Navarre Green Power Hub

Preliminary Landscape and Visual Impact Assessment

Neoen Pty. Ltd.

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Document control record

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Acronyms

Term	Definition
CHMP	Cultural Heritage Management Plan
DELWP	Department of Environment, Land, Water and Planning
ESO	Environmental Significance Overlay
Foreground	The area that immediately surrounds the project up to a distance of 0.5 kilometres.
FOV	Field of View
HO	Heritage Overlay
km	kilometre
LVIA	Landscape and visual impact assessment: The assessment of the impacts of the proposal on landscape and visual values.
Landscape	Its constituent elements, its character and the way this varies spatially, its geographic extent, its condition, the way the landscape is experienced, and the value attached to it.
LCT	Landscape Character Type
LPPF	Local planning policy framework: Local planning policies are tools used to implement the objectives and strategies of the Municipal Strategic Statement.
m	metre
NCR	Nature Conservation Reserve
NP	National Park
Study area	The area designated relevant for assessment of the project, determined by viewshed analysis
the Project	Navarre Green Power Hub
The Site	Proposed location for the Project
Viewpoint (VP)	Moderate or high sensitivity location from which views to the construction process or components of the project may be possible.
Viewshed	The area visible from a particular viewing location.
Visual amenity	The qualities of a landscape setting that are appreciated and valued by a viewer.
Visual catchment	The area over which an object can be seen within the landscape based on the line of sight.
Visual impact	The result of assessing the sensitivity level of a viewer and the modification level of a development.
Visual sensitivity	The degree to which various user groups would respond to change based on their expectation of a particular experience in a given setting for example the expectation of a high level of visual amenity in a national park.
ZTV	Zone of Theoretical Visibility

Executive summary

Neoen Pty. Ltd. (Neoen) is proposing to build and operate a wind farm and battery hub near the township of Navarre in north-western Victoria, known as the Navarre Green Power Hub (the Project). Aurecon was commissioned by Neoen to undertake a Preliminary Landscape and Visual Impact Assessment (PLVIA) to inform the development of the Project. The PLVIA informs an assessment under the *Environment Effects Act 1978* (EE Act).

The Project comprises approximately 18,404 hectares (ha) of predominantly private land immediately north of Navarre in north-western Victoria (the Site). The Site consists of four (4) main sub-areas:

- Wind Farm – Eastern Layout: Approximately 5,266 ha located to the east of Ararat Street-Arnaud Road and west of Kara Kara National Park.
- Wind Farm – Western Layout: Approximately 4,873 ha located to the west of Ararat Street-Arnaud Road and east of Morrl Morrl Nature Conservation Reserve.
- Transmission Line – Eastern and Western Layout Link: Approximately 1,272 ha investigation corridor located between the Eastern Layout and Western Layout.
- Transmission Line – Bulgana Terminal Station Connection: Approximately 6,993 ha investigation corridor located between the Eastern Layout and Bulgana Terminal Station.

The Project will generate around 600 Megawatt (MW) and will incorporate up to 102 wind turbines.

The landscape and visual baseline

The PLVIA is in accordance with the Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria (November 2021). This includes identification of the Study Area where visual impacts may be experienced by sensitive receptors, including residential or significant viewing points.

The PLVIA Study Area has been defined within a radius of 3.6 kilometres (km) from the location of the Site (the area in which the location turbines and transmission line are proposed). The Study Area captures where the Project will potentially have the highest impacts, based upon the height of turbines, dependant on the topographical characteristics and intervening elements in the surrounding area.

Based on the height of the proposed turbines, the zone of theoretical visibility (ZTV) is up to 31 km, which is the broader extent of the Study Area. However, in this preliminary assessment, the objective is to identify landscape and visual impacts of higher perceived risk. At distances in excess of 3.6 km, turbines may still be visible but will result in a lower level of perceived visual significance.

Relevant planning policies and legislation have been reviewed to understand any specific landscape or visual designations relating to the Study Area, as well as a desktop study to understand the various physical elements that combine to create landscape and visual character.

The Project is located in an area subject to the planning scheme of Northern Grampians Shire Council and a small area in the Pyrenees Shire Council. There are no specific planning controls attributing any specific landscape or visual value within the Study Area.

The baseline assessment identified three distinct Landscape Character Types (LCTs) within the Study Area, including:

- LCT 1: Rural farmland
- LCT 2: Bushland reserves
- LCT 3: Towns and settlements.

There were 16 representative public viewpoints identified within the Study Area. The viewpoints were selected to represent high and moderately sensitive receptors from varying distances and directions within the Study Area. There are no significant viewpoints identified within the preliminary Study Area.

Preliminary landscape and visual assessment findings

The LCTs have been determined to have a moderate and high ability to absorb the change as proposed by the Project. Low potential impacts are experienced only by LCT 1. Rural farmland is considered of low sensitivity due to the lack of any specific scenic value and no planning controls attributing special value to this landscape. The magnitude of change is considered medium as, although the turbines will be visible from a large area, this ZTV is a small portion of what is a widely distributed and expansive LCT. There are no character impacts anticipated to bushland reserves or towns and settlements within the Study Area.

The preliminary assessment identified 16 viewpoints within the Study Area representative of potential highly sensitive receptors including from rural dwellings and rural villages, with potential high to moderate impacts assessed from eight of the viewpoints where the receptor has potential views of proposed turbines within foreground views and/ or these views have limited intervening vegetation.

Rural Villages of Navarre and Barkly are considered to have high sensitivity to visual modification. Representative viewpoint analysis of these villages indicates that there is a large amount of intervening vegetation that limits outward views towards the Project. Turbines are located in middleground views limiting the field of view to 60 degrees from the representative viewpoints. The potential visual impact level is considered **low**.

High visual impacts are potentially experienced from two viewpoints – a recreational reserve (VP1) and a rural dwelling (VP8). For VP1, the level of modification is considered moderate with turbines potentially visible in the far middleground, therefore not prominent in the view for receptors with high sensitivity. At VP8 proposed turbines are located in a 300-degree field of view from the dwelling, with the closest turbines in the near foreground resulting in a high level of modification for receptors of moderate sensitivity.

Moderate visual impacts potentially experienced from rural dwellings were assessed from six viewpoints (VP3-4, VP6, VP9-10 and VP13). These viewpoints have between 6 and 16 turbines, that are likely to have higher prominence in a 180 to 240-degree field of view.

A field visit to ground truth existing visual conditions at these viewpoints is recommended to determine the level of modification through production of photomontages.

Preliminary cumulative impact findings

The Project is located north of the existing Bulgana and Crowlands wind farms and north of the proposed Watta Wella wind farm. There are eight rural dwellings within 8 km of Navarre and Watta Wella wind farms. A desktop analysis of these dwellings indicates existing intervening vegetation or farm structures, will likely screen views towards one of the wind farms, reducing the potential for cumulative impacts.

Mitigation

Mitigation of adverse visual impacts is conducted through avoiding impacts through the site layout design, moving the location of turbines that are likely to result in a high level of modification for sensitive receptors. Further assessment of viewpoints and consultation with affected rural residents, will identify areas which may require landscape screening to reduce visual impacts.

1 Introduction

Neoen Pty. Ltd. (Neoen) is proposing to build and operate a wind farm and battery hub near the township of Navarre in north-western Victoria, known as the Navarre Green Power Hub (the Project). Aurecon was commissioned by Neoen to undertake a Preliminary Landscape and Visual Impact Assessment (PLVIA) to inform the development of the Project.

1.1 Purpose

The purpose of the PLVIA is to identify any potential impacts to landscape and visual values to inform an assessment under the *Environment Effects Act 1978* (EE Act).

The landscape and visual amenity assessment will be undertaken in two stages:

- A preliminary assessment of landscape significance to inform the wind farm design process
- A detailed assessment as part of the planning and approval process.

This report relates to the preliminary assessment phase.

1.2 Assessment requirements

The requirements for the preliminary phase of the study include the following:

- Undertake a desktop analysis to assess the landscape and its features and to define key viewing patterns
- Define the initial catchment for potential visual and landscape impact for the proposal (e.g. including initial review of current literature on distance thresholds for visual intrusion of wind turbines)
- Review existing landscape studies, National and State polices and guidelines
- Undertake a landscape analysis of the site and its surrounds (up to 3.6 km radius from the Site) through a desktop analysis. Provide analysis of:
  - Landscape character types and areas
  - Significant landforms and scenic features
  - Culturally significant landscape elements.
- Prepare a Preliminary Findings Report for landscape character types and cultural landscape significance
- Undertake a preliminary Zone of Theoretical Visibility (ZTV) based on initial layout
- Identify and categorise dwellings and sensitive viewing locations based on the presence of surrounding vegetation and varying densities
- Review and assess at a high level the potential cumulative impact
- Define the ‘pattern of viewing’ of sensitive viewpoints to the windfarm site (e.g. Road/touring routes, townships, dwellings, parks and recreational areas / tourism locations, etc) within the viewshed

1.3 Assumptions and limitations

1.3.1 Assumptions

This report has been developed based on the following assumptions:

- Desktop investigations were undertaken to inform the findings of this report.
- The preliminary environmental assessments were undertaken based on the Project investigation area.
- The environmental assessments are based on the Project Overview as outlined in Section 2.

- The methodology adopted for this PLVIA assumes that if the works would not be seen, there is no impact.
- For the purpose of the assessment, an unobstructed viewpoint from a publicly accessible location has been used as a worst-case scenario of potential visual impacts.
- The ZTV mapping taken from the location and height of proposed wind turbines assumes that those areas not highlighted in the mapping, cannot see the wind turbine due to intervening topography. The ZTV mapping has been undertaken based on a worst case scenario and does not consider vegetation and other built forms of screening.
- Analysis of the viewpoint existing conditions is based on aerial imagery to determine whether screening vegetation exists between residential dwellings and proposed key elements.

1.3.2 Limitations

There are the following limitations associated with this assessment:

- The PLVIA process aims to be objective and, as such, seeks to describe any changes factually. Potential changes resulting from the Proposal have been defined. However, the significance of these changes requires qualitative (subjective) judgements to be made. Therefore, the conclusions to this assessment combine both objective measurement and subjective professional interpretation. This assessment has attempted to be objective; however it is recognised that visual assessment can be highly subjective, and individuals are likely to associate different visual experiences to the study area.
- This LVIA is based on the preliminary site layout prepared in February 2023.
- The impact assessment is focused on the current land uses and zoning.
- A night time visual assessment has not been undertaken to determine the effects of aircraft warning lighting.
- Access to sensitive viewpoints on private land, such as residences or accommodation, were not undertaken for this PLVIA. However, where there are expected impacts from private properties, representative viewpoints are assessed adjacent the property boundaries looking towards the proposal to capture the typical existing visual conditions. It is noted that the accuracy of these viewpoint assessments for private land are limited to what is visible in the viewpoint.
- Sensitive receptors have been identified through a map showing dwellings and checking these through available online street views.
- Methodology, program and timing of the construction works are currently indicative and dependent upon planning approvals. Consequently, construction impacts have not been assessed in this report. However, it would be acceptable to predict that there would be impacts during construction and would be similar degree of visual impact to the operational phase assessment findings.

1.4 Links to other technical reports

Some of the technical requirements include other aspects and impacts that are not directly related to this report and are covered in the following specialist disciplines:

- Heritage Due Diligence Assessment (Aurecon, 2023)
- Preliminary Shadow Flicker Assessment (Aurecon, 2023)
- Flora, Fauna and Targeted Threatened Species Assessment (Nature Advisory, 2023).

2 Project overview

2.1 Project location

The Navarre Green Power Hub (the Project) comprises approximately 18,404 hectares (ha) of predominantly private land immediately north of Navarre in north-western Victoria (the Site). The Site consists of four (4) main sub-areas:

- Wind Farm – Eastern Layout: Approximately 5,266 ha located to the east of Ararat Street-Arnaud Road and west of Kara Kara National Park.
- Wind Farm – Western Layout: Approximately 4,873 ha located to the west of Ararat Street-Arnaud Road and east of Morrl Morrl Nature Conservation Reserve.
- Transmission Line – Eastern and Western Layout Link: Approximately 1,272 ha investigation corridor located between the Eastern Layout and Western Layout.
- Transmission Line – Bulgana Terminal Station Connection: Approximately 6,993 ha investigation corridor located between the Eastern Layout and Bulgana Terminal Station.

2.2 Project description

Neoen proposes to build and operate a wind farm and battery hub near the township of Navarre in north-western Victoria. The Project will generate around 600 MW and will incorporate up to 102 wind turbines, split across two areas:

- Eastern Layout, which will consist of up to 50 wind turbines across approximately 4,873 ha of land.
- Western Layout, which will consist of up to 52 wind turbines across approximately 5,266 ha of land.

The Project will include a 220kV transmission line between the western and eastern development and a 220kV transmission line between the western development and Bulgana Terminal Station. Refer to Figure 2 for the proposed Project layout.

In addition to the turbines and transmission lines, the Project will also include the permanent and temporary infrastructure listed below (Table 1 and Table 2).

Table 1 Permanent and temporary infrastructure associated with the Project – eastern layout

The Wind Farm Project Area – Eastern Layout	
Permanent	Temporary
■ A substation (up to 10ha) ■ Hardstand and laydown areas surrounding each turbine ■ Access tracks and site access points. It is expected the site access points will be at one location on Barkly-Navarre Road, one location on Ararat-St Arnaud Road and one location on Winjallock Road. ■ Operations and maintenance building and laydown ■ A Battery Energy Storage System with a capacity of up to 600 MW ■ Road upgrades to the local roads ■ Meteorological monitoring masts ■ Internal power collection stations ■ Internal underground cabling ■ A quarry to source raw material required for construction and maintenance during operations.	■ A construction office and compounds. This will include site offices, car parking, storage and amenities. ■ A concrete batching plant.

Table 2 Permanent and temporary infrastructure associated with the Project – western layout

The Wind Farm Project Area – Western Layout	
Permanent	Temporary
■ A substation (up to 10ha) ■ Hardstand and laydown areas surrounding each turbine. ■ Access tracks and site access points. It is expected the site access points will be at one location on Callawadda-Navarre Road and three locations on Bolangum Inn Road. ■ Operations and maintenance building and laydown. ■ Road upgrades to the local roads. ■ Meteorological monitoring masts. ■ Internal power collection stations. ■ Internal underground cabling. ■ A quarry to source raw material required for construction and maintenance during operations.	■ A construction office and compounds. This will include site offices, car parking, storage and amenities. ■ A concrete batching plant.

The Project's key components relevant to landscape and visual include but are not limited to:

- Wind turbines – up to 102 turbines, each with:
  - Three blades mounted on a tubular steel tower, with a combined height of blade and tower limited to a maximum tip height of 270 m (see Figure 1)
  - Crane hardstand area, cable stays and related turbine lay down area, during construction.
- A substation, Battery Energy Storage System (BESS) and transmission line (underground or overhead).

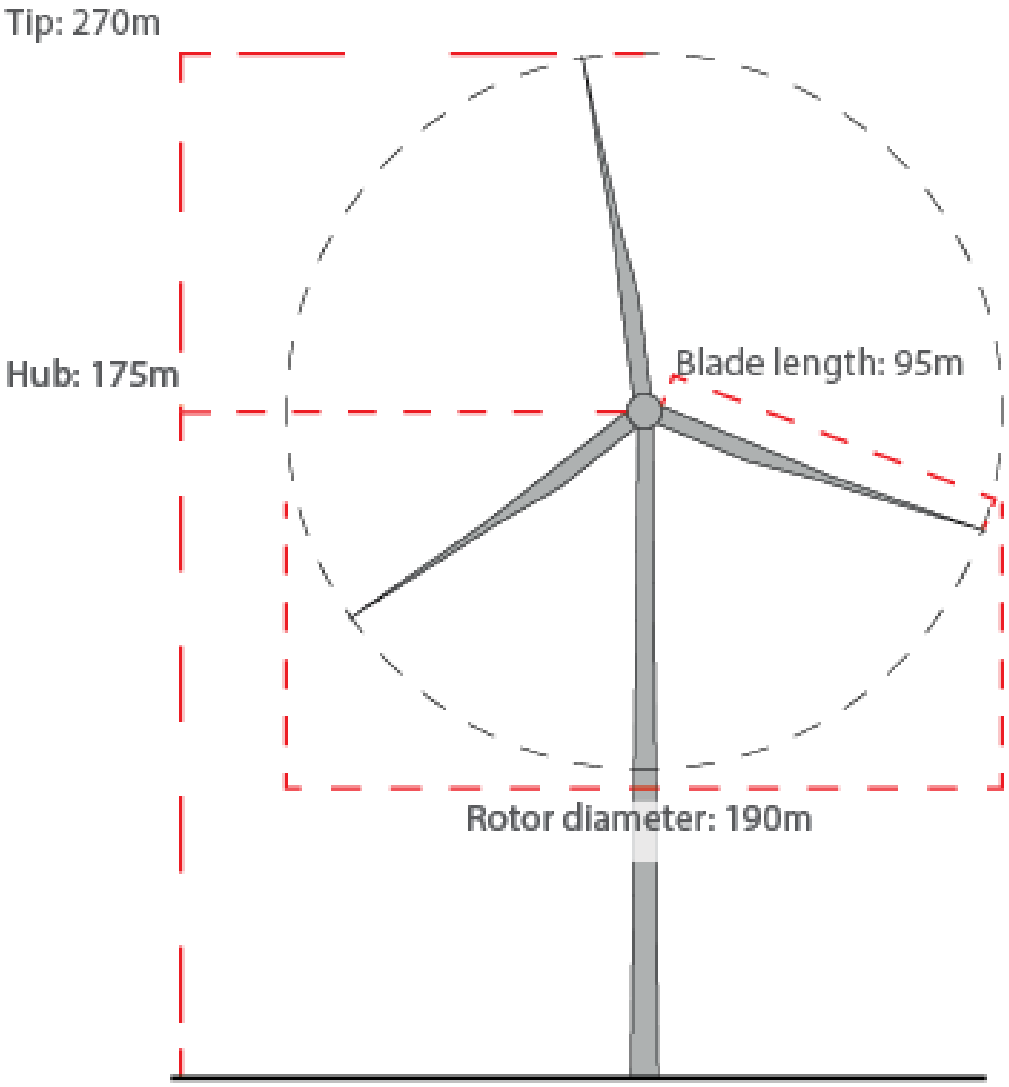


Figure 1 Proposed turbine dimensions (note: the image is not to scale)

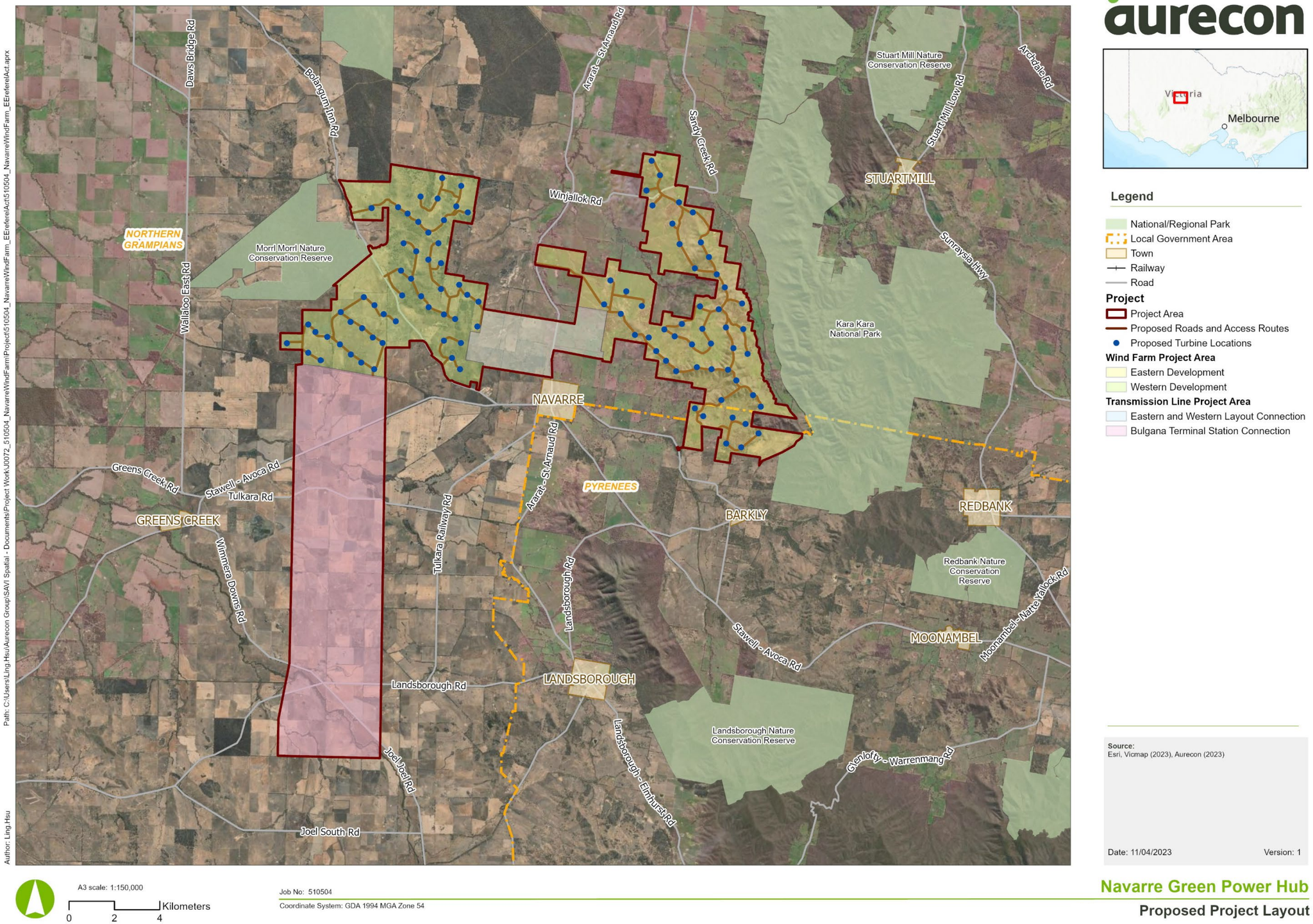


Figure 2 Proposed project layout

3 Regulatory framework

Legislation, policies and guidelines that have been reviewed and that are applicable to this impact assessment are outlined below.

Victorian legislation contains several Acts, policies and guidelines that are relevant to this assessment, including:

- *Environment Effects Act 1978* (see Section 3.1)
- *Planning and Environment Act 1987* (see Section 3.2)
- *Flora and Fauna Guarantee Act 1988* – contribution to places of landscape value (see Section 5.2 Vegetation)
- Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulation 2018 – contribution to places of landscape value (see Section 5.2)
- *Heritage Act 2017* – contribution to places of landscape value (see Section 5.2).
- Policy and planning guidelines
  - Development of wind energy facilities in Victoria, November 2021, Section 5.1.3 Landscape and visual impact
  - Victorian State Planning Policy Framework; Clause 19.01.2S Renewable Energy and Clause 12.05 Significant environments and landscapes
- Local planning schemes (see Section 3.2):
  - Northern Grampian Shire Council
  - Pyrenees Shire Council.

3.1 Environment Effects Act 1978

The EE Act requires an assessment of proposed projects (works) that are capable of having a significant effect on the environment. When deciding if an Environment Effects Statement (EES) is required, the Minister will typically consider:

- The likelihood of regionally or State significant adverse effects on the environment
- The need for integrated assessment of potential environmental effects (including economic and social effects) of a project and relevant alternatives
- If the normal statutory processes would not provide a sufficiently comprehensive, integrated and transparent assessment.

3.2 Planning and Environment Act 1987

The Planning and Environment Act 1987 (P&E Act) provides the framework for land-use and development in Victoria. Planning schemes prepared under the provisions of the P&E Act apply to each municipal area in Victoria.

3.2.1 Planning schemes

The Project is predominantly located within the municipal boundaries of the Northern Grampians Shire and is, therefore, subject to the Northern Grampians Planning Scheme. However, a small portion of the Project is within the Pyrenees Shire Council area and subject to the Pyrenees Planning Scheme.

The relevant planning schemes control the use and development of land and are structured to include:

- Purpose and Vision
- Planning Policy Framework
- Zones
- Overlays
- Particular, general and operational provisions.

Planning Policy Framework

The Planning Policy Framework (PPF) provides a context for spatial planning and decision making in Victoria. Table 3 and Table 4 provide a summary of the key state and local policy consideration as applicable to the PLVIA (refer to Section 7 of the EE Act Referral Form for further details).

The following is a summary of the key clauses of the PPF assessed:

Table 3 Relevant Planning Policy Framework policies

Legislation/Policy reference	Brief description legislation, salient parts and intent	How legislation/policy is relevant to the study
Northern Grampians Clause 12.05-2S Landscapes Pyrenees Clause 12.05-2S Landscapes	Protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environment.	To support the planning objectives, the design should seek to: - Not detract from the natural qualities of significant landscape areas and preserve areas of higher conservation significance. - Maintain the productive agricultural landscape character of the area and the dominance of topography and vegetation. - Retain views to Kara Kara National Park and Morrl Morrl National Park and other landscape features, particularly from identified significant viewing locations and road corridors. - Manage land use, development and infrastructure to: - Conserve and enhance significant landscapes, views and vantage points. - Maintain sequences of views from key transport corridors

Local Planning Policies

The local planning policies contained in the Northern Grampians and Pyrenees planning schemes have been reviewed to identify the policies that are relevant to this assessment, as outlined below:

Table 4 Relevant local planning policies

Legislation/Policy reference	Brief description legislation, salient parts and intent	How legislation/policy is relevant to the study
Pyrenees Clause 12.05-2R Landscapes – Central Highlands	Provide clear urban boundaries and maintain distinctive breaks and open rural landscapes between settlements.	To support the planning objectives, the design should seek to: ■ Not detract from the natural qualities of significant landscape areas and preserve areas of higher conservation significance. Manage land use, development and infrastructure to: ■ Conserve and enhance significant landscapes, views and vantage points. ■ Maintain sequences of views from key transport corridors

Zones and overlays

Zones

The Study Area comprises land use zones including Public Conservation and Recreation Zone (PCRZ) and Rural Conservation Zone (RCZ), as shown in Table 5 and mapped in Figure 3. The Project is predominantly located within Farming Zone (FZ).

Table 5 Land Use zones

Planning Zones	Land Use Features	Relevance to PLVIA
FZ – Farming Zone	Northern Grampians Local Government Aare (LGA): ■ Covering the totality of the Site and adjacent land to the to the north, south and west. Pyrenees LGA: ■ Covering a section of the Site to the south of the Eastern Layout, and adjacent land to the south.	Farmland practices comprise of rearing livestock with creeks within the vast paddocks. These areas have a sense of openness allowing for background views. Dwellings are widely dispersed and typically screened with perimeter windrow planting. Key objective: ■ To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision It is recognised that Farming Zone is a highly modified area and does not specifically refer to matters in landscape and visual amenity.

Planning Zones	Land Use Features	Relevance to PLVIA
PCRZ – Public Conservation and Resource Zone	Northern Grampians LGA: ■ Kara Kara National Park ■ Morrl Morrl Nature Conservation Reserve ■ Little Tottington State Forest ■ Big Tottington Nature Conservation Reserve ■ Mount Bolangum Nature Conservation Reserve ■ Sandy Creek Water Frontage ■ Avoca River Water Frontage ■ Faulker Creek Water Frontage ■ Andersons Creek Water Frontage ■ Howard Creek Water Frontage ■ Heifer Station Creek Water Frontage Pyrenees LGA: ■ Covering Landsborough Hill Nature Conservation Reserve ■ Redbank Nature Conservation Reserve ■ Wattle Creek Water Frontage	The Public Conservation and Resource Zones are located outside of the preliminary Study Area, however these have some influence on the landscape value. Key objective: ■ To protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values.
PPRZ – Public Park and Recreation Zone	Northern Grampians LGA: ■ Navarre Racecourse & Recreation Reserve	Public parks provide local visitors with outdoor amenities for play, sports or for passive recreation. Navarre Recreation sports reserve and grassed oval is typically used by local sports groups and individuals. Key objective: ■ To recognise areas for public recreation and open space
RCZ – Rural Conservation Zone	Northern Grampians LGA: ■ Covering land south of Landsborough Road and located southeast of the Site.	Rural conservation areas are generally scattered located within Conservation and Resource zones and provide comparable landscape value. Key objectives: ■ To protect and enhance the natural environment and natural processes for their historic, archaeological and scientific interest, landscape, faunal habitat and cultural values. ■ To conserve and enhance the cultural significance and character of open rural and scenic non-urban landscapes.

Overlays

The Site is subject to significant overlays including Bushfire Management (BMO) to the centre and north, Floodway (FO) and Land Subject to Inundation (LSIO) to the southwest as shown in Figure 4. Table 6 identifies those overlays within Study Area and their relevance to this assessment.

Table 6 Planning overlays

Planning Overlays	Land Use Features	Relevance to PLVIA
Land Subject to Inundation Overlay (LSIO)	Upper Wimmera River and its tributaries including: ■ Heifer Station Creek ■ Greens Creek ■ Wattle Creek ■ Six Mile Creek ■ Howard Creek	Creeks and waterbodies represent a significant landscape feature and are distinctive natural fixtures that define landscape value.
Specific Controls Overlay (SCO)	To the south of the Site, extending across land north of Landsborough Road, south of Joel South Road and west of Joel Joel Nature Conservation Reserve.	Schedule 2 to the Specific Controls Overlay is the East Grampians Rural Pipeline Project Incorporated Document (December 2021). ■ The SCO refers to the use and development of the land associated with the East Grampians Rural Pipeline Project and is of no relevance to landscape or visual values.
Environmental Significance Overlay (ESO)	To the south of the Site, an Environmental Significance Overlay is across undulating ridges adjacent to Landsborough Road Concogella, and south of Joel Joel Nature Conservation Reserve.	Schedule 1 to the Environmental Significance Overlay relates to Significant Ridge Environs. These significant ridges are at the highest land in a municipality, and display erosion characteristics and are susceptible to further environmental degradation. Key objectives relevant to landscape and visual values: ■ Maintain the natural beauty of the ridge system. ■ To maintain the landscape qualities of the ridge system especially when viewed from surrounding areas.

Planning Overlays	Land Use Features	Relevance to PLVIA
Bushfire Management Overlay (BMO)	Main areas under Bushfire Management Overlay are: ■ Kara Kara National Park ■ Morrl Morrl Nature Conservation Reserve ■ Little Tottington State Forest ■ Big Tottington Nature Conservation Reserve ■ Mount Bolangum Nature Conservation Reserve ■ Joel Joel Nature Conservation Reserve ■ Landsborough Hill Nature Conservation Reserve Other smaller and scattered areas under BMO are located: ■ Within the Study Area in the north, east, and south, on vegetated linear parcels, some of which follow creek beds	Highly flammable dry eucalypt forest and expanses of highly flammable grassland is a factor that influence the high bushfire risk in Victoria. Key objectives: ■ To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented. ■ Screening mitigation measures are to consider bushfire protection zones (BPZ) in relation to existing dwellings.
Heritage Overlay (HO)	Northern Grampians LGA: ■ HO305 The Woolshed, Tottington Homestead and Stone Cottage	The Homestead is associated with early pastoralism in the district. Views of the homestead and farm buildings are within close proximity of the heritage elements.

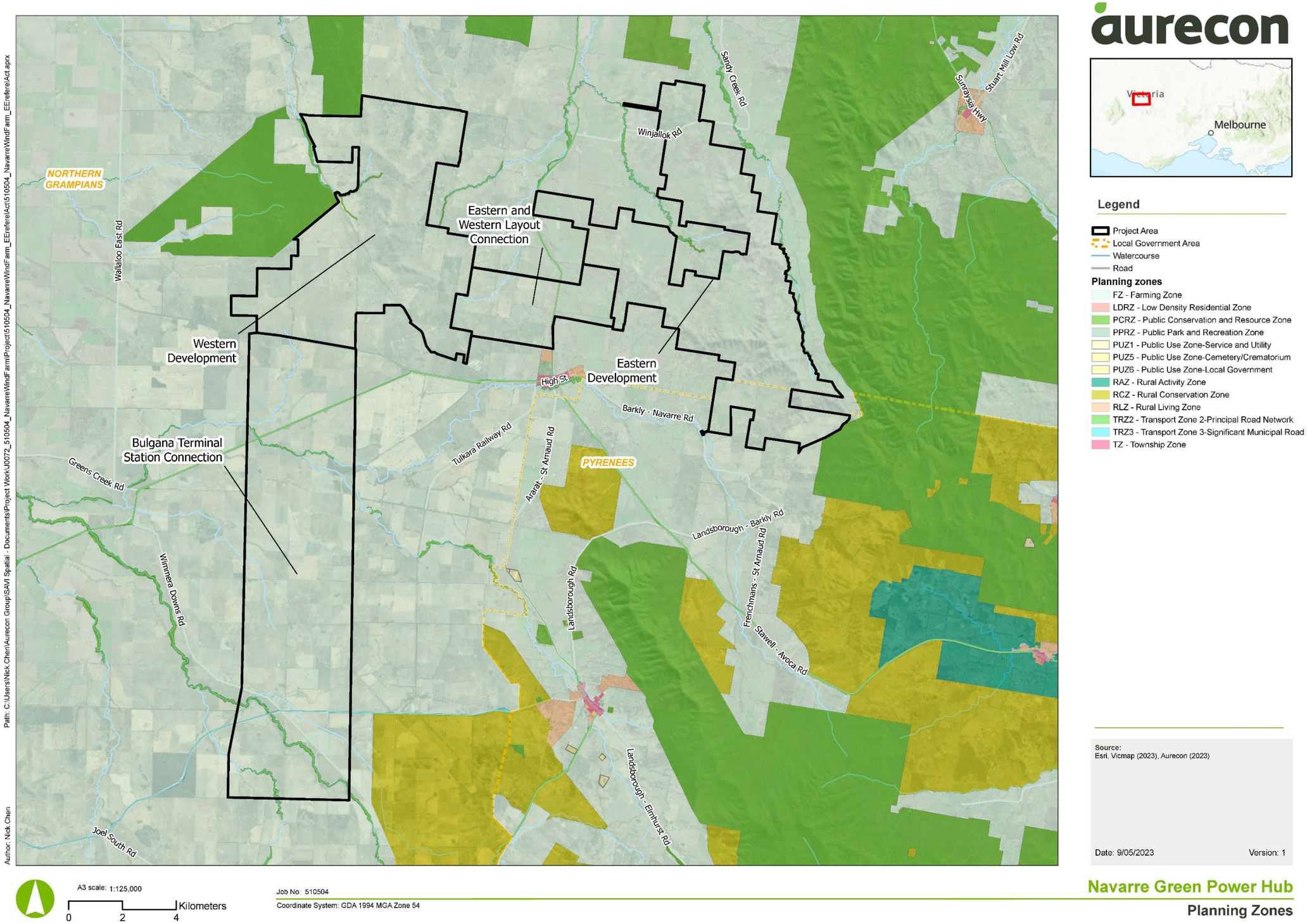
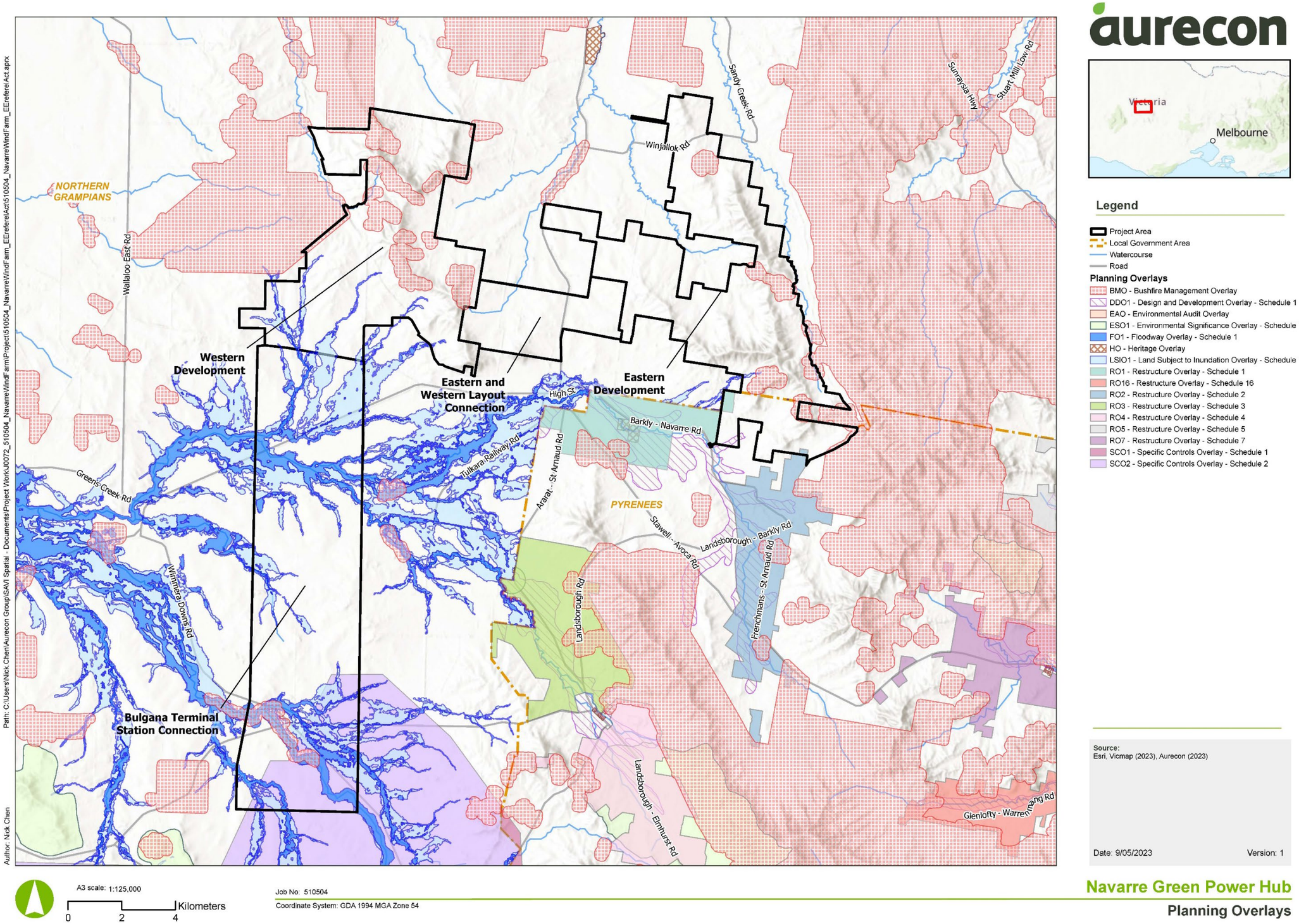


Figure 3 Land Use Zones



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Legend

- Project Area
- Local Government Area
- Watercourse
- Road

Planning Overlays

- BMO - Bushfire Management Overlay
- DDO1 - Design and Development Overlay - Schedule 1
- EAO - Environmental Audit Overlay
- ESO1 - Environmental Significance Overlay - Schedule 1
- FO1 - Floodway Overlay - Schedule 1
- HO - Heritage Overlay
- LSIO1 - Land Subject to Inundation Overlay - Schedule 1
- RO1 - Restructure Overlay - Schedule 1
- RO16 - Restructure Overlay - Schedule 16
- RO2 - Restructure Overlay - Schedule 2
- RO3 - Restructure Overlay - Schedule 3
- RO4 - Restructure Overlay - Schedule 4
- RO5 - Restructure Overlay - Schedule 5
- RO7 - Restructure Overlay - Schedule 7
- SCO1 - Specific Controls Overlay - Schedule 1
- SCO2 - Specific Controls Overlay - Schedule 2

Source:
Esri, Vicmap (2023), Aurecon (2023)

Date: 9/05/2023 Version: 1

Navarre Green Power Hub

Planning Overlays

Figure 4 Planning Overlays

4 Methodology

4.1 Approach to the assessment

The preliminary visual assessment assesses the overall and broader landscape impacts of the Project and forms part of the referral under the EE Act.

The preliminary visual assessment comprises a desktop evaluation of the Project and its various components, turbines and ancillary facilities as well as identifying sensitive viewpoints with potential of higher impacts.

This assessment examines the existing landscape and visual conditions of the Study Area (both physical and statutory) to establish a baseline against which potential impacts of the Project can be assessed.

4.1.1 PLVIA guidelines

The project methodology is derived from existing best practice in landscape and visual impact assessment with reference to:

- Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, November 2021, Section 5.1.3 Landscape and visual impact
- The Guidance for Landscape and Visual Impact Assessment, Third Edition, 2013, prepared by the Landscape Institute and Institute of Environmental Management & Assessment, UK
- Best practice guidelines for implementation of wind energy projects in Australia (Auswind, Dec 2006)
- Wind farms and Landscape values: National Assessment Framework (Australian Wind Energy Association and Australian Council of National Trusts, June 2007)
- NSW Wind Energy Visual Assessment Bulletin, 2016 (VIA Bulletin)
- Planning and Environment Act 1987
- relevant Local Planning Policy Framework and zoning informed by the Northern Grampians and Pyrenees Planning Schemes.

4.2 Study Area

The extent of the LVIA Study Area is determined by the distance at which it is considered that the turbines (as the tallest Project elements), will become either indiscernible to the human eye, or will occupy such a small proportion of the visual field of view that impacts could be considered negligible. This distance is directly related to the size of the turbines and the viewing properties of the typical human eye.

The Study Area is defined as the point at which a turbine occupies <5% of the vertical field of view of the human eye (at a typical 10-degree detailed vertical field of view when standing, this equates to a viewing angle of 0.5 degrees). This equates to a viewing distance of 31km for turbines at 270m height. Beyond this distance, whilst the turbines may be visible to the naked eye, it is considered that the magnitude of change within the broader landscape would be imperceptible to the typical viewer.

For the purpose of this preliminary LVIA, the Study Area where the potential effects are likely to be more acute for both landscape and visual effects is used. Therefore, the Study Area has been concentrated within a 3.6 km buffer from the Project boundary, as guided by the VIA Bulletin (see Figure 5).

This provides an early indication of where placement of turbines will require further assessment and justification, and where consultation with potentially affected landowners needs to be undertaken.

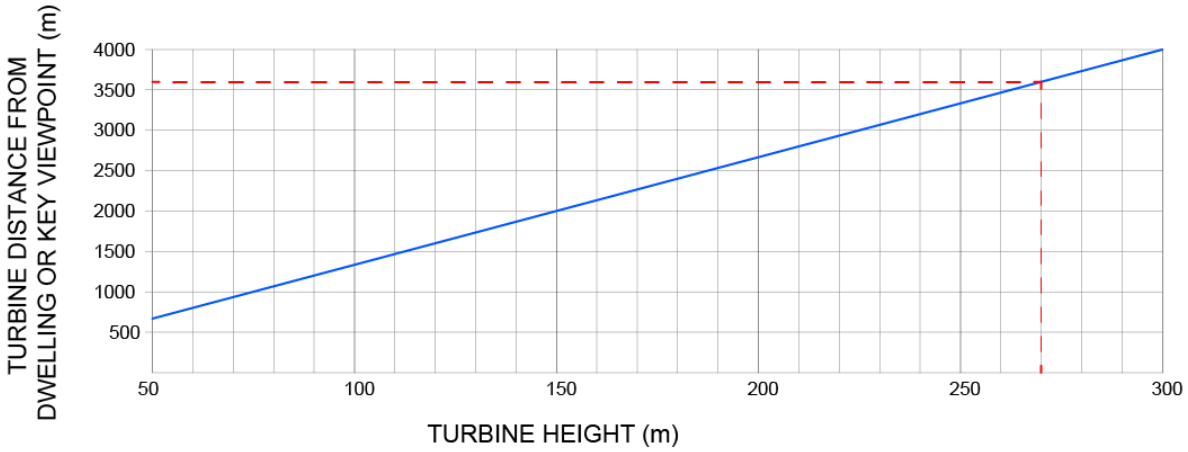


Figure 5 Graph indicating Study Area distance for PLVIA (reproduced from VIA Bulletin)

4.2.1 Zone of Theoretical Visual Influence

Within the Study Area, the production of a ZTV mapping, illustrates the theoretical area from which the mapped components could be visible.

Based on the height of the proposed turbines, the zone of theoretical visibility (ZTV) is up to 31 km, which is the broader extent of the Study Area. However, in this preliminary assessment, the objective is to identify landscape and visual impacts of higher perceived risk. At distances in excess of 3.6 km, turbines may still be visible but will result in a lower level of perceived visual significance.

Three ZTV mapping analysis (refer Section 6.2 for ZTV) were undertaken to provide a preliminary representation of the likely 'worst case' visual envelope of the wind turbine layout currently under investigation. These mapping outputs illustrate the number of wind turbines potentially visible from within the Study Area for the following wind turbine elements (refer Figure 6):

- Entire height of turbine at 0-270 metre (m)
- Swept path of rotor to tip height at 96-270m
- Hub to tip height at 175-270m

It should be noted that the outputs of these ZTV maps are limited, and do not take into account the screening effect of intervening vegetation or built form, and therefore provide the worst case for the theoretical extent of visibility of the wind turbines. They are therefore used primarily to guide the desktop studies and inform future site visit work.

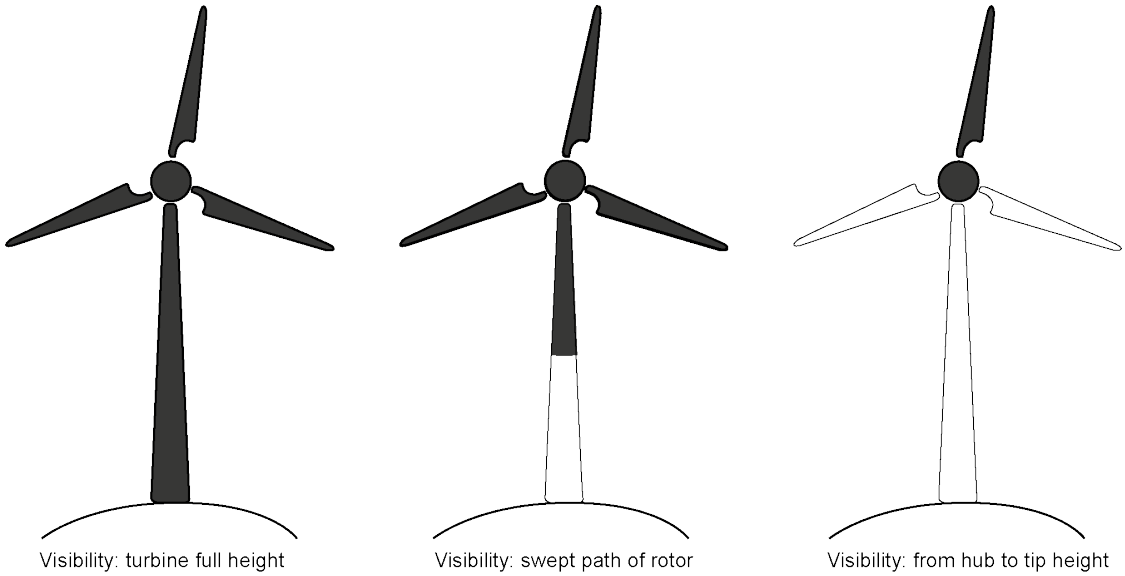


Figure 6 Potential visibility of turbines generated within the ZTV mapping (note: diagram is not to scale)

4.2.2 Cumulative impact Study Area

At 8 km, turbines are likely to visibly recede into the background. A distance of 8 km from a dwelling or public viewpoint, has been used for the analysis of cumulative impacts.

To establish whether the degree to which dwellings or key public viewpoints may be impacted by multiple wind turbines, the location in which wind turbines are potentially visible from the representative viewpoint are mapped within 360º. Should wind turbines be visible in 3 or more 60º sectors (see Figure 7), the potential cumulative impacts of multiple turbines are considered as part of the referral under the EE Act.

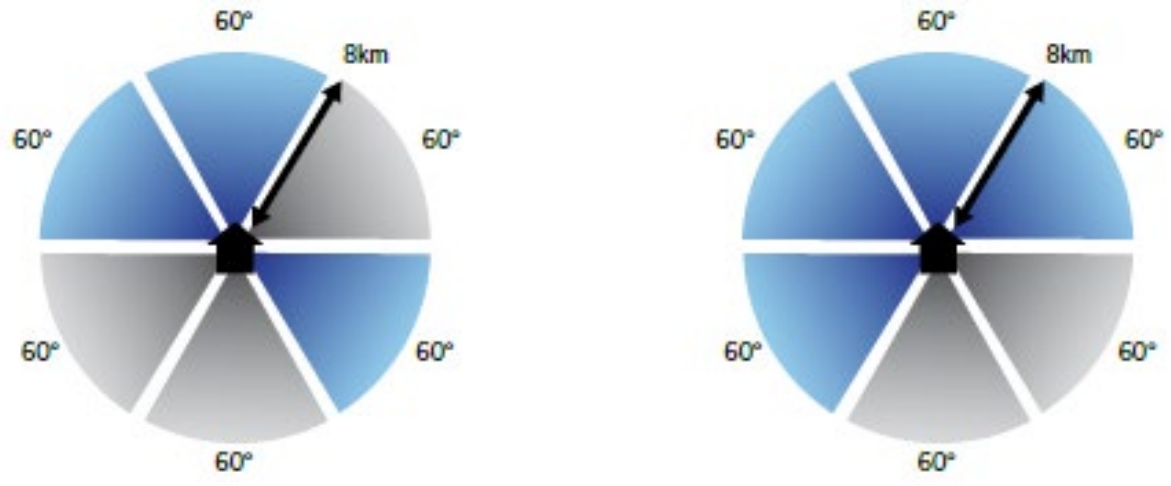


Figure 7 Cumulative assessment tool indicating multiple wind turbines within sectors (source: VIA Bulletin)

4.3 The assessment method

The level of visual impact resulting from the proposed development has been assessed against the following components:

- Visual sensitivity made up of the following:
  - Viewer sensitivity: the sensitivity of the viewer to the development/change and distance from the viewpoint
  - Landscape sensitivity: the ability of the landscape setting to absorb the development/change.
- Scale of modification: how well the development/change contrasts or blends with the surrounding land use based on varying levels of visual prominence.

Establishing the level of visual impact involves assigning levels of visual sensitivity and modification such as high, medium, low or very low. A determination matrix is then used to assign an overall level of visual impact.

4.3.1 Baseline analysis

A visual baseline study establishes the existing landscape and visual conditions. The baseline study should consider the following inputs in the 'visual catchment' for the Project:

- Elements of the landscape important to the community, including public and private viewpoints
- The sensitivity of the viewers who use those viewpoints, and the distances at which they may view the landscape and potential wind turbines and other ancillary facilities
- The character of the landscape involved its key features and the relative scenic quality of the area
- The location of any existing operational or approved wind energy projects within both a regional and local context, including any nearby surrounding wind energy projects within 8 km which may have the potential to create direct or indirect visual impacts between the Project and any other operational, approved wind energy projects.

4.4 Visual sensitivity

Visual sensitivity is composed of two parts: viewer sensitivity and landscape sensitivity.

4.4.1 Viewer sensitivity

Viewer sensitivity is a measure of how critically a change to the existing landscape setting would be regarded based on the land use of the area and the distance from where the change is viewed.

Various landscape settings have differing indexes to the relative importance the viewer places on them. For example, individuals would view changes to the visual setting of their residence more critically than changes to the visual setting in which they travel or work.

As such, levels of viewer sensitivity are based on land use because this largely defines a viewer's expectation of what they would typically expect within a particular setting. This approach is consistent with a Scenic Management System (Landscape Aesthetics – A Handbook for Scenery Management, United States Department of Agriculture& Forest Service, 1995).

As outlined in Appendix C, as the distance increases from the land use area the field of view decreases causing the visibility of the Project components to diminish or be absorbed in the landscape setting. Consequently, as distance from the viewer to the proposal increases, the level of viewer sensitivity reduces.

Table 7 outlines three viewer sensitivity levels that classify estimated viewer sensitivity levels (source: Visual Bulletin, 2019).

Table 7 Viewer sensitivity level

Sensitivity level	Description
High	■ Residential areas and rural villages ■ Recreation, cultural or scenic sites and viewpoints of National or State significance. ■ Any buildings, historic rural homesteads/residences on the State or local Government Heritage List
Moderate	■ Rural dwelling ■ Tourist and visitor accommodation ■ Recreation, cultural or scenic sites and viewpoints of regional significance
Low	■ Interstate and state passenger rail lines with daily daylight services ■ State highways, freeways and classified main roads, classified tourist roads ■ Land management roads with occasional recreation traffic ■ Walking tracks of moderate local significance or infrequent recreation usage ■ Other low use and low concern viewpoints and travel routes ■ Navigable waterways.

The next critical component to rating the viewer sensitivity is the distance of the Project element from the identified viewpoint as provided in Table 8.

Table 8 Visibility distance zones

Distance of view	Distance zone
0 – 500 m	Near foreground
500 m – 1 km	Mid foreground
1 – 2 km	Far foreground

Distance of view	Distance zone
2 – 4 km	Near middleground
4 – 8 km	Far middleground
8 – 12 km	Near background
12 – 20 km	Mid background
20 – 32 km+	Far background

4.4.2 Landscape sensitivity

To understand the sensitivity of a landscape and its ability to absorb change, landscape character types (LCTs) need to be identified and defined. Identifying the LCTs of an area provides the basis for understanding the features that are important, and how different types of development would sit within a particular landscape.

LCTs are defined based on physical characteristics such as:

- topography
- vegetation
- drainage patterns
- geology
- land use patterns.

Once the LCTs are defined, an assessment of how well the landscape units are able to accommodate or absorb change, is undertaken. The key factors considered in determining a LCTs absorptive capability are:

- topographic variation
- presence of and patterning of vegetation and density
- human modification such as presence of built from and/or extensive clearly resulting in a highly altered landscape.

In areas of elevated topography with no or lowland vegetation, unobstructed views towards a proposed development is highly likely. The ability for the setting to absorb the development and/or screen views using vegetation for example would be hard to achieve. Consequently, the ability to absorb the development in this scenario would be very low.

In areas where there are bands of dense vegetation in the surrounding landscape or the presence of built form that inhibit views towards the proposed development, the setting would have a greater capacity to absorb change compared to a cleared, expansive landscape or no structures.

Areas that contain signs of human modification such as farming land and industrial areas are typically not considered as high-quality landscape settings compared to natural landscapes such as mountain ranges. As such, the higher level of human modification, the greater capacity the landscape has to absorbing change.

The absorptive capability levels relating to landscape sensitivity are outlined in Table 9.

Table 9 Landscape absorptive capability level

Landscape absorptive capability level	Description
Very Low	■ The extent of alteration would result in the landscape losing significant natural landscape features, its character and/or sense of place. ■ Open, expansive and bare landscapes. ■ Elevated, bare and/or groundcover vegetation. ■ The viewer is highly sensitive to changes in their immediate surroundings such as residents or 'natural' areas such as National Parks.
Low	■ The extent of alteration would result in the landscape partially losing some natural or designed landscape features, its character and/or sense of place. ■ Open, expansive and moderately vegetated landscapes including canopy trees. ■ Elevated and vegetation landscape including canopy trees. ■ The viewer is moderately sensitive to changes in their immediate surroundings such as users of regional and local reserves.
Moderate	■ Modified landscapes with an abundance of built form and limited natural characteristics. ■ Built-up landscapes typically interspersed with canopy trees. ■ The viewer is aware of the change but not overly sensitive to changes in their immediate surroundings such as users of commercial areas and farming land.
High	■ Highly modified and/or degraded landscapes with limited to no natural characteristics. ■ Undulating or elevated topography with dense tree cover. ■ The viewer is not critical/sensitive to changes in their immediate surroundings such as roads and industrial areas.

4.5 Assigning a level of visual sensitivity

The visual sensitivity is a result of combining the viewer sensitivity level with the landscape absorptive capability level using the visual sensitivity determination matrix illustrated in Figure 8.

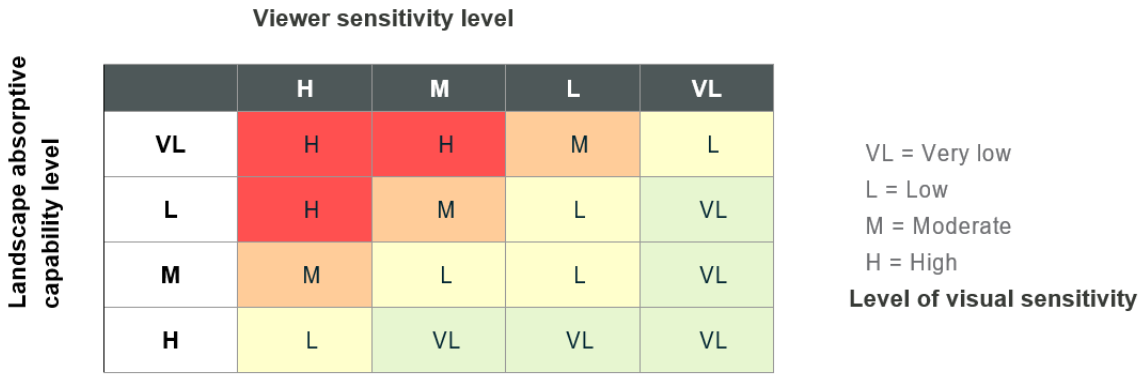


Figure 8 Visual sensitivity determination matrix

4.5.1 Visual modification

Visual modification is not easily predicted objectively, and interpretation and professional judgment is applied. A clear picture of the modification is determined from a combination of the degree of change to the

view due to the project including the extent of the area over which changes would be visible, the period of exposure to the view and reversibility.

The assessment of visual modification is based on the project description outlined in Section 2.2.

Table 10 outlines the categories of modification used for determining the degree of visual modification, potentially resulting from the Project.

The key considerations in determining the level of visual modification as outlined in Table 10 include:

- Size and scale
- The scale of the change in the view with respect to the loss or addition of features in the view, and changes to the composition including the proportion of the view occupied by the project components
- The degree of contrast or integration of the project components in the landscape setting with the existing or remaining elements including form, mass, line, height, colour, texture and materiality
- The nature of the view towards the project components in terms of duration of the view
- Geographical extent
- The angle of the view in relation to sensitive land use
- The distance of the viewpoint from the project component(s)
- The extent of the area over which the changes would be visible.

Table 10 Criteria for determining the visual modification level

Modification Level	Description
High	The proposal is highly visible and intrusive in regard to the size, scale and geographical extent, and would disrupt views currently experienced from sensitive land use areas and/or strongly contrasts with the existing landscape setting which has limited capacity for change and/or the extent of area over which the changes would be visible from sensitive land use areas is significant.
Moderate	The proposal partially intrudes in regard to the size, scale and geographical extent or somewhat obstructs current views from sensitive land use areas and/or a noticeable compositional change to the existing landscape setting in which there is moderate capacity for change and/or the extent of area over which the changes would be visible from sensitive land use areas is moderate.
Low	The proposal is barely perceptible resulting in minor deterioration to the view currently experienced from sensitive land use areas; and/or results in a small change to the existing landscape setting in which change is possible without harm and/or the extent of area over which the changes would be visible from sensitive land use areas is limited.
Very low	There is minimal compositional contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the proposal and the environment in which it sits. In this situation, the proposal may be noticeable, but does not markedly contrast with the existing landscape setting and/or the extent of area over which the changes would be visible from sensitive land use areas is negligeable.
Not apparent	There are no views of the proposal components and as such, there is no impact.

4.5.2 Assigning a level of impact

The visual impact therefore is a result of combining the visual sensitivity level with the degree of visual modification using the visual impact determination matrix illustrated in Figure 9.

The consequence of the application of the matrix is that (except where the project cannot be seen) the project would have some adverse impact, whether low, moderate or high, depending on the level of visual modification and viewer sensitivity from the location at which the Project can be viewed.

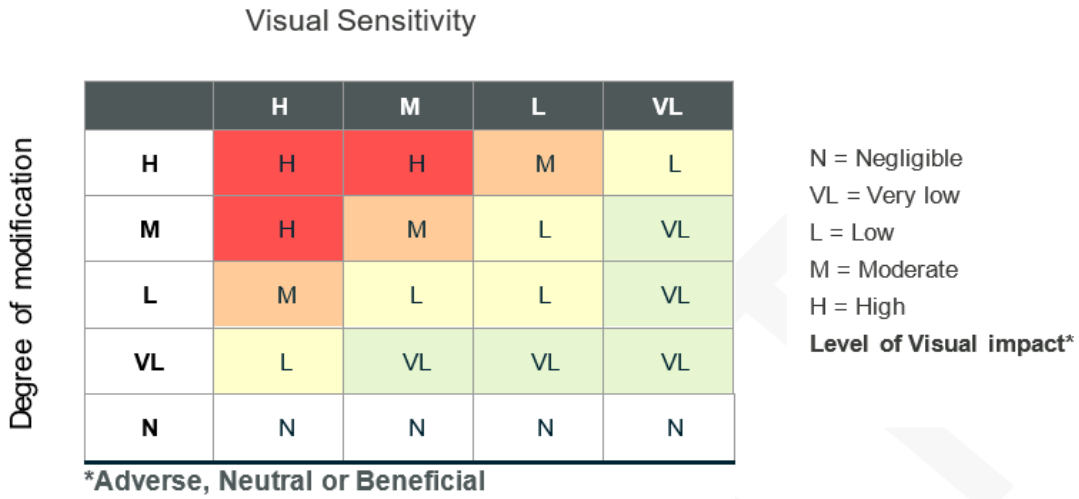


Figure 9 Impact determination matrix

4.6 Production of preliminary renders

The Navarre renders were created using Infraworks modelling software for the modelling of site terrain, built form and turbines. The site terrain was created using the most recent highest resolution DEM and aerials including:

- West site used publicly available data at 10m resolution, sourced from Elvis[1]. Aerial imagery was extracted from an Esri basemap[2].
- East site was scanned with LiDAR at 1m resolution. This also included 0.4m resolution imagery capture.

Existing vegetation is not included in the model therefore the indicative view is representative of the worst-case scenario.

A 3D model of the proposed turbine layout was included in the terrain model. Turbine locations were determined through numerous iterations after considering energy production, constructability, vegetation and wildlife impacts. Ecologists, Nature Advisory, were consulted throughout the design phase.

A representative turbine was created for use in the Infraworks model. The representative turbines may have inaccurate blade and tower diameter (blade length 90m and height to hub 180m), however are indicative of the scale and height of proposed turbines.

Snapshot points are brought in at the exact viewpoint coordinates, at a viewing height of 170cm above ground level (to represent eye level) and angled in the direction towards the closest Project turbines. The indicative render is exported using a wide angle (120 degrees) to produce a panoramic view indicative of a 35mm lens panoramic photo.

[1] https://elevation.fsdf.org.au/
[2] https://services.arcgisonline.com/ArcGIS/rest/services/World_Imagery/MapServer

5 Landscape context

5.1 Regional landscape context

The Project is located in north-western Victoria, approximately 37 km northeast of Stawell, in the Northern Grampians and Pyrenees LGAs. Navarre is a small rural village within a broader landscape typically consisting of cropping and grazing land.

The majority of the Site is cleared of vegetation, with scattered native trees throughout and a higher density of trees to some creeks. The Site has many adjacent National Parks (NP) and Nature Conservation Reserves (NCR), including Kara Kara NP (east), Morrl Morrl NCR (west) and Mount Bolangum Nature NCR (north).

Other existing wind farms are located to the south of Navarre include Bulgana (20 km southwest of Navarre) and Crowlands (24 km south of Navarre).

Bulgana Green Energy Hub comprises 56 wind turbines at 114m height (to blade tip), battery energy storage and a terminal station, in operation since August 2019. Crowlands wind farm has 39 wind turbines at 146.5m height (to blade tip) and became operational in January 2019. Additionally, Challicum Hills Wind Farm (53 km south), previously Australia's largest wind farm in 2003 comprising 64 turbines with a maximum blade tip height of 100 m. Wind farms are familiar to the region surrounding Stawell and Ararat for 20 years.

5.2 Study Area landscape context

The following section provides a brief description of the existing conditions, associated land uses and key landscape features within the 3.6 km radius Study Area.

5.2.1 Land use

Land use in the Study Area predominantly consists of agricultural land, with several fragmented reserves supporting native vegetation occurring within the surrounding district. The Site is predominantly used for small scale grazing (Figure 10 – Figure 11.).

There are conservational reserves and national parks within the Study Area including:

- Kara Kara National Park (Figure 12) – an Aboriginal Title Park jointly managed by the Djaara (Dja Dja Wurrung Clans) Aboriginal Corporation and Parks Victoria.
  - A scenic drive (four-wheeled drive vehicles) is located to the top of the park along Centre Road Nature Drive from Wimmera Highway just out of St Arnaud.
  - Within the National Park is Rostron Bushland Reserve picnic area and small walks.
- Morrl Morrl NCR (Figure 13)
- Mount Bolangum NCR – Ridge track to the summit
- Big Tottington NCR

There are also several small bushland reserves comprising areas of indigenous vegetation.

These reserves are managed by Parks Victoria and are places of conservation for indigenous flora and fauna. Formalised public access including walking or mountain-biking tracks, picnic and camping areas are featured at Kara Kara NP, Mount Bolangum NCR and Rostron Bushland Reserve only, although some areas may be used by recreation four-wheel driving.

Figure 10 Farm dwelling– Morrl Morrl NCR in the background of the view (image: commercialrealestate.com.au / 240 Valley View Road)

Figure 11 Rural pasture near Greens Creek (image: commercialrealestate.com.au / 240 Valley View Road)

Figure 12 Kara Kara National Park hut (source: ParksVic)

Figure 13 Morrl Morrl NCR (source: Birdlife Australia)

5.2.2 Villages and settlements

Navarre is a rural village located south of the Project, situated at the junction of roads to Ararat, Stawell, St Arnaud and Avoca. It comprises residential dwellings on large lots, a primary school, public hall, two churches, a recreation reserve and a general store (see Figure 14 and Figure 15). At the 2021 Census, a population of 99 residents was recorded. It is a farming community, surrounded by agricultural land. The village was originally on a stock route and then a stopping point for miners. A railway line was closed in 1954 with little evidence of it today.

Other settlements within the Study Area include Paradise, Tottington, Greens Creek and Barkly. These are not readily identified when driving on local roads in which these are accessed. The settlements typically comprise intersecting roads, a dwelling and a church or hall.

Figure 14 Navarre Hall and War Memorial, 2002 (Source: Victorianplaces.com.au)

Figure 15 Navarre Football and Netball Club

5.2.3 Topography, landform and waterways

The Project is proposed on two hill ranges at approximately 300 m Australian Heigh Datum (AHD). These are fairly low-lying undulating hills which do not form significant features in the area. The highest point to the west range is Navarre Hill (Figure 16) at 411m AHD and Mount Stricta to the east at 374m AHD.

There is a higher hill range to the east of the Site at approximately 630 m AHD within Kara Kara National Park, and Landsborough Hill at 580 m AHD to the southeast. Mt Bolangum to the north is a featured peak within the Great Dividing Range, at 372 m AHD. The surrounding area is flat to undulating.

To the south of the Site, a flood overlay surrounds Wattle Creek (Figure 17), Greens Creek and tributaries, in the Wimmera River catchment and in a low-lying area. The creeks are ephemeral waterways, with greater density of native trees including River Red Gums.

There are a number of man-made farm dams within rural properties (see Figure 10). Refer Appendices for Topography and Hydrology mapping.

Figure 16 View towards Navarre Hill (source: onthehouse.com.au/ 3131 Bolangum Inn Rd)

Figure 17 Wattle Creek at Navarre

5.2.4 Vegetation

The type, spread and density of vegetation within the Study Area, contributes to the landscape character and extent of views (enclosed or expansive). The Project is within the Bioregion of Goldfields and Wimmera. Box Ironbark Forest, Heathy Dry Forest and Grassy Dry Forest ecosystems dominate the lower slopes or poorer soils. The granitic and sedimentary terrain is dominated by Grassy Woodlands much of which has been cleared.

Forests and open woodlands dominate the conservation reserve areas. Vegetation types in the park include Heathy Dry Forest, Grassy Dry Forest, Valley Grassy Forest, Alluvial Terraces, Herb-rich Woodland and Box-Ironbark Forest.

Cleared areas contain exotic grasses and crops for grazing.

For further information refer to the Flora, Fauna and Targeted Threatened Species Assessment (Nature Advisory, 2023).

Refer Appendix A for Vegetation Mapping.

5.2.5 Cultural heritage

For further information refer to the Heritage Due Diligence Assessment (Aurecon, 2023).

Cultural heritage contributes to the ‘sense of place’ and can identify areas of higher sensitivity. Elements of cultural heritage may be physical such as buildings or bridges; though may be areas considered sacred or where there is no longer any physical trace.

Aboriginal cultural heritage

The Site overlaps with two appointed Registered Aboriginal Party (RAP) areas. These include Barengi Gadjin and Dja Dja Wurrung. The Site also includes a land component where an appointed RAP does not currently exist. This part of the Project would be evaluated by First Peoples-State Relations (FP-SR), the state government administrative body.

Sections of the Project are located within areas of Cultural Heritage Sensitivity (CHS). Notably, these areas are located within 200 m of rivers and creeks such as Andersons Creek, Faulker Creek, Avon Creek, Paradise Creek, Reed Creek, Sandy Creek, Cherry-Tree Creek, Wattle Creek, Howard Creek, Greens Creek and Richardson Creek.

Areas of CHS are also located on land within 50 m of registered cultural heritage places.

Non-Aboriginal historical heritage

The Heritage Act 2017 (Heritage Act) provides protection and conservation of places and objects of cultural heritage significance. It establishes two registers, the Victorian Heritage Register (VHR) and the Victorian Heritage Inventory (VHI).

A review of the relevant historic heritage registers was undertaken and identified 8 registered historic heritage places and one heritage overlay located within the Study Area. There are also several historic features associated with early gold mining and forestry work within the broader ‘Goldfields’ area.

Table 11 lists non-Aboriginal heritage sites.

Table 11 Heritage sites within PLVIA Study Area

Key elements	Relevance to PLVIA
Northern Grampians LGA: ▪ HO305 The Woolshed, Tottington Homestead and Stone Cottage	The Homestead is associated with early pastoralism in the district. Views of the homestead and farm buildings are within close proximity of the heritage elements.

Key elements	Relevance to PLVIA
Northern Grampians LGA: ■ H7423-0085 Landsborough Road House Run	The ruined house is representative of the early selecting families in the district from the 1860s onwards, working the land and developing primary industry. Other components of the site include exotic trees, a scatter of handmade bricks and fragmented historic artefacts (e.g. ceramics), and a dilapidated cart.

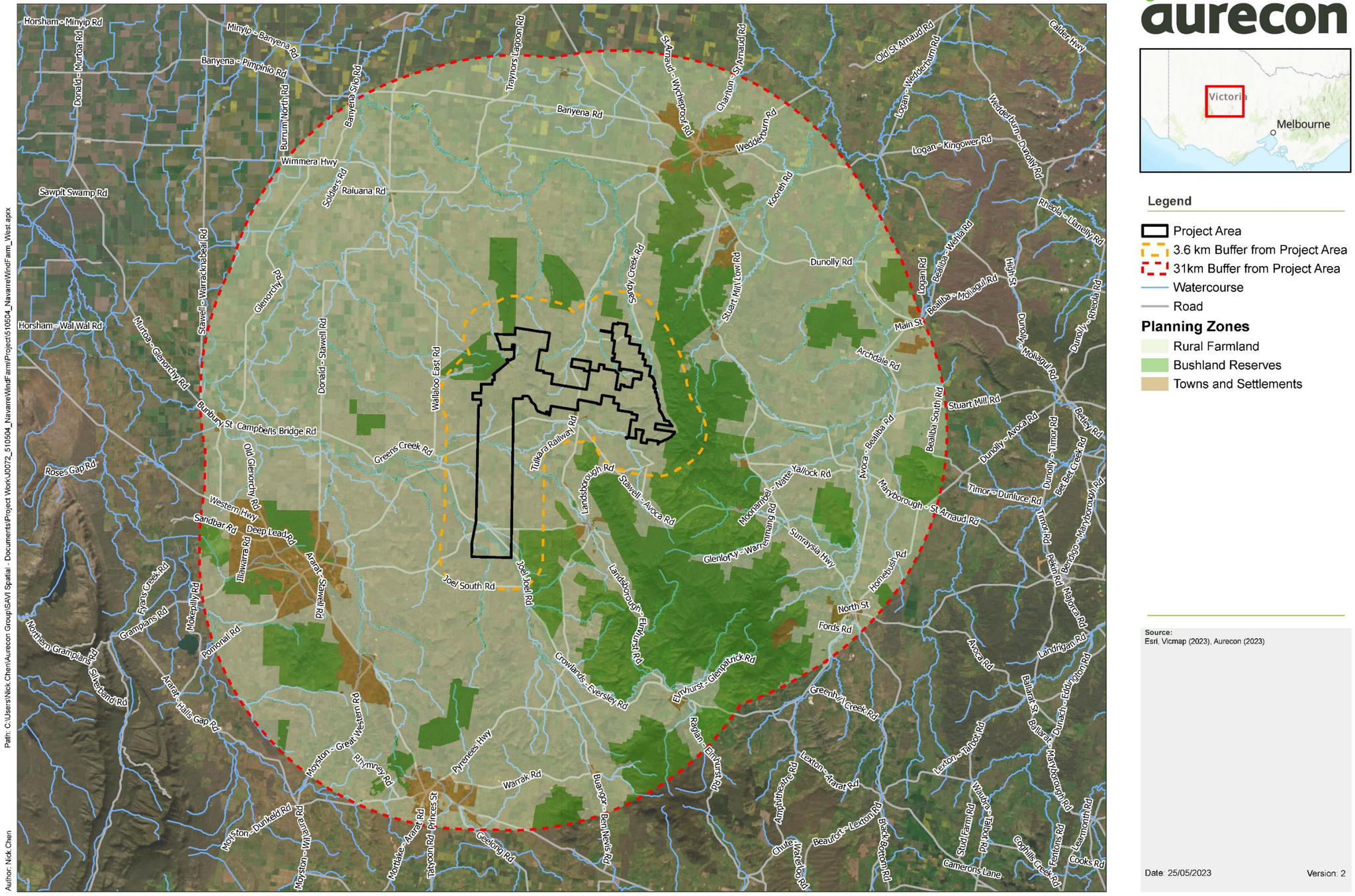
6 Baseline analysis

6.1 Landscape character types

LCTs help to identify unifying aspects of the landscape and distinguish why one landscape is visually distinct from another. The character zones have been determined through a desktop assessment, with each character type identified is based on the consideration of the following attributes:

- landscape value, i.e. landscape designated for their scenic or landscape importance or valued recreational function
- landscape elements that contribute to defining character, i.e. residential, commercial and landform
- landscape character attributes, including scale, grain, perceptual characteristics such as connection to natural landscape, industrial nature of the area
- observed land uses and current and future land use zones outlined in strategic planning documents and Local Environmental Plans
- topography and vegetation.

The LCTs identified within the Study Area are shown in Figure 18 and include LCT 1 – Rural farmland, LCT 2 – Bushland reserves and LCT 3 – Towns and settlements, as described in the following sections. Roads are assumed to take on the character of adjacent LCTs.



Legend

- Project Area
- 3.6 km Buffer from Project Area
- 31km Buffer from Project Area
- Watercourse
- Road

Planning Zones

- Rural Farmland
- Bushland Reserves
- Towns and Settlements

Source:
Esri, Vicmap (2023), Aurecon (2023)

Date: 25/05/2023 Version: 2

A3 scale: 1:400,000

0 5 10 Kilometers

Job No: 510504

Coordinate System: GDA 1994 MGA Zone 54

Navarre Green Power Hub

Landscape Character

Path: C:\Users\Nick.Chen\Aurecon Group\SAVI Spatial - Documents\Project Work\J0072_510504_NavarreWindFarmProject\510504_NavarreWindFarm_West.aprx

Author: Nick.Chen

Figure 18 Landscape Character Types within Study Area

6.1.1 LCT 1: Rural farmland

LCT 1 is a rural landscape within and surrounding the Study area with undulating topography, scattered with metamorphic rocks which have formed steep peaks and ridges.

It is pastoral land predominantly used for animal (sheep and cattle) grazing, with cropping as a dominant land use along the transmission line route and in the southwestern portions of the site. Large sheds to the west of Navarre, comprise hen and egg farms. Supporting farm infrastructure includes fencing, sheds, silos and machinery. There are rural dwellings spotted around the area.

There are scattered native trees and shelter belts of vegetation, which include native eucalypts typically located to the perimeter of paddocks and within road reserves.

The rural landscape is traversed by numerous ephemeral creeks, small ponds and farm dams.

There are many unsealed roads used for accessing rural properties, predominantly lined by mature native trees. Main roads including Ararat-St Arnaud Road to the centre of the Site and Stawell-Avoca Road located to the south, are two-laned sealed roads.

Key characteristics:

- Large paddocks with grass or crops and sheep or cattle grazing
- Views of surrounding vegetated hill ranges
- Distanced views towards Gariwerd (the Grampians) to the southwest
- Views of wind farm turbines to the south
- Includes scattered rural residential dwellings and ancillary farm buildings at low densities
- Tree-lined creeks traverse the landscape
- Predominately native trees scattered throughout the area, mostly located to the edges of paddocks and parallel to roads. Some exotic tree species are used for windows.

Figure 19 Farmland surrounding Navarre (source: Wikipedia.com)

Figure 20 Farmland surrounding Navarre (source: smallcaps.com.au/ navarre-minerals)

6.1.2 LCT 2: Bushland reserves

LCT Bushland reserves comprise ranges with a dense cover in native vegetation or bushland reserved for conservation purposes, containing significant indigenous vegetation. The LCT comprises parks and reserves which contain a wealth of vegetation.

The parks and reserves are accessible via gravel tracks or fire access tracks. There are recreational activities limited to a few walking tracks, camping grounds and picnic areas.

Key characteristics and landscape features:

- Small bushland reserves with mature native vegetation (Navarre NCR, Navarre Bushland Reserve)
- Large bushland covered reserves (Kara Kara National Park, Morrl Morrl NCR, Mount Bolangum NCR, Big Tottington NCR and Landsborough Hill NCR)
- Locally significant peaks including Landsborough Hill and Mount Bolangum.

Figure 21 Vegetation in bushland reserves – Kara Kara National Park (source: Parks Victoria)

Figure 22 Vegetation in bushland reserves – Morrl Morrl NCR (source: https://landlifecompany.com/projects/victoria-australia)

6.1.3 LCT 3: Towns and settlements

Within the Study Area, Navarre is the only village. This is located at the junction of two arterial roads and has a high street comprising low density residential dwellings and community service facilities including a recreational reserve, churches, a general store and a primary school. As a village, there is no town centre.

A service road is separate to the main High Street, with a wide nature strip. A few other streets intersect to the High Street, forming small street blocks in grid formation and accessing other residential properties and perimeter recreational grounds.

The dwellings are all single storey, of mixed age and the large sections typically have perimeter native vegetation and low front fences. This vegetation is an increase to that outside the village, in density of both native and some exotic species. Due to the vegetation, dwellings have inward-looking views to their immediate property.

Key characteristics:

- Residential dwellings on large lots facing towards the High Street
- Community service buildings
- An increase in planted native and exotic vegetation.

Figure 23 Navarre general store and petrol station (source: australia247.info/explore/victoria/northern _grampians_shire/)

Figure 24 Birdseye view of High Street, Navarre (source: realestate.com)

6.2 Visual baseline

The assessment of potential visual impacts is based on the sensitivity of the view and the degree of modification or changes to the view as part of the proposal at the operational phase. The following section outlines the preliminary impact assessment on the visual components at operation of the Proposal.

6.2.1 Visual catchment

The ZTV has been analysed to identify a preliminary representation of the likely 'worst case' visual envelope of the wind turbine layout, within a 3.6 km radius (refer to Section 4.2) of the proposed Project boundary. In interpreting the ZTV, the following issues must be considered:

- It takes account the topographic constraints of the view and does not include land cover factors such as the presence of buildings and vegetation. As it only uses the landform, it is considered a worst-case scenario of the potential visual extents;
- It does not take into account the effect of distance. Generally, the greater the distance from the wind farm, the less prominent it will be within the view due to its perceived scale and fading due to atmospheric conditions; and
- The ZTV identifies increased visibility due to altitude and ridgelines, as well as decreased visibility caused by intervening topography.

The ZTV is used to guide the selection of representative viewpoints – see Figure 25 to Figure 27.

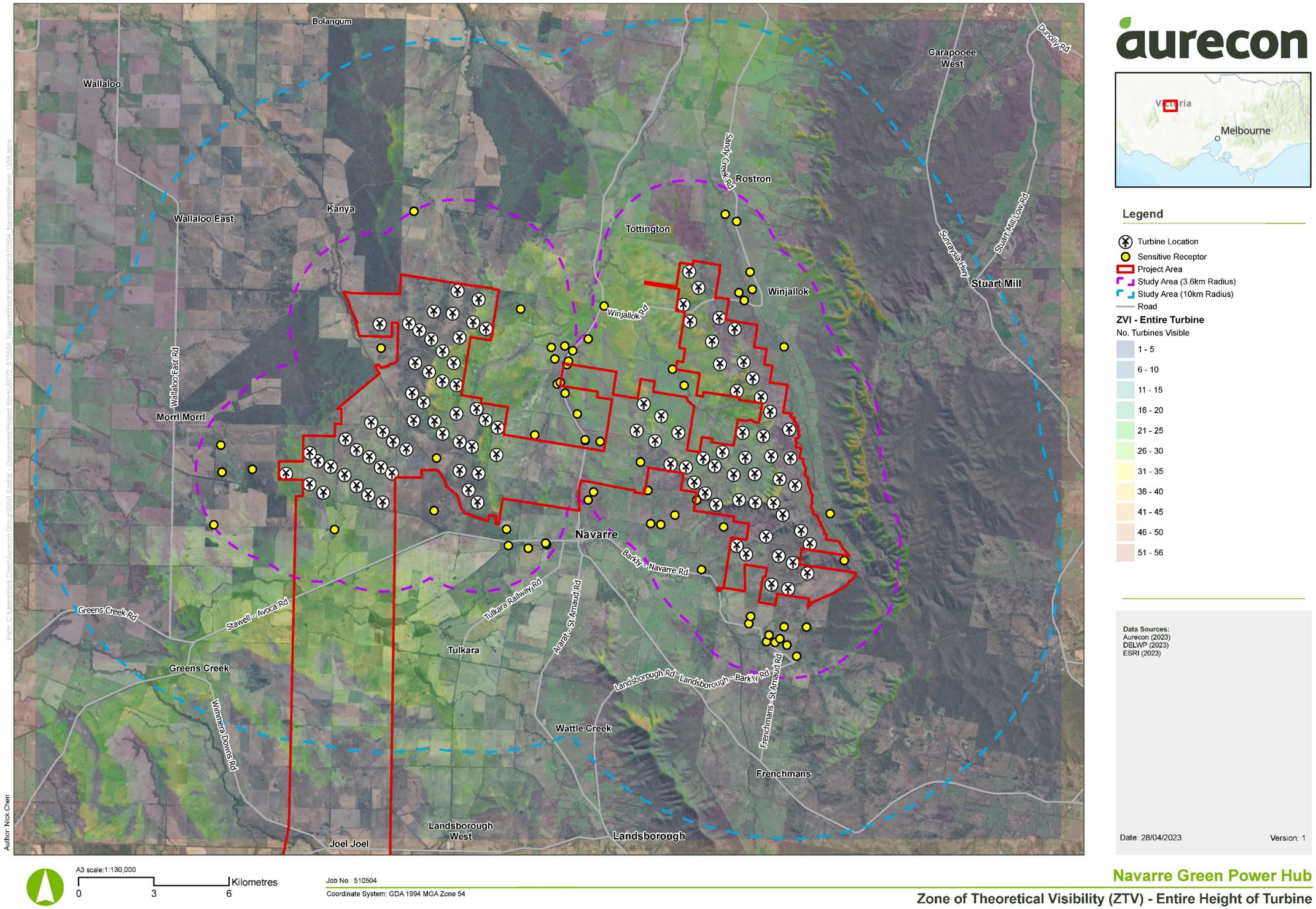
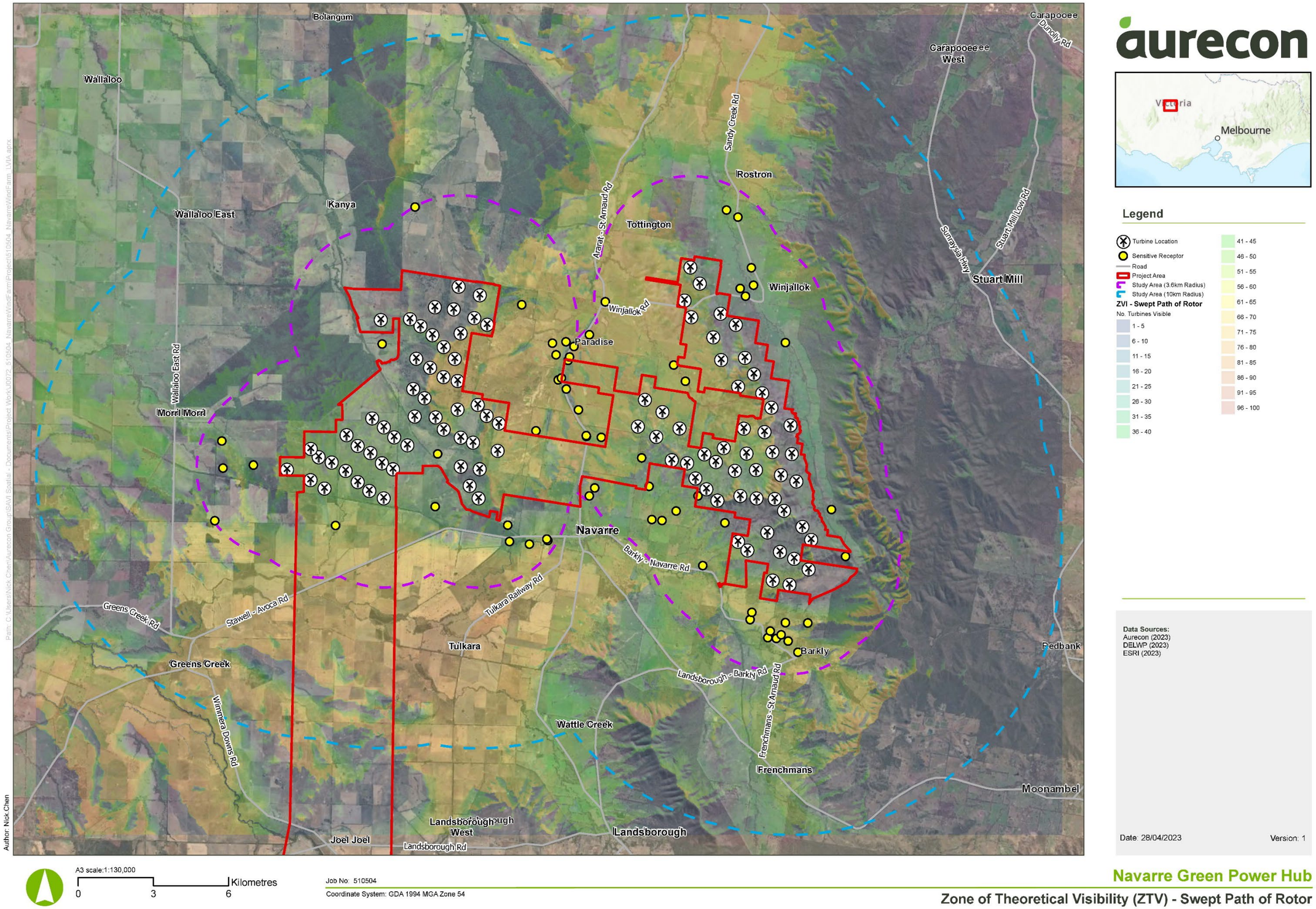


Figure 25 ZTV – Entire height of turbine



Legend

- Turbine Location
- Sensitive Receptor
- Road
- Project Area
- Study Area (3.6km Radius)
- Study Area (10km Radius)

ZVI - Swept Path of Rotor

No. Turbines Visible

1 - 5	41 - 45
6 - 10	46 - 50
11 - 15	51 - 55
16 - 20	56 - 60
21 - 25	61 - 65
26 - 30	66 - 70
31 - 35	71 - 75
36 - 40	76 - 80
	81 - 85
	86 - 90
	91 - 95
	96 - 100

Data Sources:
Aurecon (2023)
DELWP (2023)
ESRI (2023)

Date: 28/04/2023 Version: 1

A3 scale:1:130,000
0 3 6 Kilometres

Job No: 510504
Coordinate System: GDA 1994 MGA Zone 54

Navarre Green Power Hub

Zone of Theoretical Visibility (ZTV) - Swept Path of Rotor

Figure 26 ZTV - Swept path of rotor

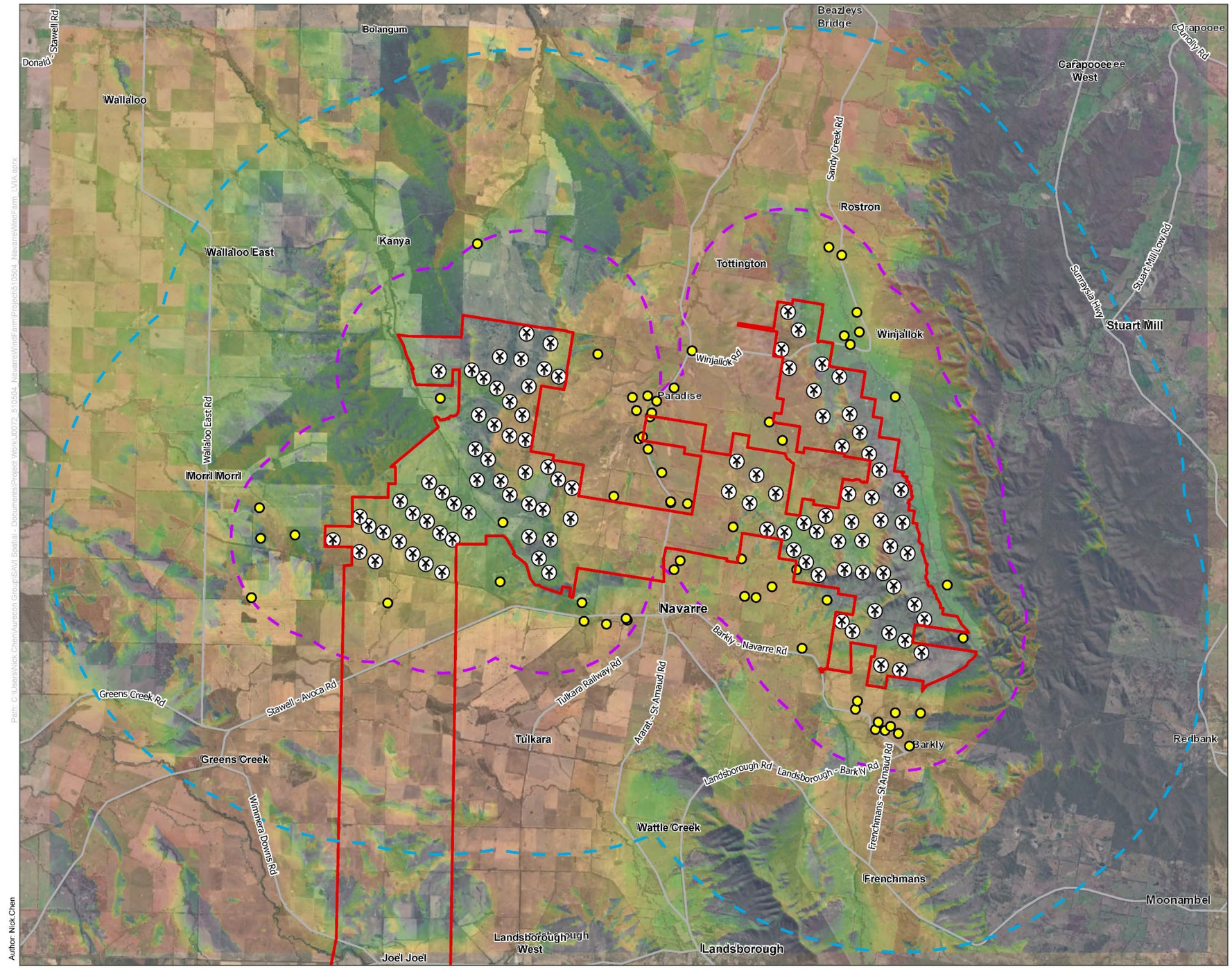


Figure 27 ZTV – Hub to tip of turbine

7 Potential impacts

7.1 Potential landscape character impacts

This section documents a preliminary understanding of the potential change that may arise. The Project is located with LCT 1 Rural farmland. Due to visual influence dictated by the height of the turbines, there is a potential for landscape impacts to adjacent LCTs. The potential for impacts (refer to Table 12) arising on these LCTs have been considered from Day 1 of operation.

Table 12 Summary of preliminary impacts to landscape character

Landscape Type	Potential landscape impact	Discussion
LCT 1: Rural farmland	Low	Turbines located within this LCT have the potential to become the dominant visual feature in the landscape. There is the potential for vegetation removal resulting in a direct impact. Vegetation removal has the potential to increase with the provision of access roads and additional infrastructure. The sensitivity of the LCT is considered to be Low due to the following: ■ Whilst it is not considered to be of any specific scenic value, some receptors likely place value upon its openness and typically low built form density. ■ There are no specific planning controls attributing special value to this landscape. The magnitude of change is considered to be Medium due to the following: ■ The height of the wind turbines will result in them being visible from a large area, introducing built elements It is considered however that this ZTV is a relatively small portion of what is a widely distributed and expansive LCT. ■ Removal of vegetation is unlikely to be noticeable in this expansive LCT. The Low sensitivity and Medium magnitude of change would result in a Low impact to LCT 1.
LCT 2: Bushland reserves	Negligible	This LCT offers a high degree of perceived naturalness, remoteness and inaccessibility. There is no wind farm infrastructure proposed within bushland reserve areas, with effects likely to be visual from vantage points. The sensitivity of the LCT is considered to be High due to the following: ■ A highly valued landscape with regional importance. The magnitude of change is considered to be Negligible due to the following: ■ The changes are likely to be barely perceptible due to the amount of intervening vegetation and the extent of area over which the changes would be visible from sensitive land use areas is limited. The High sensitivity and Negligible magnitude of change would result in a Negligible impact to LCT 2.

Landscape Type	Potential landscape impact	Discussion
LCT 3: Towns and settlements	Low	There is no wind farm infrastructure proposed within this LCT and potential effects are likely to be visual. The sensitivity of the LCT is considered to be Low due to the following: ■ Towns and settlements have low residential numbers and are not considered primary tourist destinations. The magnitude of change is considered to be Low due to the following: ■ Proposed wind turbines are likely to be visible from within this LCT and have the potential to indirectly influence views of the surrounding landscape within LCT 1. The Low sensitivity and Low magnitude of change would result in a Low impact to LCT 3.

7.2 Potential visual impacts

7.2.1 Representative viewpoints

A total of 16 representative viewpoints were identified for the Project based on the design, viewing distance and aspect. The locations of the assessed viewpoints are shown in Figure 28.

These viewpoints were selected based upon a three-stage process:

- Identification of potential visibility within the ZTVs (refer Figure 25, Figure 26 and Figure 27)
- Desktop studies identifying places of significance or potential sensitive receptors including residential dwellings or local lookouts.
- Where there are several dwellings in close proximity to each other, a representative viewpoint is selected where there is limited intervening vegetation or built form, thus representing the worst-case scenario from the cluster of dwellings.

The selected viewpoints were analysed (via desktop studies) for their potential visibility towards the Project through:

- viewpoints identified within the Project 3d model and viewed at eye height (150cm above ground level), to determine the extent of intervening topography and structures; and
- determining the level of intervening vegetation through aerial photography.

Viewsheds from each of the 16 viewpoints have been generated to inform the analysis for the key elements associated with the Project (refer to Appendix B).

There are no significant viewpoints identified within the Study Area.

The assessment of the visual impact from representative viewpoints have been based on the sensitivity of the view and the degree of modification or changes to the view as part of the Project at the operational phase. The following section outlines the preliminary visual impact assessment.

Refer to Appendix D for the preliminary indicative renders.

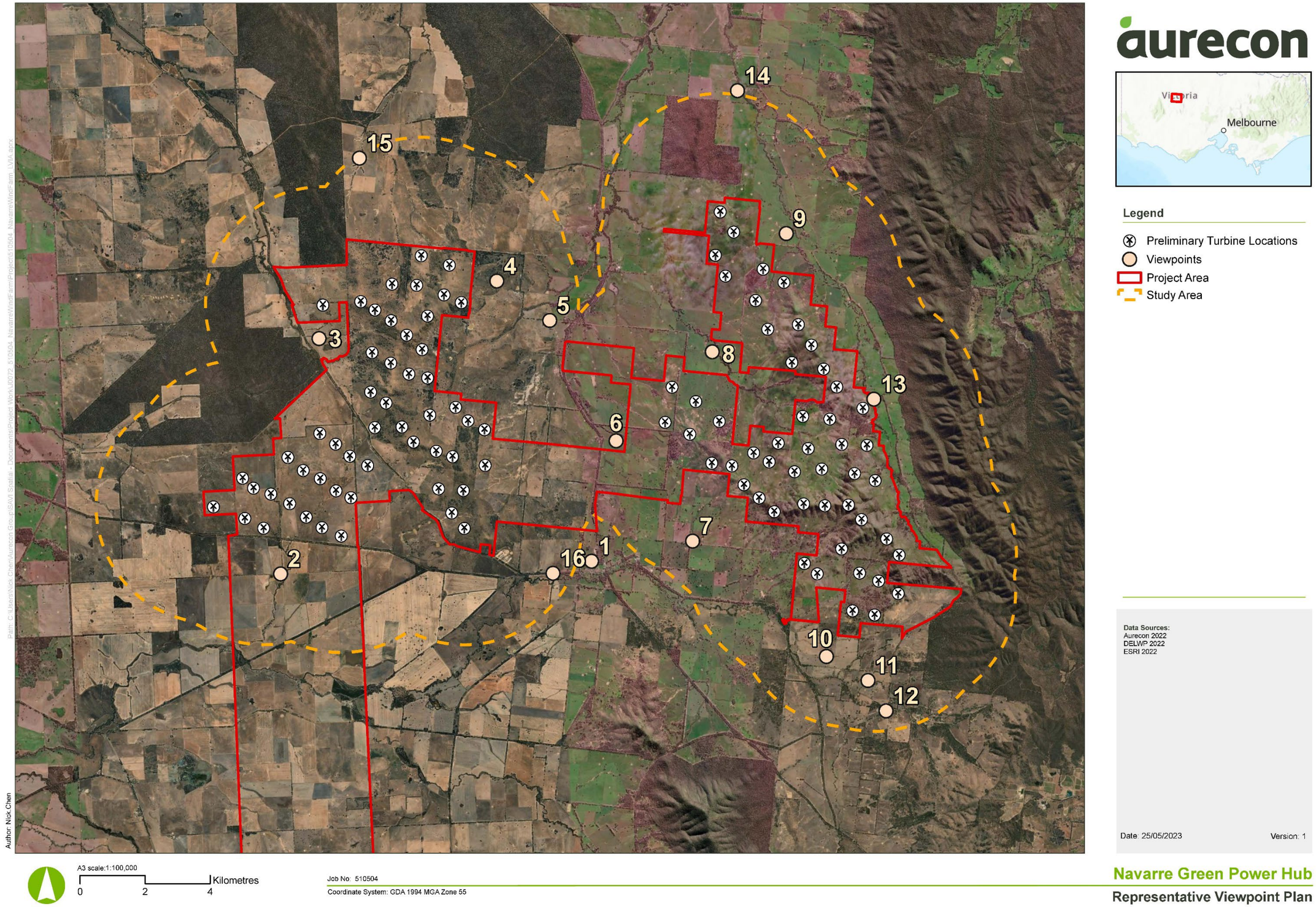


Figure 28 Viewpoint assessment location

Viewpoint 1: Navarre Football and Netball Club

Aerial photograph	 Figure 29 Aerial view of **Navarre Football and Netball Club, Cambridge Street, Navarre** (image: Google Earth, January 2022)		
Viewpoint selection:	View from recreational reserve within Navarre used by locals and visiting sports teams		
Visual baseline:	The view towards the Project is to the north- northwest and is visible from the sports grandstand, netball courts and sports field. The foreground view from this location is opening towards the sporting facilities. The middleground is predominantly obscured by a row of trees to the north side of the sports field and surrounding scattered native vegetation. The Navarre hill rises to the northwest in the background, slightly higher than the surrounding undulating hills.		
Land use:	Recreational Reserve		
Landscape type:	LCT 3 Towns and settlements		
Viewing distance (m):	Near Foreground: 4,038 m from closest turbine (W31)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 0	Swept path of rotor: 0	From hub: 0
Total no. of turbines potentially visible:	Entire height of turbine: 11	Swept path of rotor: 28	From hub: 29
Viewpoint discussion:	▪ There are zero turbines of higher potential prominence (within 3.6km) ▪ The closest proposed visible turbine is in the near foreground at 4,038m, potentially visible from the hub to the tip ▪ Turbines have the potential to be visible across 125 degrees of the existing view, towards the northwest, northeast and east ▪ A total of 68 turbines are potentially noticeable in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ▪ Figure 30 preliminary render indicates the Project turbines that are potentially visible to the northwest.		
Visual sensitivity:	High	Viewpoint is from a recreational reserve used by local community	

Potential magnitude of change:	Moderate	Visibility of turbines covering 120 degrees to the towards the northwest, northeast and east in the far middleground view, likely to be noticeable on the hills above foreground vegetation.
Potential visual impact:	High	High sensitivity combined with a Moderate magnitude of change
Further investigation:	▪ Site visit required to ground truth existing visual conditions. ▪ Detailed assessment of viewpoints and preparation of a photomontage.	

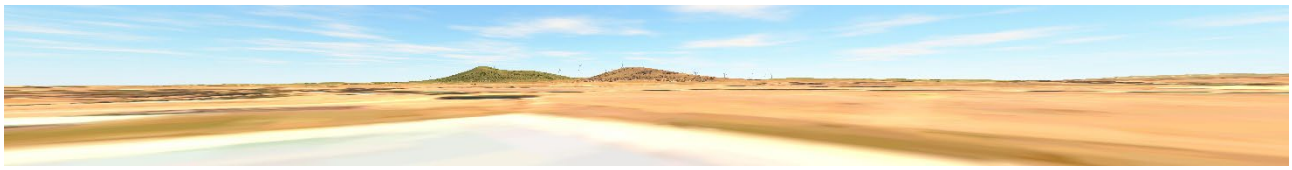


Figure 30 Viewpoint 1: Render indicative of Project from VP1 (render: Aurecon)

Viewpoint 2: McSparron Road

Aerial photograph	 **Figure 31 Aerial view of 199 McSparron Road (image: Google Earth, January 2022)**		
Viewpoint selection:	View from 199 McSparron Road, Greenscreek. Dwelling is south of west layout, within 3.6km.		
Visual baseline:	The views are directed east and northeast towards the Project along McSparron Road. This is a gravel rural-local road, mostly used by locals and workers. Views from the dwelling to the surrounding area are potentially screened by the amount of vegetation in close proximity of the dwelling (refer to Figure 31). Additionally, a large shed to the north of the dwelling will obstruct north facing views. The view from this location is very open with wide open plains, open paddocks for crops and sheep grazing, scattered native vegetation and vegetation surrounding Morrl Creek is located in the foreground. The middleground has scattered native vegetation and vegetation along road corridors. The surrounding topography is low undulating hills, with larger hills and vegetated ranges of Kara Kara National Park visible in the background to the east.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Far foreground: 1526m from closest turbine (W52)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 7	Swept path of rotor: 7	From hub: 0

Total no. of turbines potentially visible:	Entire height of turbine: 21	Swept path of rotor: 31	From hub: 18
Viewpoint discussion:	■ 14 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking south). Of these, 7 are potentially seen from the ground up, 7 will have the full blades visible in the far foreground. ■ The closest proposed visible turbine is in the far foreground at 1.5 km away. ■ A total of 70 turbines are potentially noticeable in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ■ Turbines have the potential to be visible across 180 degrees of the existing view. ■ At approx. 2.4km away and with intervening vegetation, the likelihood of the transmission line being noticeable, is very low. ■ Figure 32 and Figure 33 preliminary renders indicate that there are a large proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	
Potential magnitude of change:	Low	Visibility of turbines covering 180 degrees of viewpoint in the far foreground. Intervening structures to the north of the dwelling and vegetation will likely screen views toward the turbines and transmission line.	
Potential visual impact:	Low	Moderate sensitivity combined with Low magnitude of change	

Figure 32 Preliminary render indicative of Project looking northwest 325 degrees from VP2 (render: Aurecon)

Figure 33 Preliminary render indicative of Project looking north 22 degrees from VP2 (render: Aurecon)

Viewpoint 3: Bolangum Inn Road

Aerial photograph	 Figure 34 Aerial view of 2157 Bolangum Inn Road (image: Google Earth view, January 2022)		
Viewpoint selection:	View from residential dwelling at 2157 Bolangum Inn Road, Paradise (note the resident is an involved landowner) and near to the Morrl Morrl NCR.		
Visual baseline:	The views are directed east and southeast towards the Project along Bolangum Inn Road. This is a gravel rural-local road, mostly used by locals and workers. Views from the road towards the surrounding rural area are open with scattered vegetation, and rows of trees lining Bolangum Inn Road and the residential driveway which screen views towards the middleground and background. There are wide ranging views with grazing paddocks visible in the foreground of the property, scattered trees and rows of trees in the middleground and hills visible in the background.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Far foreground – 1062 m from closest turbine (W1)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 5	Swept path of rotor: 7	From hub: 4
Total no. of turbines potentially visible:	Entire height of turbine: 5	Swept path of rotor: 16	From hub: 19
Viewpoint discussion:	■ 16 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking east). Of these, 5 are potentially seen from the ground up, 7 will have the full blades visible and 4 visible from the hub up. ■ The closest proposed visible turbine is the far foreground at 1 km away. ■ A total of 40 turbines are potentially noticeable in the far foreground to near background, in both west and east layouts, which are less prominent from this viewpoint. ■ Turbines have the potential to be visible across 240 degrees of the existing view, positioned on a hill at higher elevation than the viewpoint. ■ Figure 35 and Figure 36 preliminary renders indicate that there are a moderate proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area.		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	
Potential magnitude of change:	Moderate	Visibility of a high number of turbines covering 240 degrees of viewpoint within far foreground views, with potential of partial screening by farm structures or vegetation.	

Potential visual impact:	Moderate	Moderate sensitivity combined with a Moderate magnitude of change

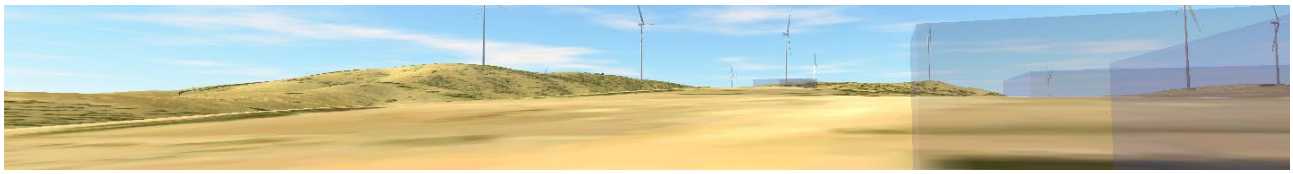


Figure 35 Preliminary render indicative of Project looking east 90 degrees from VP3 (render: Aurecon)

Figure 36 Preliminary render indicative of Project looking southeast 135 degrees from VP3 (render: Aurecon)

Viewpoint 4: Basin Road West

Aerial photograph	 **Figure 37 Aerial view of Basin Road West (image: Google Earth, January 2022)**		
Viewpoint selection:	View from Basin Road, Paradise and representative of views from a non-permanent dwelling and non-permanent neighbouring residence.		
Visual baseline:	The views are directed south to southwest and west to southwest towards the Project along Basin Road. This is a gravel rural-local road, used by locals. The view from this location is very open with wide open plains to the west, open paddocks for crops and scattered vegetation in the foreground. There is dense vegetation surrounding the residence to the north, east and southeast. The middleground has scattered native vegetation and some low undulation of the topography.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground – 1257 m from closest turbine (W7)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 2	Swept path of rotor: 3	From hub: 4
Total no. of turbines potentially visible:	Entire height of turbine: 21	Swept path of rotor: 40	From hub: 14

Viewpoint discussion:	▪ 9 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible looking south. Of these, 2 are potentially seen from the ground up, 3 will have the full blades visible and 4 visible from the hub up. ▪ Turbines within foreground and near middleground views have the potential to be visible across 120 degrees of the existing view, positioned on a hill at higher elevation than the viewpoint. ▪ The closest proposed visible turbine is in the near middleground at 1.2 km away and potentially visible from the ground up. ▪ A total of 75 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ▪ Figure 38 and Figure 39 preliminary render indicates that there are a moderate proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area.	
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling
Potential magnitude of change:	Moderate	Visibility of turbines covering 120 degrees to the east of viewpoint in the near middleground view, with limited vegetation partially screening views.
Potential visual impact:	Moderate	Moderate sensitivity combined with a moderate magnitude of change

Figure 38 Preliminary render indicative of Project from VP4 looking south 180 degrees (render: Aurecon)

Figure 39 Preliminary render indicative of Project from VP4 looking southwest 270 degrees (render: Aurecon)

Viewpoint 5: Dwelling at Basin Road East

Aerial photograph	 **Figure 40 Aerial view Basin Road East (image: Google Earth view, January 2022)**
Viewpoint selection:	View from 63 Basin Road, Paradise and representative of views from neighbouring residents.

Visual baseline:	The view towards the closest turbines is directed west at Basin Road. This is a gravel road, used by locals and near to Ararat-St Arnaud Road. The dwelling has wide open plains surrounding the location, paddocks for crops and scattered vegetation in the foreground. There is some vegetation to the south which are likely to screen views. The neighbouring property (to the north) has intervening trees and built elements which are potentially screening views to the west and east. There is also moderate vegetation surrounding the road corridor of Basin Road. The middleground has scattered native vegetation and some low undulation of the topography. A hill is visible in the background to the east, with undulating topography extending across 120 degrees. Kara Kara National Park is visible in the background to the east.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 2774 m from closest turbine (W7)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 1	Swept path of rotor: 2	From hub: 0
Total no. of turbines potentially visible:	Entire height of turbine: 16	Swept path of rotor: 51	From hub: 17
Viewpoint discussion:	▪ 3 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking west). Of these, 1 is potentially seen from the ground up, 2 will have the full blades visible. ▪ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 60 degrees of the existing view. ▪ The closest proposed visible turbine is in the near middleground at 2.7 km away and potentially with the full blades visible. ▪ Figure 41 preliminary render indicates that there are a large proportion (a total of 84 turbines) that are potentially visible in the n the far middleground to near background. Proposed turbines are located in 240 degrees surrounding the viewpoint, within the west and eat layouts, however at this distance are expected to be less prominent.		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	
Potential magnitude of change:	Very low	Visibility of a low number of turbines covering 60 degrees of viewpoint within the near middleground, with intervening vegetation screening views.	
Potential visual impact:	Very low	Moderate sensitivity combined with a very low magnitude of change	

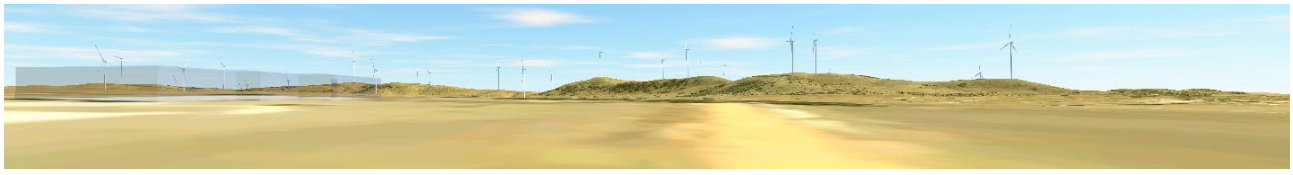


Figure 41 Preliminary render indicative of Project from VP5 looking southwest 270 degrees (render: Aurecon)

Viewpoint 6: Ararat-St Arnaud Road

Aerial photograph	 **Figure 42 Aerial view of Ararat-St Arnaud Road (image: Google Earth view, January 2022)**		
Viewpoint selection:	View from residential dwelling at 4114 Ararat-St Arnaud Road, Paradise and representative of views from neighbouring residents located between the two sides of the site.		
Visual baseline:	There are three dwellings near this viewpoint along Ararat-St Arnaud Road. The dwellings include farming infrastructure including large sheds and planted vegetation to the perimeter of the dwelling. The surrounding outlook is a flat to slightly undulating terrain, has wide open plains, paddocks for crops and scattered vegetation in the foreground. The scattered trees surrounding the dwellings and the road corridor of Ararat-St Arnaud Road to the west, and Hannett Road to the north, potentially limits outward looking views from the dwellings. The middleground has scattered native vegetation and some low undulation of the topography. The peak of Mount Stricta is visible in the background to the northeast, and Kara Kara National Park is visible in the background to the east.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 1619 m from closest turbine (E36)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 1	Swept path of rotor: 5	From hub: 0
Total no. of turbines potentially visible:	Entire height of turbine: 7	Swept path of rotor: 42	From hub: 35

Viewpoint discussion:	■ 6 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking east). Of these, 1 is potentially seen from the ground up, 5 will have the full blades visible. ■ The closest proposed visible turbine is 1.6 km away to the west. ■ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 120 degrees of the existing view. ■ A total of 84 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ■ Overhead transmission lines and poles/towers have the potential to be partially visible, connecting between the east and west layouts (exact alignment is unknown at this stage). ■ Figure 43 and Figure 44 preliminary renders indicate proposed turbines in the near middleground and a large proportion of other Project turbines that are potentially visible in the background view.	
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling in the centre of the eastern and western sites of the site
Potential magnitude of change:	Moderate	Visibility of a low number of turbines within 3.6 km, covering 120 degrees of viewpoint. A large proportion of Project turbines are potentially visible in the background view to both the east and west.
Potential visual impact:	Moderate	Moderate sensitivity combined with a Moderate magnitude of change

Figure 43 Preliminary render of Project from VP6 looking east 90 degrees (render: Aurecon)

Figure 44 Preliminary render indicative of Project from VP6 looking southwest 270 degrees (render: Aurecon)

Viewpoint 7: Dwelling along Higgins Road

Aerial photograph	 **Figure 45 Aerial view of Higgins Road (image: Google Earth view, January 2022)**

Viewpoint selection:	View from Higgins Road (at bend in road), Barkly and representative of views from neighbouring residents to the south of the site.		
Visual baseline:	Higgins Road is a gravel road, used by locals with a surrounding outlook flat to slightly undulating terrain. There are paddocks for crops and scattered vegetation in the foreground. The dwelling is surrounded by farming infrastructure including large sheds and some planted vegetation to the perimeter of the dwelling. Views to the surrounding area from the dwelling are likely to the west, with little vegetation, and partially screened to the north and west by intervening vegetation and farm structures. There is also moderate vegetation surrounding the road corridor of Higgins Road to the south. Kara Kara National Park is visible in the background to the east, beyond middleground range with scattered vegetation.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 2364 m from closest turbine (E32)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 2	Swept path of rotor: 5	From hub: 2
Total no. of turbines potentially visible:	Entire height of turbine:7	Swept path of rotor: 39	From hub: 29
Viewpoint discussion:	▪ 9 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible to the north. Of these, 2 are potentially seen from the ground up, 5 will have the full blades visible and 2 visible from the hub up. ▪ The closest proposed visible turbine is a relatively moderate distance at 2.3 km away. ▪ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 180 degrees of the existing view in the near middleground, to the north. ▪ A total of 75 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ▪ Figure 46 and Figure 47 preliminary renders indicate proposed turbines in the near middleground and a large proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area.		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	
Potential magnitude of change:	Low	Visibility of a moderate number of turbines which are likely to be prominent, covering 120 degrees of viewpoint. The closest turbine is the near middleground view.	
Potential visual impact:	Low	Moderate sensitivity combined with a low magnitude of change	

Figure 46 Preliminary render indicative of Project from VP7 looking north 0 degrees (render: Aurecon)

Figure 47 Preliminary render indicative of Project from VP7 looking east 90 degrees (render: Aurecon)

Viewpoint 8: Dwelling along Raeburn Road

Aerial photograph	 **Figure 48 Aerial view of Raeburn Road (image: Google Earth view, January 2022)**		
Viewpoint selection:	View from Raeburn Road, Paradise and representative of views from neighbouring residents to the northwest and southeast. This viewpoint has less surrounding vegetation and thus is considered to represent the worst-case scenario.		
Visual baseline:	Raeburn Road is a gravel road, used to access farm properties and a few residential dwellings. Three dwellings are near to Reedy Creek, an ephemeral creek with mature native trees that will potentially screen outward looking views to the north and east. The dwellings have some planted vegetation surrounding the property. The viewpoint is representative of a property with the least amount of vegetation and therefore more open views of the surrounds. The surrounding outlook is flat to slightly undulating terrain, has wide open plains, paddocks for crops and scattered vegetation along access roads in the foreground.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Far foreground: 1622 m from closest turbine (E37)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 3	Swept path of rotor: 17	From hub: 0
Total no. of turbines potentially visible:	Entire height of turbine: 13	Swept path of rotor: 49	From hub: 23

Viewpoint discussion:	▪ 20 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible looking south to east. Of these, 3 are potentially seen from the ground up, 17 will have the full blades visible. ▪ The closest proposed visible turbine is in the far foreground at 1.6 km away. ▪ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 300 degrees of the existing view and of higher elevation to the viewpoint. ▪ A total of 85 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ▪ Figure 49, Figure 50 and Figure 51 preliminary renders indicate that there are a large proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area.	
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling
Potential magnitude of change:	High	Visibility of a high number of turbines covering 300 degrees, with the closest visible in the far foreground at an elevation higher than the viewpoint.
Potential visual impact:	High	Moderate sensitivity combined with a High magnitude of change

Figure 49 Preliminary render indicative of Project looking east 22 degrees from VP8 (render: Aurecon)

Figure 50 Preliminary render indicative of Project looking southeast 112 degrees from VP8 (render: Aurecon)

Figure 51 Preliminary render indicative of Project looking southwest 200 degrees from VP8 (render: Aurecon)

Viewpoint 9: Winjallok Road

Aerial photograph	 Figure 52 Aerial view of Winjallok Road (image: Google Earth view, January 2022)		
Viewpoint selection:	View from 597 Winjallok Road, Winjallok and representative of views from neighbouring residents.		
Visual baseline:	Winjallok Road is a gravel road, used to access farm properties and a few residential dwellings. Four dwellings are near to Sandy Creek, an ephemeral creek with mature native trees that will potentially screen outward looking views. The dwelling has some planted vegetation surrounding the property (refer Figure 52) which is likely to limit outward views from the dwelling. The surrounding outlook appears flat, with wide open plains, paddocks for crops and scattered vegetation along access roads in the foreground. The middleground has scattered native vegetation which appears dense to the base of the surrounding hills in the background, including Kara Kara National Park to the east.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Far foreground: 1276m from closest turbine (E5)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 3	Swept path of rotor: 7	From hub: 0
Total no. of turbines potentially visible:	Entire height of turbine: 5	Swept path of rotor: 11	From hub: 29
Viewpoint discussion:	■ 10 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking southwest). Of these, 3 are potentially seen from the ground up, 7 will have the full blades visible. ■ The closest proposed visible turbine is in the far foreground at 1.2 km away and potentially with the full blades visible. ■ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 180 degrees of the existing view. ■ A total of 55 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in the east layout, which are less prominent from this viewpoint. ■ Figure 53 and Figure 54 preliminary renders indicate that there are a large proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area.		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	

Potential magnitude of change:	Moderate	Visibility of 10 turbines covering 180 degrees of viewpoint with the closest turbine in the far foreground. Potential for partial screening by intervening vegetation.
Potential visual impact:	Moderate	Moderate sensitivity combined with a Moderate magnitude of change

Figure 53 Preliminary render indicative of Project looking south 180 degrees from VP9 (render: Aurecon)

Figure 54 Preliminary render indicative of Project looking southwest 225 degrees from VP9 (render: Aurecon)

Viewpoint 10: Dwelling on Cross Road/ Barkly-Navarre Road

Aerial photograph	 **Figure 55 Aerial view of Barkly-Navarre Road (image: Google Earth view, January 2022)**
Viewpoint selection:	View from 42 Cross Road near Barkly-Navarre Road, Barkly and representative of views from a residential dwelling.
Visual baseline:	The dwelling at 42 Cross Road has limited vegetation surrounding the property (refer Figure 55). Views of the surrounding area are open, limited only by existing farm structures. The landscape in the foreground comprises flat plains used for crops and grazing with scattered native trees. A hill range is visible to the north and northeast in the middleground, with scattered vegetation and the Kara Kara National Park – a densely covered range, is visible to the east. Views toward the west are open, with vegetation visible on the horizon.
Land use:	Farm Zone
Landscape type:	LCT 1 Rural farmland
Viewing distance (m):	Far foreground: 1638m from closest turbine (E48)

No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 2	Swept path of rotor: 6	From hub: 0
Total no. of turbines potentially visible:	Entire height of turbine: 7	Swept path of rotor: 50	From hub: 19
Viewpoint discussion:	▪ 8 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking north). Of these, 2 are potentially seen from the ground up, 6 will have the full blades visible. ▪ The closest proposed visible turbine is in the far foreground at 1.6 km away to the northeast. ▪ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 120 degrees of the existing view, at an elevated level to the north of the viewpoint. ▪ A total of 76 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ▪ Figure 56 and Figure 57 preliminary renders indicate the closest turbines in the far foreground and a large proportion of other Project turbines that are potentially visible outside of the 3.6 km preliminary Study Area		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	
Potential magnitude of change:	Moderate	Visibility of a moderate number of turbines covering 120 degrees of viewpoint in the far foreground.	
Potential visual impact:	Moderate	Moderate sensitivity combined with a Moderate magnitude of change	

Figure 56 Preliminary render indicative of Project looking northwest 335 degrees from VP10 (render: Aurecon)

Figure 57 Preliminary render indicative of Project looking northeast 25 degrees from VP10 (render: Aurecon)

Viewpoint 11: Dwelling on Frenchmans-St Arnaud Road

Aerial photograph	 **Figure 58 Aerial view of Frenchmans-St Arnaud Road (image: Google Earth view, January 2022)**		
Viewpoint selection:	View from Frenchmans-St Arnaud Road, Barkly and representative of views from neighboring residents in the southeast of the site.		
Visual baseline:	The dwelling at Frenchmans-St Arnaud Road has vegetation surrounding the property (refer Figure 58), which are likely to screen views of the surrounding area. There are scattered native trees to the foreground and middleground of the viewpoint. The surrounding farmland is gentle rolling pastures and fenced paddocks. A large farm shed is located to the north of the dwelling, obscuring some views north. Kara Kara National Park – a densely covered range, is partially visible in the background view to the east, above vegetation. Views toward the west are open, with vegetation visible on the horizon.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 2050 m from closest turbine (E49)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 1	Swept path of rotor: 3	From hub: 1
Total no. of turbines potentially visible:	Entire height of turbine: 6	Swept path of rotor: 50	From hub: 23
Viewpoint discussion:	■ 5 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible to the north. Of these, 1 are potentially seen from the ground up, 3 will have the full blades visible and 1 will be visible from the hub up. ■ The closest proposed visible turbine is in the near middleground at 2 km. ■ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 60 degrees of the existing view. ■ A total of 79 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ■ Figure 59 preliminary render indicates the turbines visibility including the closest turbine in the near middleground and a large proportion of Project turbines that are potentially visible outside of the 3.6 km preliminary Study Area		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	

Potential magnitude of change:	Very Low	Visibility of a low number of turbines covering 60 degrees of viewpoint within the near middleground, with a farm shed and existing vegetation potentially obscuring views.
Potential visual impact:	Very Low	Moderate sensitivity combined with a very low magnitude of change

Figure 59 Preliminary render indicative of Project looking north 0 degrees from VP11 (render: Aurecon)

Viewpoint 12: Barkly Public Hall

Aerial photograph	 **Figure 60 Aerial view of Barkly Public Hall (image: Google Earth view, January 2022)**		
Viewpoint selection:	View from Barkly Public Hall and representative of views from nearby residents within the rural settlement.		
Visual baseline:	There are few dwellings near to the settlement at Barkly, with community service buildings including the public hall and a small church. The settlement has many mature trees, predominantly lining the roads as well as within properties. There are less trees near to the public hall and church, provided some through-views north. This foreground view is of farmland on gentle rolling pastures and fenced paddocks. A moderate hilly range and Mount Stricta is visible in the background, covered by pasture and scattered vegetation. The hills are visible above middleground scattered vegetation. Views to the south, east and west are obscured by foreground vegetation.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 2993 m from closest turbine (E49)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 1	Swept path of rotor: 1	From hub: 0
Total no. turbines potentially visible:	Entire height of turbine: 9	Swept path of rotor: 49	From hub: 22

Viewpoint discussion:	▪ 2 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking north). Of these, 1 is potentially seen from the ground up, 1 will have the full blades visible. ▪ The closest proposed visible turbine is in the near middleground at 2.9 km away and potentially visible from the ground up, elevated above the viewpoint level, however there is a large amount of intervening vegetation and limited outward views. ▪ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 60 degrees of the existing view. ▪ A total of 80 turbines are potentially noticeable, if surrounding vegetation did not screen views, in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ▪ Figure 61 preliminary render indicates that there are a large proportion of other Project turbines that are potentially visible in the background view outside of the 3.6 km preliminary Study Area.	
Visual sensitivity:	High	Representative view from a rural village
Potential magnitude of change:	Very Low	Visibility of a low number of turbines covering 60 degrees of viewpoint within the near middleground. Outward views from the rural village are limited due to a large amount of intervening vegetation.
Potential visual impact:	Low	High sensitivity combined with a very low magnitude of change

Figure 61 Preliminary render indicative of Project looking north 0 degrees from VP12 (render: Aurecon)

Viewpoint 13: Barkly Gap Road

Aerial photograph	 Figure 62 Aerial view of Barkly Gap Road (image: Google Earth view, January 2022)
Viewpoint selection:	View from Barkly Gap Road and representative of views from neighbouring residents. This resident and others along Barkly Gap Road are associated with the Project. The viewpoint is selected to represent views from the east of the site, in closer proximity to Kara Kara National Park.

Visual baseline:	The dwelling at Barkly Gap Road has vegetation surrounding the property (refer Figure 62), which are likely to screen views of the surrounding area. Additionally, these are a number of large farm sheds near to the dwelling. There are scattered native trees to the foreground of the viewpoint, with this vegetation surrounding a ephemeral tributary. The surrounding farmland is gentle rolling pastures and fenced paddocks The viewpoint is within a gently undulating valley between Kara Kara National Park – a densely covered range, to the east and a moderate hill range to the west, covered by grass and scattered trees. There are partial views of Navarre Hill in the background view to the south.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near foreground: 418 m from closest turbine (E14)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 4	Swept path of rotor: 5	From hub: 3
Total no. turbines potentially visible:	Entire height of turbine: 5	Swept path of rotor: 8	From hub: 9
Viewpoint discussion:	■ 12 no. turbines of higher potential prominence (within 3.6km) are anticipated to be visible (looking southwest). Of these, 4 are potentially seen from the ground up, 5 will have the full blades visible and 3 will be visible from the hub up. ■ The closest proposed visible turbine is in the near foreground at 0.4 km away and potentially visible from the ground up, positioned on a hill at higher elevation than the viewpoint. The large amount of existing vegetation will potentially partially screen views west towards the Project. ■ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 180 degrees of the existing view and are located at a level elevated above the viewpoint, on a hill range. ■ A total of 22 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in the east layout, which are less prominent from this viewpoint. ■ Figure 63 and Figure 64 preliminary renders indicate the closest turbine in the near foreground and a large proportion of other Project turbines that are potentially visible outside of the 3.6 km preliminary Study Area		
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling	
Potential magnitude of change:	Moderate	Visibility of a turbines covering 180 degrees of viewpoint, with the closest a short distance away. Due to the vegetation cover, turbines are potentially screened from view.	
Potential visual impact:	Moderate	Moderate sensitivity combined with a Moderate magnitude of change	

Figure 63 Preliminary render indicative of Project looking south 180 degrees from VP13 (render: Aurecon)

Figure 64 Preliminary render indicative of Project looking west 270 degrees from VP13 (render: Aurecon)

Viewpoint 14: Dwelling on Wingfield Road

Aerial photograph	 **Figure 65 Aerial view of Wingfield Road (image: Google Earth view, January 2022)**		
Viewpoint selection:	View from residential dwelling on 384 Wingfield Road, Rostron and representative of neighbouring residents to the north of the site.		
Visual baseline:	The dwelling at Wingfield Road has some vegetation surrounding the property (refer Figure 65), which is likely to partially screen views of the surrounding area. Additionally, there are a number of large farm sheds near to the dwelling, which have the potential to screen views. Native trees line the banks of Sandy Creek to the east of the viewpoint. The surrounding farmland comprises flat pastures, fenced paddocks and scattered mature native trees predominantly to the perimeter of paddocks or roads. The middleground comprises scattered native trees and vegetation is seen on the horizon in the background. Background hills are barely visible in the background to the south.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 3700 m from the closest turbine (E5)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 0	Swept path of rotor: 0	From hub: 0
Total no. turbines potentially visible:	Entire height of turbine: 8	Swept path of rotor: 20	From hub: 19
Viewpoint discussion:	▪ Zero turbines of higher potential prominence (within 3.6km) are anticipated to be visible within 3.6 km. ▪ The closest proposed visible turbine is in the near middleground at 3.7 km, positioned on a hill higher than the viewpoint level. Existing scattered vegetation and pastoral paddocks will remain prominent from this viewpoint, with middle and background views partially screened by foreground vegetation. ▪ A total of 47 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint.		

Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling
Potential magnitude of change:	Very Low	Views of proposed turbines will not be prominent in the near middleground and have the potential to be partially screened by foreground vegetation.
Potential visual impact:	Very Low	Moderate sensitivity combined with a very low magnitude of change

Figure 66 Preliminary render indicative of Project looking south 180 degrees from VP14 (render: Aurecon)

Viewpoint 15: Dwelling on Eagles Track

Aerial photograph	 **Figure 67 Aerial view of Kanya Road (image: Google Earth view, January 2022)**		
Viewpoint selection:	View from dwelling at Eagles Track, Tottington (north of the Project's west layout) representative of view to the northwest of the project area.		
Visual baseline:	The residential dwelling is an isolated property located adjacent Mount Bolangum NCR (to the west), and near to Big Tottington NCR to the east. The dwelling as indicated in Figure 67 has limited screening vegetation to the property, however there are trees following a tributary, in the foreground. The surrounding farmland comprises flat plains, fenced paddocks for sheep grazing and scattered native trees. The middleground has scattered native vegetation, with a moderate hill range visible above, to the south and towards Navarre Hill.		
Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 3156m from closest turbine (W10)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 0	Swept path of rotor: 1	From hub: 0
Total no. turbines potentially visible:	Entire height of turbine: 6	Swept path of rotor: 8	From hub: 30

Viewpoint discussion:	■ 1 no. turbine of higher potential prominence (within 3.6km) is anticipated to be visible (looking south), with the full blades potentially visible. ■ The closest proposed visible turbine is in the near middleground at 3.2 km to the west and potentially will have the full blades visible. ■ Turbines of higher potential prominence (within 3.6km), have the potential to be visible across 60 degrees of the existing view. ■ A total of 44 turbines are potentially noticeable (depending on intervening vegetation) in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ■ Figure 68 preliminary render indicates the closest turbines in the near middleground and a large proportion of other Project turbines that are potentially visible outside of the 3.6 km preliminary Study Area	
Visual sensitivity:	Moderate	Viewpoint is representative of a rural dwelling
Potential magnitude of change:	Very Low	Very low number of turbines visible within the near middleground view, with pastoral land and scattered trees remaining prominent from the viewpoint.
Potential visual impact:	Very Low	Moderate sensitivity and very low magnitude of change

Figure 68 Preliminary render indicative of Project looking south 180 degrees from VP15 (render: Aurecon)

Viewpoint 16: Navarre - west

Aerial photograph	 **Figure 69 Aerial view of Stawell-Avoca Road – Macs Lane (image: Google Earth view, January 2022)**
Viewpoint selection:	View from Stawell-Avoca Road - Macs Lane, Navarre and representative of worst-case views from nearby residents a short distance to the west.
Visual baseline:	The view north from Stawell-Avoca Road has tall native trees within the road reserve which partially screen views north (refer Figure 69). The surrounding farmland within the foreground comprises flat pastures, fenced paddocks and scattered mature native trees predominantly to the perimeter of paddocks. Hills rise to the north in the middleground, including Navarre Hill which is a steeper grassed peak. The hills are covered by scattered native trees and grass, used for grazing. Scattered trees are visible on the horizon in the background.

Land use:	Farm Zone		
Landscape type:	LCT 1 Rural farmland		
Viewing distance (m):	Near middleground: 3064m from closest turbine (W31)		
No. of turbines potentially visible within 3.6 km:	Entire height of turbine: 0	Swept path of rotor: 0	From hub: 1
Total no. turbines potentially visible:	Entire height of turbine: 11	Swept path of rotor: 41	From hub: 27
Viewpoint discussion:	■ 1no. turbine of higher potential prominence (within 3.6km) is potentially partially visible (looking north) in the near middleground. ■ Turbines within 3.6 km have the potential to be visible across 60 degrees of the existing view. A large amount of intervening vegetation to the foreground view will limit outward views, screening proposed Project elements. ■ A total of 79 turbines are potentially noticeable, though likely screened by existing vegetation, in the far middleground to near background, in both west and east layouts, which are less prominent from this viewpoint. ■ Figure 70 and Figure 71 preliminary renders indicate that there are a large proportion of Project turbines that are potentially visible outside of the 3.6 km preliminary Study Area		
Visual sensitivity:	Moderate	Viewpoint representative of a rural village	
Potential magnitude of change:	Very Low	1 turbine partially visible within the near middleground view, with inward views of the rural village remaining prominent from the viewpoint.	
Potential visual impact:	Very Low	Moderate sensitivity combined with very low magnitude of change	

Figure 70 Preliminary render indicative of Project looking northwest 315 degrees from VP16 (render: Aurecon)

Figure 71 Preliminary render indicative of Project east 45 degrees from VP16 (render: Aurecon)

7.3 Summary of preliminary visual impacts

A summary of the preliminary visual impacts is provided in Table 13 based on the level of sensitivity and visual modification potentially experienced from representative viewpoints.

Table 14 further summarises the ZTV findings, determining the extent of potential visibility from representative viewpoints within 3.6 km of any proposed turbine, based on the proposed turbine layout.

The location of the receptors is indicated in Figure 23 and the ZTV maps of all the below representative viewpoints are within Appendix B.

The following section provides a summary of the landscape and visual impact assessment at operation and the resulting residual impacts.

Table 13 Summary of preliminary visual impacts

Viewpoint no.	Potential visual impact	Visual sensitivity	Visual modification
VP1 Navarre Football and Netball Club	High	High (recreation reserve)	Moderate degree of visual modification including: ■ 0 turbines of high prominence ■ 58 turbines in far middleground over 120 degree field of view, with the closest turbine 4,038 m to the northwest. ■ Low amount of intervening vegetation
VP2 199 McSparron Road, Greens Creek	Low	Moderate (rural dwelling)	Low degree of visual modification including: ■ 14 turbines potentially visible within 3.6 km in 180 degree field of view, with the closest turbine 1.5 km in the far foreground. ■ Moderate degree of intervening vegetation and farm structures in foreground views with potential to screen views towards Project
VP3 2157 Bolangum Inn Road 'Tulloch', Paradise	Moderate	Moderate (rural dwelling) Project host	Moderate degree of visual modification including: ■ 16 turbines potentially visible within 3.6 km in 240 degree field of view, with the closest turbine 1.06 km in the far foreground. ■ Moderate degree of intervening vegetation in foreground views with potential to partially screen views towards Project
VP4 Basin Road, Paradise	Moderate	Moderate (rural dwelling)	Moderate degree of visual modification including: ■ 9 turbines potentially visible within 3.6 km in 180 degree field of view, with the closest turbine at 1.25 km southwest in the far foreground. ■ High level of intervening vegetation has the potential to partially screen views of the Project.
VP5 63 Basin Road. Paradise	Very Low	Moderate (rural dwelling)	Very Low degree of visual modification including: ■ 3 turbines potentially visible within 3.6 km in 60 degree field of view, with the closest turbine 2.7 km in the near middleground. ■ Low degree of intervening vegetation in foreground views

Viewpoint no.	Potential visual impact	Visual sensitivity	Visual modification
VP6 4121 Ararat-St Arnaud Road, Paradise	Moderate	Moderate (rural dwelling)	Moderate degree of visual modification including: ■ 6 turbines potentially visible within 3.6 km in 180 degree field of view, with the closest 1.6 km east. ■ Moderate degree of intervening vegetation in foreground views with potential to partially screen views towards Project
VP7 Higgins Road, Barkly	Low	Moderate (rural dwelling)	Low degree of visual modification including: ■ 9 turbines potentially visible within 3.6 km in 120 degree field of view, with the closest 2.3 km in the near middleground. ■ Moderate degree of intervening vegetation in foreground views with potential to partially screen views towards Project
VP8 Raeburn Road, Paradise	High	Moderate (rural dwelling)	High degree of visual modification including: ■ 20 turbines potentially visible within 3.6 km in 300 degree field of view, with the closest turbine 1.6 km away in the far foreground ■ Moderate degree of intervening vegetation in foreground views with potential to partially screen views towards Project
VP9 597 Winjallok Road, Winjallok	Moderate	Moderate (rural dwelling)	Moderate degree of visual modification including: ■ 10 turbines potentially visible within 3.6 km in 240 degree field of view, with the closest turbine 1.27 km to the south. ■ Moderate degree of intervening vegetation in foreground views
VP10 42 Cross Road, Barkly	Moderate	Moderate (rural dwelling)	Moderate degree of visual modification including: ■ 8 turbines potentially visible within 3.6 km in 180 degree field of view, with the closest turbine at 1.6 km in the far foreground. ■ Low degree of intervening vegetation in foreground views
VP11 Frenchmans-St Arnaud Road, Barkly	Very Low	Moderate (rural dwelling)	Very Low degree of visual modification including: ■ 5 turbines potentially visible within 3.6 km in 60 degree field of view, with the closest turbine in the near middleground at 2.05 km from the viewpoint. ■ Existing intervening vegetation and few open views from settlement towards Project

Viewpoint no.	Potential visual impact	Visual sensitivity	Visual modification
VP12 Barkly Public Hall, Barkly	Low	High (rural village)	Very Low degree of visual modification including: ■ 2 turbines potentially visible within 3.6 km in 60 degree field of view, with the closest turbine in the near middleground view at 2.9 km from the viewpoint. ■ High level of intervening vegetation has the potential to partially screen views of the Project.
VP13 Barkly Gap Road	Moderate	Moderate (rural dwelling) Project host	Moderate degree of visual modification including: ■ 12 turbines potentially visible within 3.6 km in 180 degree field of view, with the closest turbine in the near foreground view at 418m from the viewpoint. ■ High level of intervening vegetation has the potential to partially screen views of the Project.
VP14 384 Wingfield Road, Rostron	Very Low	Moderate (rural dwelling)	Very Low degree of visual modification including: ■ No turbines within the preliminary Study Area ■ Views of proposed turbines will not be prominent in the near middleground and have the potential to be partially screened by foreground vegetation.
VP15 Eagles Track, (south of Kanya Road) Tottington	Very Low	Moderate (rural dwelling)	Very Low degree of visual modification including: ■ 1 turbine potentially visible within 60 degree field of view, located 3.1 km south in the near middleground.
VP16 Stawell-Avoca Road – Macs Lane, Navarre	Very Low	High (rural village)	Very Low degree of visual modification including: ■ 1 turbine potentially partially visible within 3.6 km in 60 degree field of view. ■ High level of intervening vegetation

Table 14 Summary of turbine visibility within 3.6 km of viewpoints

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible						No. 60 degree sectors
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID	
VP1	4038	W31	0		0		0		0
VP2	1526	W52	7	W45, W47, W49, W46, W48, W41, W42	7	W40, W50, W44, W39, W43, W52, W51	0		3
VP3	1062	W1	5	W15, W14, W17, W4, W2	7	W16, W5, W3, W35, W34, W13, W1	4	W6, W27, W28, W29	4
VP4	1258	W7	2	W9, W7	3	W5, W6, W8	4	W4, W28, W11, W10	2
VP5	2774	W7	1	W9	2	W8, W7	0		1
VP6	1619	E36	1	E35	5	E36, E38, E39, E34, E37	0		2
VP7	2364	E32	2	E31, E32	5	E30, E35, E34, E44, E33	2	E19, E18	3
VP8	1622	E37	3	E6, E16, E33	17	E35, E36, E11, E10, E38, E7, E39, E34, E37, E18, E17, E12, E8, E4, E3, E5, E9	0		5
VP9	1277	E5	3	E2, E7, E9	7	E11, E10, E6, E1, E4, E3, E5	0		3
VP10	1638	E48	2	E49, E43	6	E48, E47, E50, E46, E44, E45	0		2
VP11	2051	E49	1	E49	3	E48, E50, E46	1	E47	1
VP12	2994	E49	1	E49	1	E48	0		1
VP13	419	E14	4	E26, E13, E14, E12	5	E27, E11, E10, E24, E23	3	E28, E25, E15	3

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible						No. 60 degree sectors
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID	
VP14	N/A	N/A	0		0		0		0
VP15	3517	W10	0		1	W10	0		1
VP16	3064	W31	0		0	W31	1	W31	1

Table 15 Summary of turbine visibility (all Project)

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible					
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID
VP1	4038	W31	11	E30, E27, E32, E35, E48, E50, E49, E43, E34, E44, E45	28	W33, W6, W8, W9, W7, E28, E29, E31, E26, E20, E25, E15, E36, E11, E10, E6, E47, E19, E38, E46, E41, E13, E39, E42, E37, E12, E33, E40	29	W31, W32, W21, W19, W5, W4, W30, W24, W23, W49, W48, W11, W52, W10, E2, E1, E22, E7, E21, E23, E14, E18, E17, E16, E8, E4, E3, E5, E9
VP2	1526	W52	21	W33, W21, W15, W5, W30, W45, W47, W49, W37, W46, W48, W41, W36, W13, W2, W42, E27, E50, E49, E43, E42	31	W31, W32, W20, W19, W14, W16, W17, W4, W3, W35, W40, W50, W44, W39, W34, W18, W43, W38, W1, W52, W51, E30, E28, E29, E48, E47, E46, E41, E44, E45, E40	18	W6, W8, W9, W24, W23, W27, W12, W26, W7, W29, W22, W25, E35, E36, E11, E10, E38, E12
VP3	1062	W1	5	W15, W14, W17, W4, W2	16	W19, W16, W5, W3, W35, W37, W40, W39, W41, W34, W36, W13, W18, W38, W1, W42	19	W31, W32, W21, W6, W8, W30, W27, W45, W47, W49, W50, W44, W46, W48, W28, W43, W52, W51, W29
VP4	1258	W7	21	W21, W20, W9, W23, W7, W25, E30, E27, E29, E20, E35, E15, E36, E10, E6, E1, E22, E37, E16, E4, E3	40	W33, W19, W15, W5, W6, W8, W24, W26, W18, W22, E28, E31, E32, E26, E25, E11, E2, E48, E19, E38, E7, E49, E21, E23, E41, E43, E13, E39, E34, E14, E44, E18, E17, E12, E8, E5, E9, E45, E33, E40	14	W31, W32, W16, W4, W27, W28, W11, W10, W29, E47, E24, E50, E46, E42

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible					
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID
VP5	2774	W7	16	W21, W19, W16, W9, W18, E30, E27, E29, E20, E35, E15, E36, E6, E1, E37, E3	51	W31, W33, W20, W15, W14, W17, W5, W4, W6, W8, W24, W23, W27, W26, W28, W7, W2, W29, W22, W25, E28, E31, E32, E26, E25, E11, E10, E2, E19, E22, E38, E7, E49, E21, E23, E41, E43, E13, E39, E34, E14, E18, E17, E16, E12, E8, E4, E5, E9, E33, E40	17	W32, W3, W30, W37, W40, W36, W13, W11, W10, E48, E47, E24, E50, E46, E42, E44, E45
VP6	1619	E36	7	W16, W9, E30, E27, E29, E32, E35	42	W33, W32, W21, W20, W19, W15, W14, W17, W5, W4, W6, W3, W8, W24, W23, W27, W26, W28, W7, W18, W2, W29, W22, W25, E28, E31, E26, E20, E36, E11, E10, E6, E38, E7, E43, E13, E39, E34, E37, E12, E33, E40	35	W31, W30, W12, W35, W49, W48, W34, W13, W11, W1, W10, E25, E15, E2, E1, E47, E19, E22, E50, E46, E49, E21, E41, E14, E42, E44, E18, E17, E16, E8, E4, E3, E5, E9, E45
VP7	2364	E32	7	W16, E27, E31, E32, E50, E49, E43	39	W33, W32, W21, W19, W15, W14, W17, W5, W4, W6, W3, W8, W9, W24, W23, W27, W26, W28, W7, W18, W2, W29, W22, W25, E30, E28, E29, E35, E36, E48, E47, E41, E34, E42, E44, E37, E45, E33, E40	29	W31, W20, W30, W12, W35, W37, W40, W39, W34, W36, W11, W38, W1, W10, E26, E20, E25, E15, E11, E19, E22, E38, E46, E21, E13, E39, E18, E17, E12

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible					
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID
VP8	1622	E37	13	W19, W9, W7, E30, E27, E28, E29, E20, E15, E6, E22, E16, E33	49	W33, W21, W20, W15, W14, W16, W17, W5, W4, W6, W3, W8, W24, W23, W27, W28, W18, W2, W29, W25, E31, E32, E26, E25, E35, E36, E11, E10, E2, E1, E19, E38, E7, E21, E23, E13, E39, E34, E14, E37, E18, E17, E12, E8, E4, E3, E5, E9, E40	23	W31, W32, W30, W12, W35, W37, W40, W39, W34, W36, W13, W26, W11, W38, W1, W10, W22, E24, E41, E43, E42, E44, E45
VP9	1277	E5	5	E2, E7, E14, E12, E9	11	E31, E32, E11, E10, E6, E1, E23, E13, E4, E3, E5	29	W19, W15, W5, W4, W6, W3, W8, W9, W7, W2, E30, E27, E26, E25, E15, E36, E24, E19, E38, E41, E39, E34, E42, E37, E18, E17, E8, E33, E40
VP10	1638	E48	7	W16, W9, W25, E27, E31, E49, E43	50	W33, W32, W21, W19, W15, W14, W17, W5, W4, W6, W3, W8, W24, W23, W27, W45, W47, W49, W50, W44, W46, W48, W34, W26, W28, W7, W43, W1, W2, W52, W51, W29, W22, E30, E28, E29, E32, E35, E36, E48, E47, E50, E46, E41, E34, E42, E44, E45, E33, E40	19	W31, W20, W30, W12, W35, W37, W36, W13, W11, W18, W10, W42, E26, E20, E25, E19, E38, E39, E37

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible					
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID
VP11	2051	E49	6	W16, W9, W25, E27, E49, E43	50	W33, W32, W21, W19, W15, W14, W17, W5, W4, W6, W3, W8, W24, W23, W27, W45, W47, W49, W50, W44, W46, W48, W26, W28, W7, W43, W1, W2, W52, W51, W29, W22, E30, E28, E29, E31, E32, E26, E35, E36, E48, E50, E46, E41, E34, E42, E44, E45, E33, E40	23	W31, W20, W30, W12, W35, W37, W41, W34, W36, W13, W11, W18, W10, W42, E20, E25, E47, E19, E38, E21, E39, E37, E18
VP12	2994	E49	9	W16, W9, W28, W25, E27, E31, E49, E43, E45	49	W33, W32, W21, W19, W15, W14, W17, W5, W4, W6, W3, W8, W24, W23, W27, W45, W47, W49, W50, W44, W46, W48, W26, W7, W43, W1, W2, W52, W51, W29, W22, W42, E30, E28, E29, E32, E26, E35, E36, E48, E47, E50, E46, E41, E34, E42, E44, E33, E40	22	W31, W20, W30, W12, W35, W37, W40, W39, W41, W34, W13, W11, W18, W10, E20, E25, E19, E38, E21, E39, E37, E18
VP13	419	E14	5	E26, E41, E13, E14, E12	8	E27, E11, E10, E24, E23, E42, E9, E40	9	E28, E25, E15, E6, E2, E1, E50, E43, E5
VP14	3720	E1	8	E28, E29, E11, E6, E14, E12, E5, E9	20	E30, E27, E31, E32, E26, E20, E10, E2, E1, E22, E7, E23, E41, E43, E13, E42, E18, E16, E8, E4	19	W3, W8, W9, W2, E25, E35, E15, E36, E24, E19, E21, E39, E34, E44, E37, E17, E3, E33, E40

Viewpoint no.	Distance to nearest turbine (m)	Nearest turbine ID	No. turbines visible					
			Full height of turbine	Turbine ID	Swept path of rotor	Turbine ID	From hub	Turbine ID
VP15	3517	W10	6	W5, W4, W6, W8, W9, W11	8	W16, W3, W12, W7, W2, W10, E27, E26	30	W21, W19, W15, W14, W17, W28, W18, W1, E28, E29, E20, E25, E15, E11, E10, E6, E2, E1, E22, E38, E7, E41, E13, E37, E12, E4, E3, E5, E9, E40
VP16	3064	W31	11	E30, E27, E31, E32, E35, E48, E50, E49, E43, E34, E45	41	W33, W21, W20, W19, W15, W5, W4, W6, W3, W23, W49, W48, W18, W25, E28, E29, E26, E20, E25, E15, E36, E11, E10, E6, E2, E1, E47, E19, E38, E7, E46, E41, E13, E39, E42, E44, E37, E12, E4, E33, E40	27	W31, W14, W8, W24, W45, W47, W50, W44, W46, W28, W43, W2, W52, W51, W29, W22, E22, E21, E23, E14, E18, E17, E16, E8, E3, E5, E9

7.4 Potential cumulative impacts

The main cumulative impact of multiple wind farm developments for the region is likely to be related to the combined visual impact of the wind farms at locations where more than one wind farm is visible.

Cumulative analysis has been run to identify those dwellings and significant viewpoints, within a distance of 8 km (refer Figure 91) from either:

- Watta Wella wind farm (proposed, not subject to EES approval), located 16.5 km southwest of the Project
  - 47 turbines at 255m height
- Bulgana Green Energy Hub (existing), located 19.5 km south of the Project
  - 56 wind turbines at 114m height
- Crowlands wind farm (existing), located 23 km south of the Project
  - 39 wind turbines at 146.5m height

There are eight dwellings (refer Figure 92) which are likely to have views to the Project and Watta Wella Wind Farm within 8 km. The dwellings located at Greens Creek south of Navarre and north of Watta Wella, include:

1) 1056 Glynwylln Road
2) 167 Evans Road
3) 74 Greens Creeks Road
4) 2041 Stawell-Avoca Road
5) 2371 Werenda Lane
6) 600 Perry Jones Lane
7) 664 North Woodland Road, Tulkara
8) Tulkara-Railway Road, Wattle Creek.

Table 16 provides a summary of the potential cumulative impacts for dwellings within 8 km of both Navarre and Watta Wella wind farms. The field of view (FOV) is based on the level of potential intervening vegetation or structures indicated in aerial imagery (refer Figure 72 to Figure 79).

Table 16 Potential cumulative impacts

Dwelling	Distance from closest Navarre turbine (km)	Distance from closest Watta Wella turbine (km)	Field of view towards wind farms with no apparent screening
1056 Glynwylln Road, Greens Creek	6.5	8.6	■ 60 degrees to northeast in direction of Navarre ■ 0 degrees south towards Watta Wella
167 Evans Road	3.68	10.7	■ 90 degrees to northeast in direction of Navarre ■ 0 degrees south towards Watta Wella
74 Greens Creeks Road	7.8	4.3	■ 60 degrees northeast in direction of Navarre ■ 0 degrees south towards Watta Wella
2041 Stawell-Avoca Road	7.3	4.6	■ 15 degrees to northwest in direction of Navarre ■ 0 degrees south towards Watta Wella

2371 Werenda Lane	4.5	7.8	▪ 0 degrees north towards Navarre ▪ 120 degrees south towards Watta Wella, with some scattered vegetation
600 Perry Jones Lane	8.2	5.5	▪ 60 degrees to northwest in direction of Navarre ▪ 0 degrees south towards Watta Wella
664 North Woodland Road, Tulkara	10.05	9.1	▪ 15 degrees northeast in direction of Navarre ▪ 0 degrees south towards Watta Wella
Tulkara-Railway Road, Wattle Creek	10.5	10.5	▪ 0 degrees to north in direction of Navarre ▪ 0 degrees southwest towards Watta Wella

Figure 72 1056 Glynwylln Road aerial image (sources: Google Earth, March 2021)

Figure 73 167 Evans Road aerial image (sources: Google Earth, March 2021)

Figure 74 74 Greens Creeks Road aerial image (sources: Google Earth, March 2021)

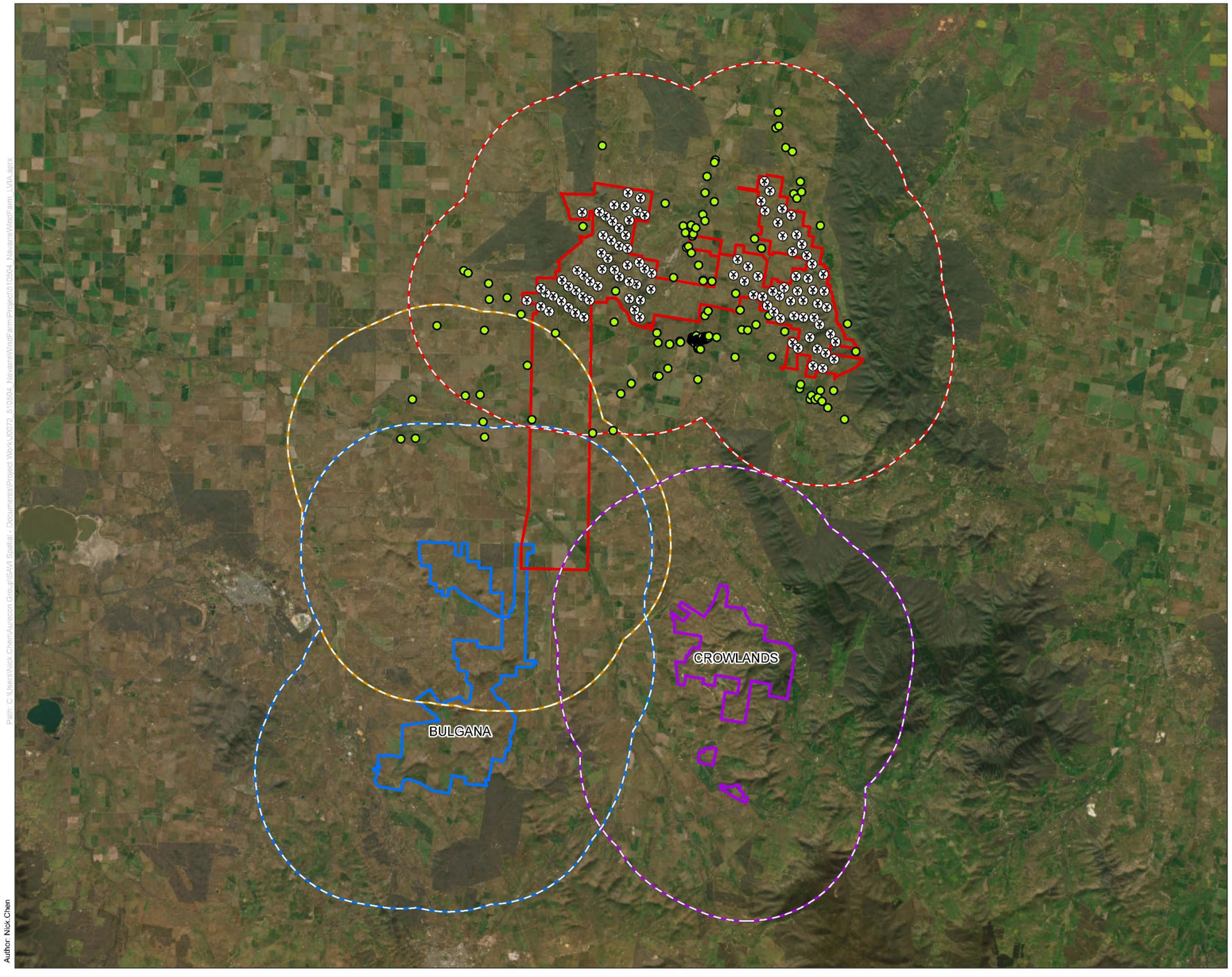
Figure 75 2041 Stawell-Avoca Road aerial image (sources: Google Earth, March 2021)

Figure 76 2371 Werenda Lane aerial image (sources: Google Earth, March 2021)

Figure 77 600 Perry Jones Lane aerial image (sources: Google Earth, March 2021)

Figure 78 664 North Woodland Road aerial image (sources: Google Earth, March 2021)

Figure 79 Tulkara-Railway Road aerial image (sources: Google Earth, March 2021)



Legend

- Preliminary Turbine Locations
- Dwelling Location
- Project Area
- 8 km Buffer from Wind Farm

Adjacent Operating Wind Farm

- BULGANA
- CROWLANDS
- WATTA WELLA
- 8 km Buffer from Bulgana
- 8 km Buffer from Crownlands
- 8 km Buffer from Watta Wella

Data Sources:
Aurecon (2023)
DELWP (2023)
ESRI (2023)

Date: 27/04/2023 Version: 1

A3 scale:1:250,000
0 5 10 Kilometres

Job No: 510504
Coordinate System: GDA 1994 MGA Zone 54

Navarre Green Power Hub

Receptors Within 8km of Adjacent Wind Farms

Author: Nick.Chen

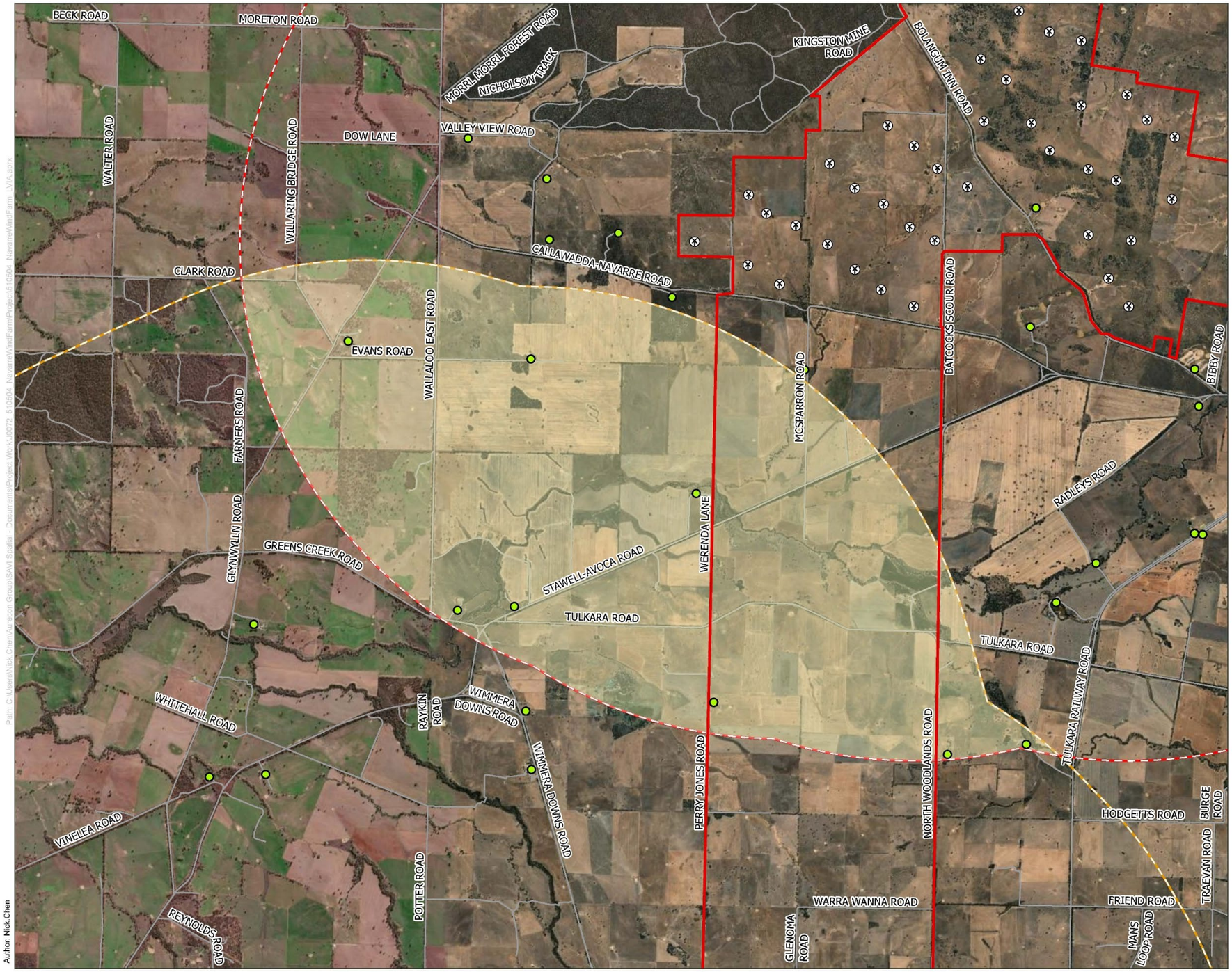
Path: C:\Users\Nick.Chen\Aurecon Group\SAVI Spatial - Documents\Project Work\JD072_510504_NavarreWindFarm\Project\510504_NavarreWindFarm_LVIA.aprx

Figure 80 Receptors within 8 km of the Site

7.4.1 Summary of potential cumulative impacts

Of the eight identified dwellings likely to experience cumulative impacts, the presence of existing vegetation and farm infrastructure near to the dwellings, will likely screen views towards one of the wind farms. Subsequently, there are no expected cumulative impacts when viewed from the identified rural dwellings.

Field analysis is recommended to ground truth the presence of screening vegetation or structures, along with key views from private dwellings.



Legend

- Preliminary Turbine Locations
- Dwelling Location
- Project Area
- 8 km Buffer from Wind Farm
- Road

Adjacent Operating Wind Farm

- Watta Wella
- 8 km Buffer from Watta Wella
- Overlapping Area

Data Sources:
Aurecon (2023)
DELWP (2023)
ESRI (2023)

Date: 27/04/2023 Version: 1

Author: Nick.Chen

Path: C:\Users\Nick.Chen\Aurecon Group\EMM Spatial - Documents\Project Work\510072_510504_NavarreWindFarm\Project\510504_NavarreWindFarm_LVIA.aprx

A3 scale:1:65,000
0 1 2 Kilometers

Job No: 510504
Coordinate System: GDA 1994 MGA Zone 54

Navarre Green Power Hub

The Overlapping area for Navarre and Watta Wella Wind Farm

Figure 81 Overlapping area with high potential cumulative impacts

8 Conclusions

This report has been prepared to provide a preliminary assessment of landscape and visual amenity likely to be impacted by the Project.

The level of impacts resulting from the Project has been assessed in accordance with Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria. The preliminary assessment of landscape and visual impacts are the combination of the magnitude of change experienced from the baseline conditions, and the sensitivity of a landscape or view.

8.1 Landscape Character impacts

There are no planning overlays within the study area designating protection to any of the landscape character types. Preliminary impact assessment to the Landscape Character indicate that the Project will have low to negligible impacts including:

- Low landscape character impacts:
  - LCT 1 - Rural Farmland and LCT 3 Towns and settlements
- Negligible impacts:
  - LCT 2 – Bushland reserves.

8.2 Visual impacts

No significant viewpoints were identified within the preliminary Study Area. The preliminary assessment identified 16 viewpoints within the Study Area representative of potential highly sensitive receptors including from rural dwellings and rural villages, with potential high to moderate impacts assessed from eight of the viewpoints where the receptor has potential views of proposed turbines within foreground views and/ or these views have limited intervening vegetation.

- Potential for high visual impacts a rural dwelling and a recreational reserve:
  - VP1: Navarre Football and Netball Club
  - VP8: Raeburn Road, Paradise
- Potential for Moderate visual impacts from six rural dwellings:
  - VP3: 2157 Bolangum Inn Road 'Tulloch', Paradise (Project host)
  - VP4: Basin Road, Paradise
  - VP6: 4121 Ararat-St Arnaud Road, Paradise
  - VP9: 597 Winjallok Road, Winjallok
  - VP10: 42 Cross Road, Barkly
  - VP13: Barkly Gap Road (Project host)
- Potential for Low and very low visual impacts from eight rural dwellings and a public hall:
  - VP2 199 McSparron Road, Greens Creek
  - VP7 Higgins Road, Barkly
  - VP12 Barkly Public Hall, Barkly
  - VP5 63 Basin Road. Paradise
  - VP11 Frenchmans-St Arnaud Road, Barkly

- VP14 384 Wingfield Road, Rostron
- VP15 Eagles Track, (south of Kanya Road) Tottington
- VP16Stawell-Avoca Road – Macs Lane, Navarre

- Turbines in three or more 60degree sectors potentially experienced by nine of the representative viewpoints:
  - VP2: 199 McSparron Road, Greens Creek
  - VP3: 2157 Bolangum Inn Road 'Tulloch', Paradise
  - VP4: Basin Road, Paradise
  - VP5: 63 Basin Road. Paradise
  - VP6: 4121 Ararat-St Arnaud Road, Paradise
  - VP7: Higgins Road, Barkly
  - VP8: Raeburn Road, Paradise
  - VP9: 597 Winjallok Road, Winjallok
  - VP13: Barkly Gap Road.

8.2.1 Mitigation

The PLVIA has identified eight representative viewpoints which have the potential for moderate to high impacts as a result of the Project. The extent of visibility towards turbines will be dependent on intervening vegetation and structures.

Visual mitigation can be investigated firstly through avoiding impacts through the design process and site layout. Further assessment of viewpoint visual impacts will identify areas which may require landscape screening to reduce visual impacts for sensitive receptors.

It is recommended that consultation with residents which are likely to experience adverse impacts as a result of the Project. Priority is given to those likely to experience high to moderate visual impacts, to determine whether

1. Changes to the turbine layout can be made to reduce the impact rating; or
2. views towards the Project can be mitigated through planting of vegetation screening.

8.3 Cumulative impacts

There are eight rural dwellings identified within 8 km of both Navarre and Watta Wella. Analysis of aerial imagery found that existing vegetation or farm structures are likely to screen views towards one of the wind farms. Subsequently, there are no expected cumulative impacts when viewed from the identified rural dwellings.

9 References

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