to a particular viewpoint.

Viewshed mapping was undertaken to eliminate viewpoint locations that will not have a line of sight to the proposed solar panels (refer to **Figure 06**). It is important to note that the viewshed map provides an assessment based on topography alone and does not take into account intervening elements such as vegetation and structures. Therefore, the viewshed map represents a theoretical worst-case scenario.

Viewshed mapping has been undertaken based on a maximum panel height of 2.8 m.

Summary of Viewshed Map

The following provides a summary of the viewshed map assessment:

- 11 private receivers were identified within the Study Area with a theoretical line of sight to the Project (4.0 km from the Development Area).
- One (1) private receiver (R14) within the Study Area has no theoretical visibility of the Project.
- Two (2) private receivers (R1 & R19) were identified as associated with the Project and have therefore been removed from the assessment.
- The majority of the Study Area has high theoretical visibility of the Project due to flat topography.
- Land to the south, southeast, east and northeast of the Project, within 4.0 km, has the highest theoretical visibility of the Project.
- Strontian Road, Maryvale Road, Birrego Road and Muntz Road have high potential visibility towards the Project within the 2.5 km Study Area.
- Areas northwest and far northeast of the Project have comparatively lower theoretical visibility within the 4.0 km Study Area.

4.2 Reverse Viewshed Mapping

The Technical Supplement states: *"The applicant should also consider undertaking a reverse viewshed analysis. This can be a useful tool to refine the project design process to reduce any significant impacts. It can also be used to communicate the visibility of certain parts of the project and aid consultation with the community. This analysis should be used to highlight parts of the project that can be seen from the greatest number of viewpoints"* (DPHI, 2024b).

Figure 07 represents a reverse viewshed map that takes into account a total of **11** private receivers located within 4.0 km of the Development Footprint with a theoretical line of sight to the Project. This figure shows parts of the Development Footprint that are likely to be visible from these private receivers. This assessment also represents a bare ground scenario, i.e., a landscape without intervening elements such as vegetation and structures. Therefore, the reverse viewshed map represents a theoretical worst-case scenario.

Summary of Reverse Viewshed Map

The following provides a summary of the reverse viewshed map assessment:

- Based on the reverse viewshed mapping, the Project has the highest theoretical visibility from the southeast area of the Development Footprint.
- The western areas of the Development Footprint has the lowest theoretical visibility on the surrounding private receivers.

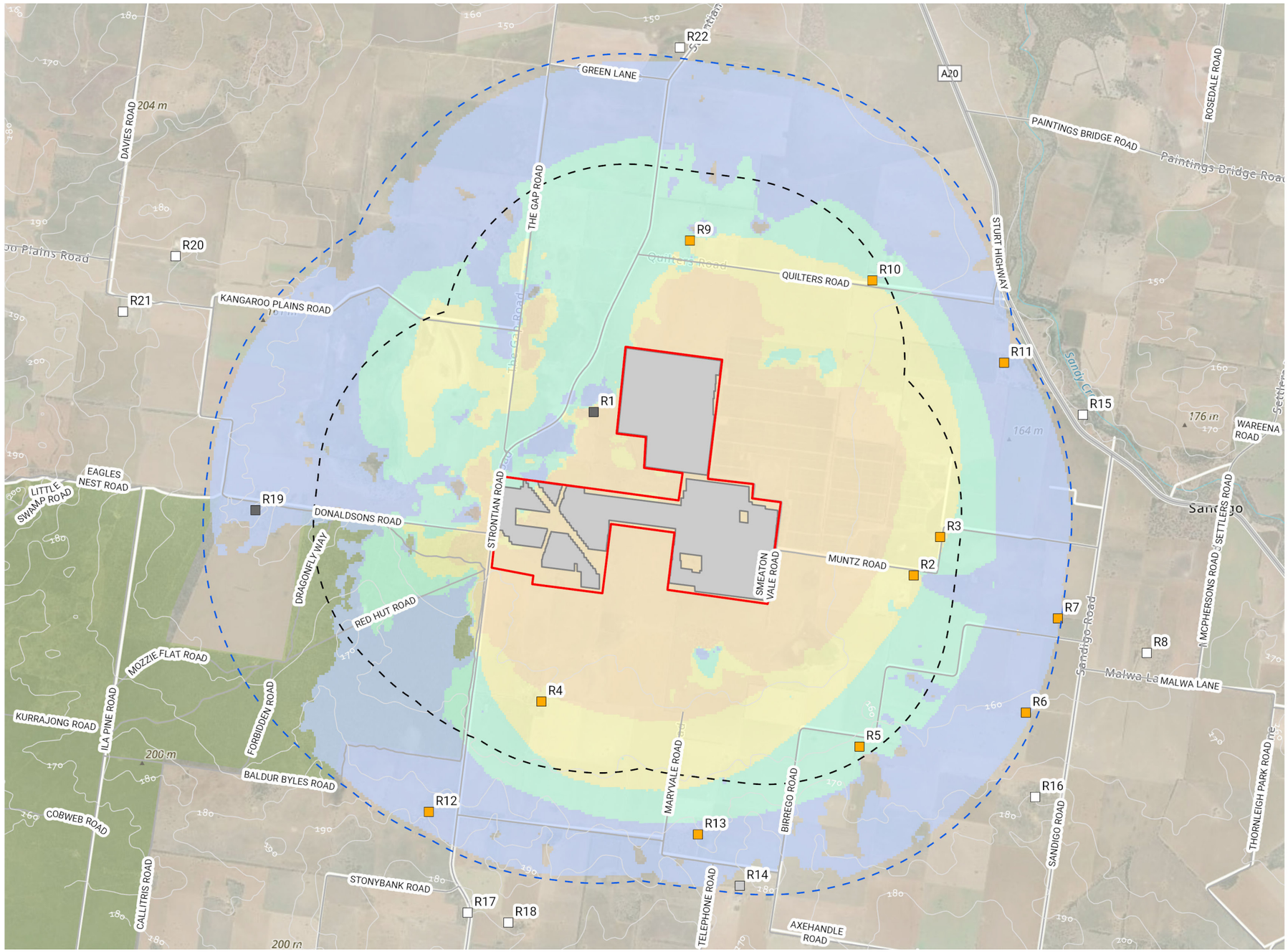


Figure 06 Viewshed Mapping
Basemap Source - ArcGIS, 2024

Viewshed Mapping

Refer to Section 4.1

LEGEND

- Project Site
- Solar Panel Array
- Public Viewpoint Study Area (2.5 km from PV Array)
- Private Receiver Study Area (4 km from PV Array)
- 10m Contours
- Roads

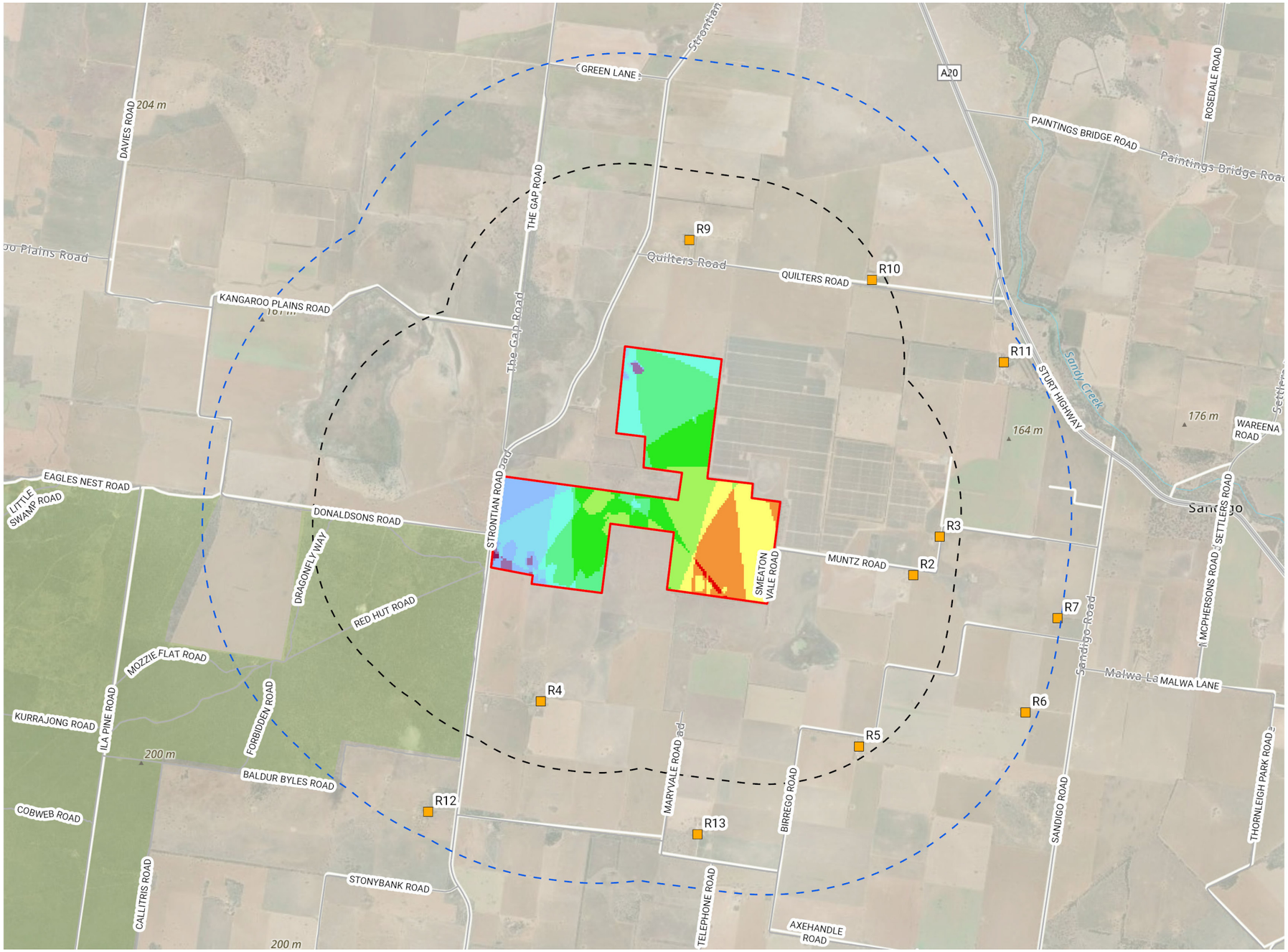
Viewshed Mapping Results

- Private Receivers with a theoretical line of sight to Project
- Private Receivers with no visibility of Project
- Private Receivers outside Study Area
- Private Receivers associated with Project (No Assessment Required)

Extent of Project visible based on viewshed map

- No Visibility
- 0 - 25% Visibility
- 25 - 50% Visibility
- 50 - 75% Visibility
- 75 - 100% Visibility

0 0.5 1 2 3 4 km



Reverse Viewshed Mapping

Refer to Section 4.2

LEGEND

- Project Site
- Public Viewpoint Study Area (2.5 km from PV Array)
- Private Receiver Study Area (4 km from PV Array)
- Private Receivers
- Roads

Number of Private Receivers Visible

- 1 private receiver visible
- 2 private receivers visible
- 3 private receivers visible
- 4 private receivers visible
- 5 private receivers visible
- 6 private receivers visible
- 7 private receivers visible
- 8 private receivers visible
- 9 private receivers visible
- 10 private receivers visible
- 11 private receivers visible

0 0.5 1 2 3 4 km

Figure 07 Reverse Viewshed Mapping
Basemap Source - ArcGIS, 2024

5.0 Preliminary Visual Impact Assessment

5.1 Overview of the Preliminary Visual Impact (Simple) Assessment Tools

The Technical Supplement states: *"The level of a visual impact assessment required for private receivers and public viewpoints should be proportionate to the likely impacts of the development. Applicants can begin by carrying out a simple assessment using desktop data and high-level assumptions. They should conduct further assessment if impacts are likely to be moderate or higher."* (DPHI, 2024b).

The purpose of the simple assessment process is to eliminate the need to further assess public and private viewpoints that are likely to experience very low and low visual impacts.

5.2 Simple Assessment Tools

Initially, viewshed mapping was undertaken to eliminate viewpoint locations that will not have a line of sight to the proposed solar panels (refer to **Figure 06**)

Viewpoints with a theoretical line of sight to the Project were then assessed. The simple assessment uses worst-case assumptions to calculate the likely visual magnitude (see **Section 5.6**) and assumed visual sensitivity (see **Section 5.7**). Following the methodology outlined in **Section 5.8**, these ratings are applied to the visual impact matrix (**Table 06**), where a worst-case visual impact is calculated.

As per the Technnical Supplement *"If the simple assessment indicates that a moderate or high impact is likely, then applicants must conduct an intermediate assessment." (DPHI, 2024b)*

5.3 Simple Assessment Parameters

The Technical Supplement states: *"The calculations can be based on either the project area, or the development footprint depending on the level of information available at the time. A more refined approach that uses the development footprint, may result in less viewpoints requiring assessment."* (DPHI, 2024b).

For the purpose of this report, the Simple Assessment Tools have been applied to the Development Footprint.

The Technical Supplement states that the visual study areas should be:

- 2.5 km from the proposed development for public roads.
- 4.0 km from the proposed development for other private receivers and public viewpoints

Viewpoints assessed in the simple assessment are shown in **Figure 10**.

VIEWSHED MAPPING & REVERSE VIEWSHED MAPPING Refer to **Section 4.1** & **Section 4.2**	*'The applicant can use viewshed mapping to further eliminate the need to assess viewpoints that fall below the lines in the Simple Assessment Tool if the analysis shows there is intervening terrain that would block line of sight to a particular viewpoint.'*
PUBLIC & PRIVATE VIEWPOINT LOCATIONS Refer to Figure 10 Data provided in **Table 08** & **Table 07**	*'Identify all viewpoints from public roads within 2.5 km of the proposed development.'* *'Identify other public and private viewpoints within 4 km of the proposed development.'*
RECEIVER DISTANCE Data provided in **Table 08** & **Table 07**	*'Calculate the distance of each of these viewpoints from the nearest point of the proposed development.'*
VERTICAL FIELD OF VIEW Refer to **Section 5.4** Data provided in **Table 08** & **Table 07**	*'Determine the 'relative height difference' between the proposed development and each viewpoint.' Note: this value is based on the terrain elevation of each receiver within the Study Area.* *Lowest Point* = **145 m** *Highest Point* = **156 m** *'Plot each viewpoint on the Preliminary Assessment Tool – Vertical Field of View to determine the indicative vertical field of view (as either 1, 2, 3 or 4+ degrees)'*
RECEIVER DISTANCE + **RELATIVE HEIGHT DIFFERENCE** = **VERTICAL FIELD OF VIEW**	
HORIZONTAL FIELD OF VIEW Refer to **Section 5.5** Data provided in **Table 08** & **Table 07**	*'Measure the worst-case horizontal field of view of the project from each viewpoint (not considering topography or vegetation)'. Divide by ten to calculate the horizontal cell count.'*
DETERMINE RECEIVERS REQUIRING FURTHER ASSESSMENT Refer to 5.8 Data provided in **Table 08** & **Table 07**	*'Multiply the vertical and horizontal cells to determine the potential visual magnitude. Follow the Visual Impact Assessment Process (**Section 5.8**) to determine if further assessment is required'.*

Table 02 Overview of Simple Assessment Tools
Source - Adapted from DPHI, 2022

5.4 Vertical Field of View Calculation

Figure 08 illustrates how the vertical field of view is calculated for each viewpoint location. Once calculated, these points are added to the DPHI-provided spreadsheet document to determine the vertical field of view of either **1, 2, 3, or 4 degrees**, which is derived from the value combined with the receiver distance. Where the spreadsheet document identifies the field of view to be 0, the value is rounded to 1 degree.

Project located above and below viewpoint (a - c)

Project located above viewpoint (a - b)

Project located below viewpoint (b - c)

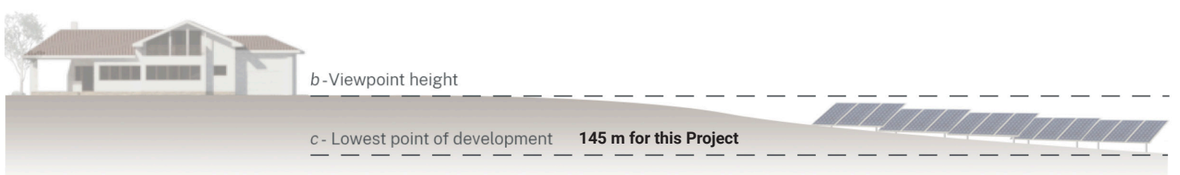


Figure 08 Vertical Field of View Calculations
Source - DPHI, 2024b

5.5 Horizontal Field of View Calculation

Figure 09 below illustrates how the horizontal field of view is calculated for each viewpoint location. After the horizontal field of view has been measured, divide the resulting measurement by 10 to determine the approximate number of horizontal cells that the project would occupy. For the purpose of this report, the horizontal field of view has been calculated based on the Development Footprint to provide a worst-case scenario assessment.

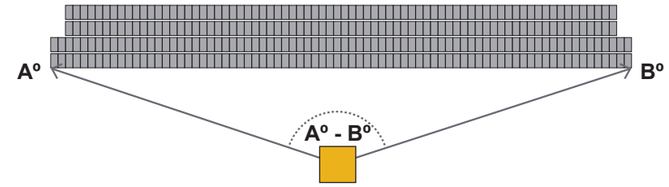


Figure 09 Horizontal Field of View Calculations
Source - DPHI, 2022b

5.6 Calculation of Potential Magnitude

Multiply the vertical and horizontal cells to determine the potential visual magnitude from a viewpoint and rate it using **Table 03** (Visual Magnitude Thresholds) to determine the magnitude rating.

VISUAL MAGNITUDE THRESHOLDS	
Number of Occupied cells	**Visual Magnitude Rating**
1 - 7	**Very Low**
8 - 14	**Low**
15 - 25	**Moderate**
26 - 36	**High**
37 +	**Very High**

Table 03 Visual Magnitude Thresholds
Source - DPHI, 2024b

5.7 Calculation of Visual Sensitivity Rating

At this stage, the characterisation of viewpoint sensitivity and scenic quality are informed by conservative assumptions.

Visual sensitivity refers to the quality of the existing view and how sensitive the view is to the proposed change. The visual sensitivity is determined through the following three steps:

Step 1. Determine Viewpoint Sensitivity

Step 2. Determine Scenic Quality

Step 3. Determine Visual Sensitivity

5.7.1 Viewpoint Sensitivity

Viewpoint sensitivity relates to the relative importance of viewpoints and the value that the community or visitors may place on landscapes viewed from public use areas, public travel ways and private receivers such as dwellings. The sensitivity of each viewpoint has been assigned as one of four (4) sensitivity ratings (very low, low, moderate, high) considering the examples in **Table 03**.

Viewpoint Type	Very Low sensitivity	Low sensitivity	Moderate sensitivity	High sensitivity
Private receiver	Private recreation areas and sporting fields (land zoned RE2)	Secondary view from dwelling rural area (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential (zoned R5) and environmental and conservation areas (zoned C2, C3 and C4).	Primary view from dwellings in rural areas (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Tourist and visitor accommodation (bed-and-breakfasts, motels and hotels) and places of worship	Dwellings in residential and rural villages (zoned R1, R2, R3, R4 and RU5) Historic rural homesteads/ residences on the national, state or local heritage list
Public viewpoint	State highways, freeways and classified main roads Local sealed and unsealed roads	Cemeteries, memorial parks Tourist roads and scenic drives. Significant entry ways to regional towns and cities Walking tracks and navigable waterways	Tourist uses in tourist areas (zoned SP3) Publicly accessible green and open spaces, including picnic areas, parks, public recreation areas and lookouts Town centres and central business districts	n/a

Table 04 Viewpoint Sensitivity Levels and Examples
Source - DPHI, 2024b

5.7.2 Scenic Quality

Scenic quality refers to the relative scenic, cultural or aesthetic value of the landscape within the viewshed based on the presence or absence of key landscape features known to be associated with community perceptions of low, moderate, or high scenic quality. It is typically a complex process undertaken by experts in visual impact assessment and considers community values. The methodology for determining scenic quality is outlined in **Section 4.14.**

5.7.3 Overall Visual Sensitivity

Once the viewpoint sensitivity and scenic quality are determined, these can be combined using the visual sensitivity matrix in **Table 13** to determine the overall visual sensitivity of each identified viewpoint.

VISUAL SENSITIVITY MATRIX				
Viewpoint Sensitivity Level	**High Scenic Quality**	**Moderate Scenic Quality**	**Low Scenic Quality**	**Very Low Scenic Quality**
HIGH	HIGH	HIGH	MODERATE	LOW
MODERATE	HIGH	MODERATE	MODERATE	LOW
LOW	MODERATE	LOW	LOW	VERY LOW
VERY LOW	VERY LOW	VERY LOW	VERY LOW	VERY LOW

Table 05 Visual Sensitivity Matrix
Source - DPHI, 2024b

5.8 Visual Impact

Once visual magnitude and visual sensitivity have been established for each viewpoint, the overall visual impact is determined by combining the magnitude and sensitivity ratings according to the matrix in **Table 06.**

Viewpoints with very low or low visual impact do not require further assessment. Viewpoints that have a moderate or high visual impact require further intermediate assessment in the EIS Stage.

		VISUAL SENSITIVITY RATING			
		HIGH	**MODERATE**	**LOW**	**VERY LOW**
MAGNITUDE RATING	**VERY HIGH**	HIGH	HIGH	MODERATE	MODERATE
	HIGH	HIGH	MODERATE	MODERATE	LOW
	MODERATE	MODERATE	MODERATE	LOW	LOW
	LOW	MODERATE	LOW	LOW	VERY LOW
	VERY LOW	LOW	LOW	VERY LOW	VERY LOW

Table 06 Visual Impact Matrix
Source - DPHI, 2024b

5.9 Viewpoint Selection

The Technical Supplement states: "*The calculations can be based on either the project area, or the development footprint depending on the level of information available at the time. A more refined approach that uses the development footprint, may result in less viewpoints requiring assessment.*" (DPHI, 2024b).

As stated in the Technical Supplement, private receivers were assessed to within 4.0 km of the Project, and road receivers (public viewpoints) were assessed within 2.5 km of the Project (DPHI 2024b).

The following provides an overview of the viewpoint selection process. Viewpoints have been illustrated in **Figure 10**.

5.9.1 Public Receivers

14 preliminary public receiver locations have been selected to represent roads receivers within 2.5 km of the Development Footprint (refer to **Table 07**).

5.9.2 Private Receivers

In accordance with the Technical Supplement, private receivers within 4.0 km of the Development Footprint must be identified and assessed.

- 12 private receivers were identified within 4.0 km of the Project with a line of sight to the Project. These 12 private receivers were assessed using the Simple Assessment Tool (refer to **Figure 10** and **Table 08**).

5.10 Results of Simple Assessment Tool

Application of the Simple Assessment Tool identifies public and private viewpoints for further assessment. These results are summarised below.

Public Viewpoints

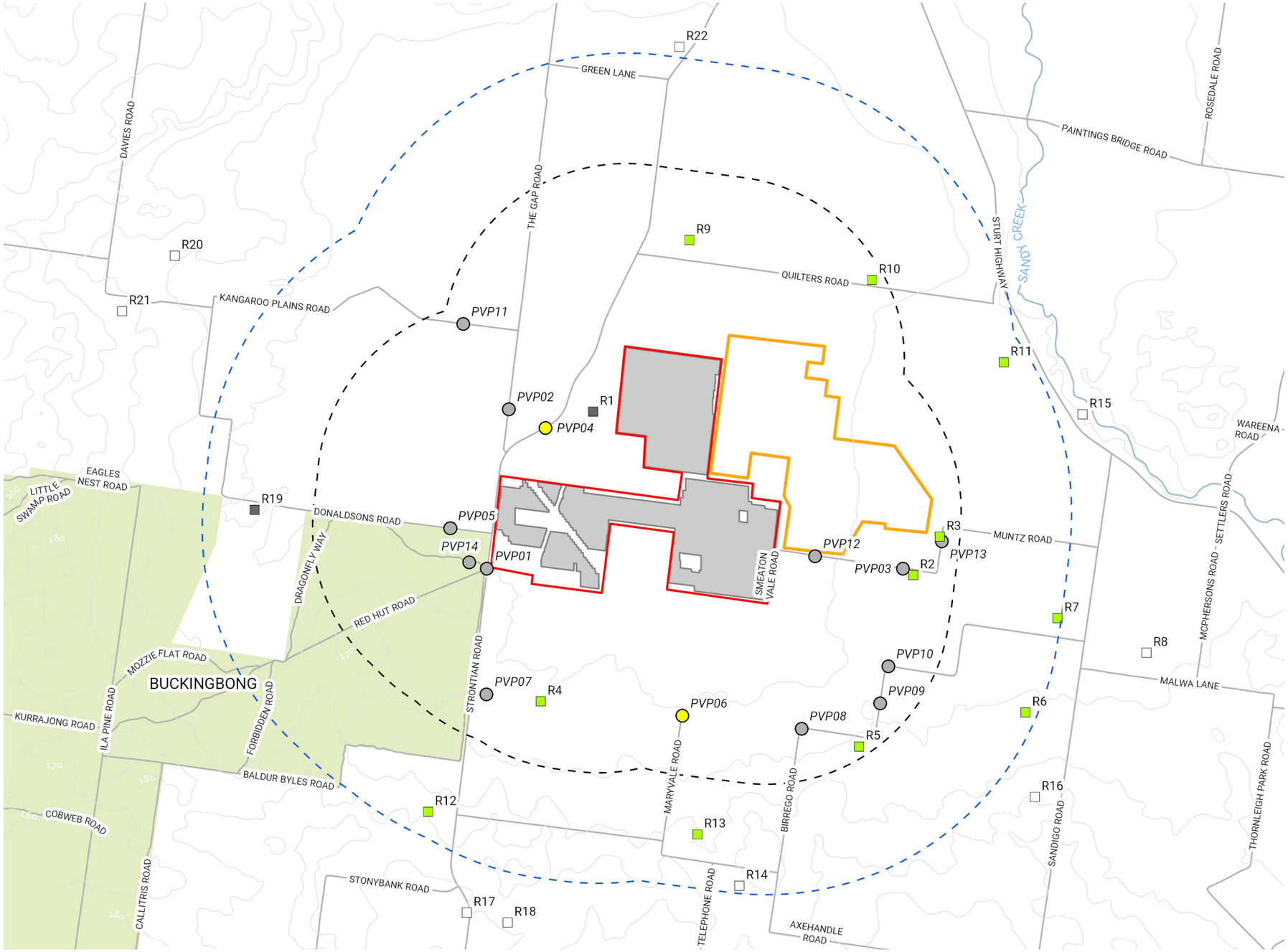
14 preliminary public viewpoints were identified within 2.5 km of the Development Footprint. Application of the Simple Assessment Tools identified that:

- **Two (2)** viewpoints (PVP04, PVP06) require **further intermediate assessment** (refer to **Table 07** and **Figure 10**).

Private Viewpoints

12 private receivers were identified within 4.0 km of the Development Footprint, with a line of sight to the Project. The Simple Assessment Tools identified that of the 12 private receivers:

- **Zero (0)** private receivers **require further intermediate assessment** (refer to **Table 08** and **Figure 10**).



Simple Assessment Results

Refer to Section 5.10

LEGEND

- Project Site
- Solar Panel Array
- Public Viewpoint Study Area (2.5 km from PV Array)
- Private Receiver Study Area (4 km from PV Array)
- 10m Contours
- Roads
- Watercourses
- State Forest
- Avonlie Solar Farm

Simple Assessment

- Private Receivers (No Further Assessment Required)
- No Assessment Required
- Private Receivers associated with Project (No Assessment Required)
- Preliminary Public Viewpoints (Further Assessment Required)
- Preliminary Public Viewpoints (No Further Assessment Required)

0 0.5 1 2 3 4 km

Figure 10 Simple Assessment Results
Basemap Source - ArcGIS, 2024

PRELIMINARY ASSESSMENT TOOL (PUBLIC RECEIVERS)											
Dwelling ID	**ZVI Visibility**	**Receiver Elevation (m)**	**Distance to Project (m)**	**Vertical Field of View (degrees)**	**Horizontal Field of View (degrees)**	**Horizontal Cell Count (rounded up)**	**Total Occupied Cells**	**Magnitude Rating**	**Overall Sensitivity (Conservative Assumption)**	**Simple Assessment - Visual Impact Rating**	**Further Assessment Required?**
PVP01	YES	153	468	2	91	10	20	Moderate	Low	Low	NO
PVP02	YES	146	840	1	124	13	13	Low	Low	Low	NO
PVP03	YES	153	1780	1	62	7	7	Very Low	Low	Very Low	NO
PVP04	YES	146	541	2	172	18	36	High	Low	Moderate	YES
PVP05	YES	149	631	1	64	7	7	Very Low	Low	Very Low	NO
PVP06	YES	155	1699	1	279	28	28	High	Low	Moderate	YES
PVP07	YES	157	1886	1	68	7	7	Very Low	Low	Very Low	NO
PVP08	YES	156	1806	1	82	9	9	Low	Low	Low	NO
PVP09	YES	159	2095	1	43	5	5	Very Low	Low	Very Low	NO
PVP10	YES	157	1898	1	47	5	5	Very Low	Low	Very Low	NO
PVP11	YES	146	2100	0	73	8	0	Very Low	Low	Very Low	NO
PVP12	YES	151	575	2	106	11	22	Moderate	Low	Low	NO
PVP13	YES	152	2260	1	58	6	6	Very Low	Low	Very Low	NO
PVP14	YES	149	579	2	80	8	16	Moderate	Low	Low	NO

Table 07 Preliminary Assessment Tool - Public Receivers

Note: Vertical cell count has been rounded to one (1) degree where a zero (0) degree field of view was identified.

PRELIMINARY ASSESSMENT TOOL (PRIVATE RECEIVERS)												
Dwelling ID	**Associated with Project?**	**ZVI Visibility**	**Receiver Elevation (m)**	**Distance to Project (m)**	**Vertical Field of View (degrees)**	**Horizontal Field of View (degrees)**	**Horizontal Cell Count (rounded up)**	**Total Occupied Cells**	**Magnitude Rating**	**Overall Sensitivity (Conservative Assumption)**	**Simple Assessment - Visual Impact Rating**	**Further Assessment Required?**
R1	YES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	NO	YES	155	1920	1	58	6	6	Very Low	Moderate	Low	NO
R3	NO	YES	153	2209	1	58	6	6	Very Low	Moderate	Low	NO
R4	NO	YES	154	1567	1	79	8	8	Low	Moderate	Low	NO
R5	NO	YES	165	2306	1	41	5	5	Very Low	Moderate	Low	NO
R6	NO	YES	169	3810	1	33	4	4	Very Low	Moderate	Low	NO
R7	NO	YES	154	3940	1	33	4	4	Very Low	Moderate	Low	NO
R9	NO	YES	149	1547	1	54	6	6	Very Low	Moderate	Low	NO
R10	NO	YES	152	2309	1	56	6	6	Very Low	Moderate	Low	NO
R11	NO	YES	153	3580	1	47	5	5	Very Low	Moderate	Low	NO
R12	NO	YES	182	3400	1	45	5	5	Very Low	Moderate	Low	NO
R13	NO	YES	172	3235	1	49	5	5	Very Low	Moderate	Low	NO
R14	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	YES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 08 Preliminary Assessment Tool - Private Receivers

Note: Vertical cell count has been rounded to one (1) degree where a zero (0) degree field of view was identified.

6.0 Cumulative Visual Impact

6.1 Overview of Potential Cumulative Impacts

In accordance with the Cumulative Impact Assessment Guidelines for State Significant Projects (DPE,2022), the area selected to assess relevant cumulative impacts from other developments should not be unnecessarily large or include areas where the cumulative impacts are likely to be negligible, relative to the baseline condition of the relevant Project.

The occurrence of large-scale renewable energy projects within a region has the potential to alter the perception of the overall landscape character irrespective of being viewed in a single viewshed as these projects could become part of the existing landscape. It is important to determine whether the effect of multiple projects and other major infrastructure within the region would combine to become the dominant visual element, altering the perception of the general landscape character. **Figure 11** shows other renewable energy projects that are currently proposed, operating and under construction over a broader regional context.

6.2 Nearby State Significant Projects

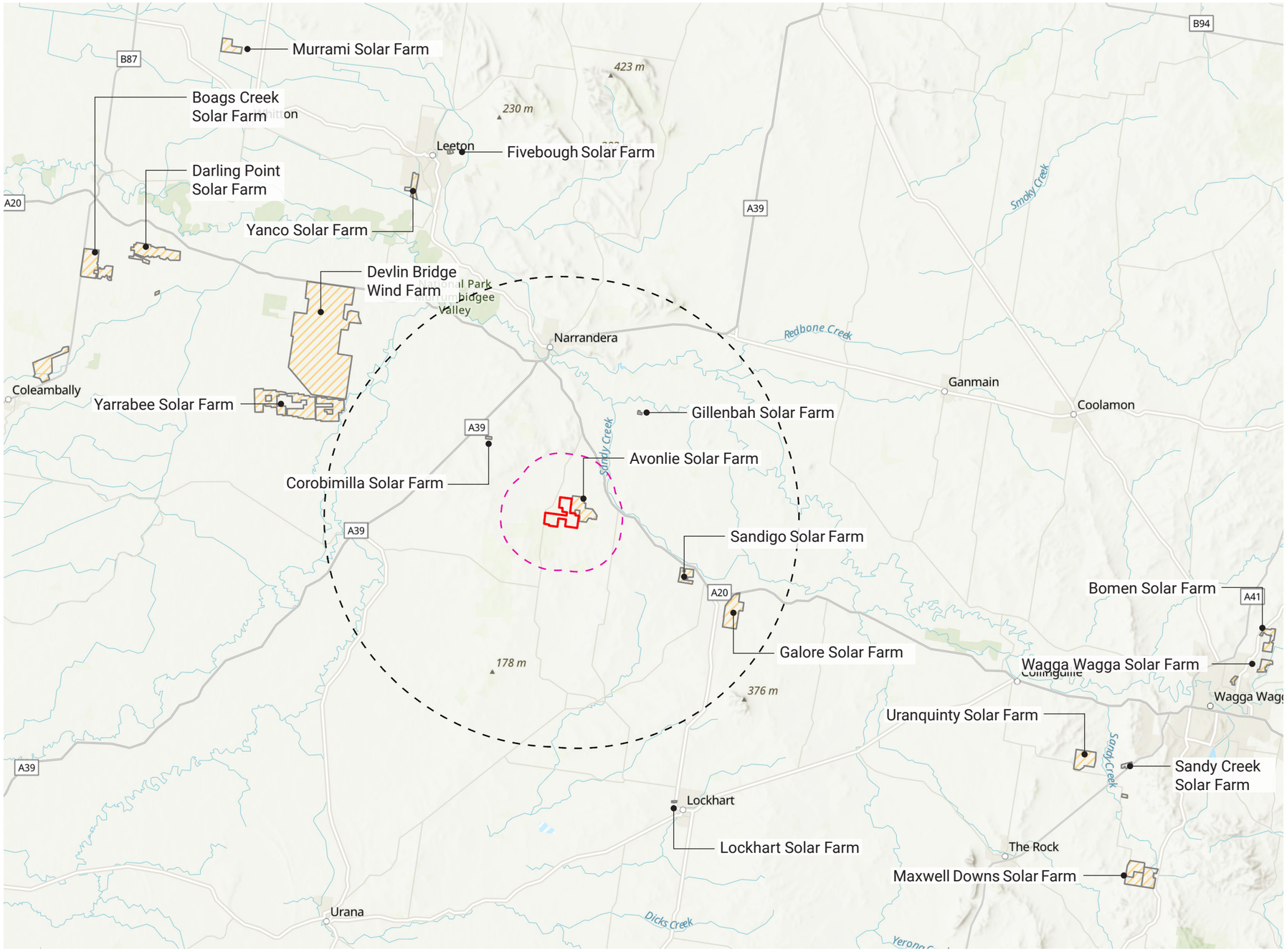
Currently, 10 other state significant development projects have been identified within the 50 km area from the Project (see **Table 09**). One (1) of these projects, the Avonlie Solar Farm is located adjacent to the Project. Gillenbah Solar Farm, Sandigo Solar Farm, Galore Solar Farm, Corobimilla Solar Farm are located in close proximity to the Project, within the 25 km of the Project Site (see **Figure 11**).

Given the distance, intervening elements such as existing vegetation, built form and weather conditions would obscure visibility. As all the other large-scale renewable projects are located in excess of 10 km it is unlikely that all the other projects located beyond 10 km would be visible simultaneously.

Cumulative visual impacts of Avonlie Solar Farm in relation to the Project will be assessed in detail during the EIS stage

Name of Project	Distance to Project Site * Approximate distances	Current Status
Avonlie Solar Farm	0.1 km	Operating
Gillenbah Solar Farm	14 km	Operating
Sandigo Solar Farm	15 km	Development
Galore Solar Farm	13 km	Development
Corobimilla Solar Farm	21 km	Development
Yarrabee Solar Farm	28 km	Development
Devlins Bridge Wind Farm	31 km	Development
Lockhart Solar Farm	34 km	Development
Yanco Solar Farm	41 km	Development
Fivebough Solar Farm	43 km	Operating

Table 09 Nearby Renewable Energy Project



Nearby Renewable Project

Refer to Section 6.1

LEGEND

- Project Site
- 5.0 km from PV Array Area
- 25.0 km fro PV Array Area
- Renewable Energy Projects

0 7 14 21 28 km

Figure 11 Nearby Renewable Energy Projects
Basemap Source - ArcGIS, 2024

7.0 Preliminary Landscape Character Assessment

7.1 Existing Visual and Landscape Character

This Preliminary Landscape Character Assessment aims to describe and understand the visual and landscape qualities of the area surrounding the Project. The Study Area for this assessment is defined as the land within a 5 km radius of the proposed Project Area, as illustrated in **Figure 12**. This Study Area encompasses the existing visual and landscape features, which serve as the baseline for assessing potential impacts during the EIS phase.

The Project Site is situated on the eastern side of Strontian Road. The Study Area is primarily used for agricultural purposes, with cropping and grazing as the predominant land activities. The area's topography is flat, with minimal variation in elevation.

The southwest boundary of the Project Site is adjacent to the Buckingbong State Forest, which forms a prominent visual feature in the surrounding landscape. The Study Area is cleared mainly for agricultural use, with patches of scattered vegetation, particularly along roadsides and around rural residences, providing some screening.

The road network within the Study Area includes Strontian Road, which provides primary access to the Project from the west. These roads are low-use rural routes with scattered vegetation.

The Study Area also contains several small scattered bodies of water, and areas to the northwest and southeast of the site feature vegetated wetlands, which contribute significantly to the area's landscape character.

The area adjacent to the northeast of the Project Site consists of Avonlie Solar Farm. This modified landscape, along with land altered for agriculture, scattered vegetation creating windbreaks and screening, along with the significant Buckingbong State Forest defines the visual character of the area.

7.2 Existing Landscape Character Zones

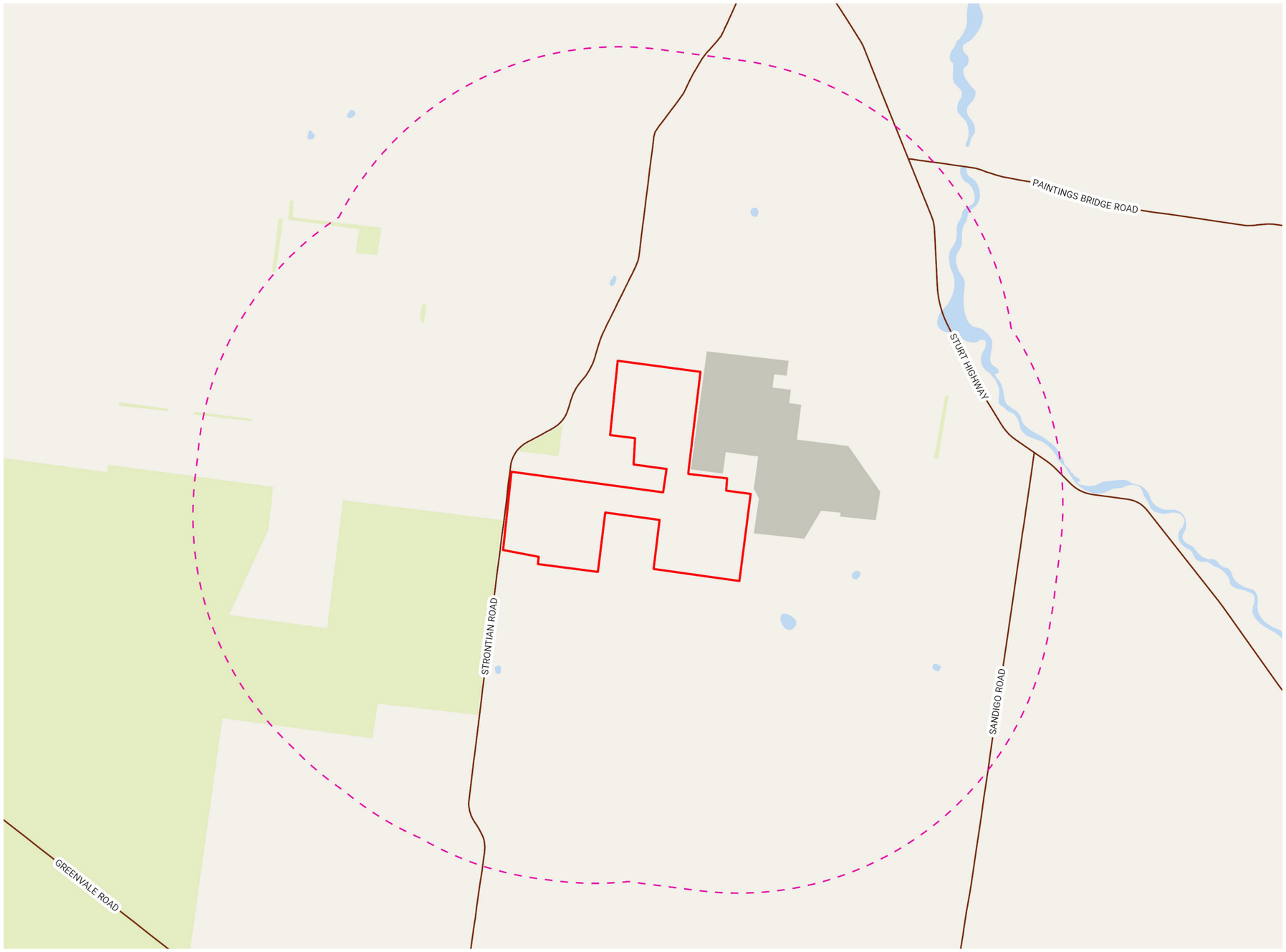
As outlined in the Technical Supplement (DPE, 2024b), a landscape should be divided into different Landscape Character Zones (LCZs) if distinct areas display varying visual qualities. These zones are based on combinations of landforms, vegetation, water bodies, and land uses that create identifiable patterns in the landscape.

A preliminary desktop assessment has been conducted to define the existing LCZs within the Study Area. These zones are key visual elements for further analysis during the EIS phase. A summary of the preliminary LCZs identified is provided in the table below:

Preliminary Landscape Character Zones	
Code	**Name**
LCZ01	Cropping and Grazing
LCZ02	Vegetation Conservation
LCZ03	Waterway and Wetland
LCZ04	Transport Corridors
LCZ05	Renewable Energy

Table 10 Landscape Character Zones

The identified LCZs will be assessed in more detail during the EIS phase to inform the Landscape Character and Visual Impact Assessment (LCVIA) and guide the design and mitigation measures of the Strontian Solar Farm. These LCZs form the foundation for understanding the visual and landscape characteristics that will be impacted by the proposed development and its associated infrastructure.



Preliminary Landscape Character Zones

Refer to Section 7.1

LEGEND

- 5.0 km from PV Array Area
- Project Site
- LCZ05 Renewable Energy
- LCZ04 Transport Corridors
- LCZ03 Waterway and Wetland
- LCZ02 Vegetation Conservation
- LCZ01 Cropping and Grazing

0 0.5 1 2 3 4 km

Figure 12 Preliminary Landscape Character Zones
Basemap Source - ArcGIS, 2024

8.0 Summary and Next Steps

8.1 Summary of findings

Due to the flat topographic characteristics of the surrounding landscape, the majority of the Project is expected to have visibility from various directions, particularly from south, southeast, east and northeast. The small variations in the topography are likely to limit the views from receivers located northwest of the Project.

Preliminary desktop analysis suggests that intervening vegetation, including surrounding tree cover and roadside plantings, will likely fragment and reduce direct views of the Project from nearby private receivers and roadways. Dense vegetative cover adjacent to the southwest boundary of the Project will likely screen any potential views of the Project from that direction. The adjacent renewable energy project, northeast of the Project site, needs to be considered for a cumulative visual impact on the overall landscape character within the defined Study Area of 5 km.

The Preliminary Visual Assessment (Simple Assessment) adopted a 4 km buffer zone around the Project Site to identify potential visual impacts under a worst-case scenario. Within this buffer, 11 private receivers were identified as having a potential line of sight to the Project (based on Viewshed Mapping). The application of the Simple Assessment Tools indicates that **none of these private receivers** will require further intermediate visual impact analysis in the EIS phase. Additionally, 14 public viewpoints were identified within the Study Area using the Simple Visual Assessment Tool, with **2 of these viewpoints** warranting further intermediate visual impact analysis during the EIS phase.

8.2 Next Steps

A Landscape Character and Visual Impact Assessment (LCVIA) will be prepared in accordance with the Guideline and the Technical Supplement. During the preparation of the LCVIA, detailed site investigations will be undertaken from areas identified in the preliminary assessment as having potential visibility towards the Project. This process will be undertaken using the procedures outlined in the following Guidelines:

- Large-Scale Solar Energy Guideline (November 2024)
- Technical Supplement for Landscape Character and Visual Impact Assessment - Large-Scale Solar Energy Guideline (November 2024)
- Cumulative Impact Assessment Guidelines for State Significant Projects (October 2022).

Specialised modelling tools and visualisations (including photomontages) will be developed to illustrate potential views of the Project from key public and private viewpoints identified through this report. In addition site inspections will be undertaken from key public viewpoints identified as requiring further assessment.

The LCVIA will include an assessment of the landscape and visual impact resulting from all associated infrastructure and ancillary structures, and consideration of cumulative impacts of nearby infrastructure. Further assessment will be undertaken to assess potential impacts of glint and glare using industry standard methodology.

The cumulative impacts of surrounding renewable energy projects will be assessed as part of the LCVIA to evaluate potential effects on the broader regional landscape character. One large-scale solar farm project has been identified in close proximity of the Project, Avonlie Solar Farm. A detailed analysis of the visual and landscape impacts from these projects will be carried out during the EIS phase.

On-site and off-site visual landscape mitigation strategies will be developed in response to the assessment and community consultation. The purpose of the mitigation strategies will be to ensure the Project is integrated into the existing landscape and to mitigate identified visual impacts to an acceptable level.

References

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