

1. Landscape and Visual Assessment

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WIMMERA PLAINS ENERGY FACILITY

LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Prepared for:

Wimmera Plains Energy Facility Pty Ltd

Prepared by:

GREEN BEAN DESIGN

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Wimmera Plains Energy Facility Landscape and Visual Impact Assessment v3 April 2020

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DOCUMENT CONTROL

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Glossary

This Landscape and Visual Impact Assessment has adapted the following definitions from the Guidelines for Landscape and Visual Impact Assessment (2013).

Table 1 Glossary

Term	Definition
Cumulative effects	The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.
Magnitude	A combination of the scale, extent and duration of an effect.
Mitigation	Measures, including any processes, activity or design to avoid, reduce, remedy or compensate for adverse landscape and visual effects of a development project.
Photomontage (Visualisation)	Computer simulation or other technique to illustrate the appearance of a development.
Sensitivity	Susceptibility of a receiver to a specific type of change.
Visibility	A relative determination at which the proposal can be clearly discerned and described.
Visual amenity	The value of a particular area or view in terms of what is seen.
Visual effect	The changes in the character of the available views resulting from the development or the changes in visual amenity of the visual receivers.
Visual Impact Assessment	A process of applied professional and methodical techniques to assess and determine the extent and nature of change to the composition of existing views that may result from a development.
View location	A place or situation from which a proposed development may be visible.
Visual receiver	Individual and/or defined groups of people who have the potential to be affected by a proposal.
Visual significance	A measure of the importance or gravity of the visual effect culminating from the degree of magnitude and receiver sensitivity.

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Executive Summary

Green Bean Design Pty Ltd (GBD) was commissioned by Wimmera Plains Energy Facility Pty Ltd, a wholly owned subsidiary of Baywa-re Wind Pty Ltd (the Proponent) to undertake a Landscape and Visual Impact Assessment (LVIA) for the proposed Wimmera Plains Wind Farm (the Project).

The Project would comprise up to 54 wind turbines, 2 substations, around 3.6km of overhead 220kV transmission line and poles, associated electrical infrastructure and ancillary structures such as a control room and access tracks. The proposed wind turbines have been assessed with an overall tip height of up to 247 metres and would form the most visible component of the development.

This LVIA has determined that the landscape surrounding the project site, as well as landscape in the broader viewshed, has a low sensitivity to change and represents a highly modified and productive agricultural landscape which is common to the Wimmera landscape region.

This LVIA has determined that the visual impact of the Wimmera Plains wind turbines is likely to be low to moderate from publicly accessible locations and that the proposed Wimmera Plains Wind Farm:

- would have a negligible to low visual impact on the principal rural townships of Horsham, Murtoa, and Dooen
- would have a moderate visual impact on the Jung rural township
- would result in no significant impact on views from the Henty Highway
- would result in no significant impact on views from local roads and
- would result in no significant visual impact from scenic areas, public reserves and recreational areas, including any available long distant views from Mount Arapiles and the Grampians National Park.

A cumulative assessment identified the Murra Warra Wind Farm at around 7.5 kilometres (km) from the proposed Wimmera Plains wind turbines. This LVIA determined that there would be a limited degree of visibility between the Wimmera Plains wind turbines and the Murra Warra Wind Farm; however, the potential for any significant level of direct and indirect cumulative impact would be mitigated by the distance between sensitive dwelling locations and wind turbines within each of the wind farms.

Although some mitigation measures are considered appropriate to minimise the visual effects for a number of the elements associated with the proposed Wimmera Plains Wind Farm, it is acknowledged that the degree to which the wind turbines may be visually mitigated is limited by their scale and position within the landscape relative to surrounding view locations, as well as the overall open and flat characteristics of the surrounding landscape.

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Introduction

Section 1

1.1 Introduction

This LVIA has been prepared by GBD on behalf of the Proponent to accompany a Planning Permit Application for the proposed Wimmera Plains Wind Farm project. This LVIA informs the assessment of the Wimmera Plains Wind Farm project site for suitability to install wind turbines within the landscape surrounding the project site, as well as considering the potential extent and degree of visual effects on people living in, and travelling through, the surrounding landscape.

This LVIA has been prepared with regard to the following documents and guidelines to identify and consider potential landscape and visual impacts:

- Ministerial guidelines for assessment of environmental effects under the Environmental Effects Act 1978
- Policy and planning guidelines: Development of wind energy facilities in Victoria, March 2019 and
- Horsham Rural City Council Planning Scheme.

In addition, this LVIA has also considered landscape and visual impact assessment guidance set out in:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition, Landscape Institute and Institute of Environmental Management & Assessment, 2013
- Siting and Designing Wind Farms in the Landscape, Version 2, Scottish Natural Heritage, May 2014 and
- Visual Representation of Wind Farms, Version 2.2, Scottish Natural Heritage, March 2017.

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Methodology and report structure

Section 2

2.1 Methodology

The methodology employed for this LVIA has been based on existing guidelines identified in the LVIA introduction. The methodology is also based on the assessment of multiple wind farm projects undertaken by GBD within Victoria, South Australia, New South Wales, Queensland and Tasmania. The key tasks incorporated into the LVIA methodology are identified in **Table 2**.

2.2 Report structure

This LVIA report has been structured into 14 parts as follows:

Table 2 – Report structure

Report section	Description
1 – Introduction	This section provides an introductory section that describes the intent and purpose of the LVIA
2 – Report structure and methodology	This section sets out the structure and methodology employed in the Wimmera Plains Wind Farm LVIA preparation.
3 – Project location and description	This section describes the regional and local position of the wind farm development relative to existing landscape features and places and describes the key visible components of the Wimmera Plains Wind Farm.
4 – Legislative and planning frameworks	This section sets out the legislative and planning frameworks describe policies and provisions that apply to proposed wind farm within the viewshed.
5 – Viewshed	This section identifies the area of land surrounding the wind farm which may be potentially affected by the proposed Wimmera Plains Wind Farm project.
6 – Panorama and aerial photographs	This section illustrates the LVIA with panorama and aerial photographs taken during the site inspection. The photographs are provided to illustrate the general

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Table 2 – Report structure

Report section	Description
	appearance of typical landscape characteristics that surround the proposed wind turbines.
7 – Landscape Character Assessment	This section describes the physical characteristics of the landscape surrounding the Wimmera Plains Wind Farm site and determines the overall sensitivity of the landscape to the wind farm development.
8 – Zone of theoretical visibility	This section identifies a theoretical area of the landscape from which the wind turbines may be visible within the viewshed and describes a range of factors which may influence the wind farm visibility within the viewshed.
9 – Key views and visual effects	This section describes and determines the potential visual effect of the wind turbines on key public viewpoints within the Wimmera Plains Wind Farm viewshed.
10 – Cumulative assessment	This section describes the potential impact of alternate existing and/or known wind farm developments within proximity to the Wimmera Plains Wind Farm.
11 – Photomontages	This section presents photomontages to illustrate potential views toward the proposed wind farm from surrounding public view locations.
12 – Pre-construction and construction	This section describes the activities associated with pre-construction and during construction which may create visual impacts.

Table 2 – Report structure

Report section	Description
13 – Mitigation measures	This section outlines potential mitigation measures to minimise visual effects arising from the proposed wind farm development.
14– Conclusion	Conclusions are drawn on the overall visual effect of the proposed Wimmera Plains Wind Farm.

Project location and description

Section 3

3.1 Project location

The proposed Wimmera Plains Wind Farm project site is located in Western Victoria within the Horsham Rural City local government area. The project site is approximately 19km north to north east of Horsham and 3km to the north west of Jung. The project site location in both regional and local contexts is illustrated in **Figures 1** and **2**. The project site would extend from and surround the 2 approved Jung wind turbines located south of Banyena Road.

3.2 Project description

The key visual components of the proposed Wimmera Plains Wind Farm are currently expected to comprise:

- up to 54 wind turbines to a maximum 247 metre tip height
- substations, associated electrical infrastructure and control room
- overhead power line connections between wind turbines and substations
- night time aviation obstacle lighting
- wind monitoring towers
- crane hardstand area
- on site access track for construction, operation and ongoing maintenance and
- signage.

Temporary works associated with the construction of the wind turbines that may be visible during construction and operational phases include:

- temporary site office, parking and materials storage area.

The proposed wind turbine layout is illustrated in **Figure 2**.

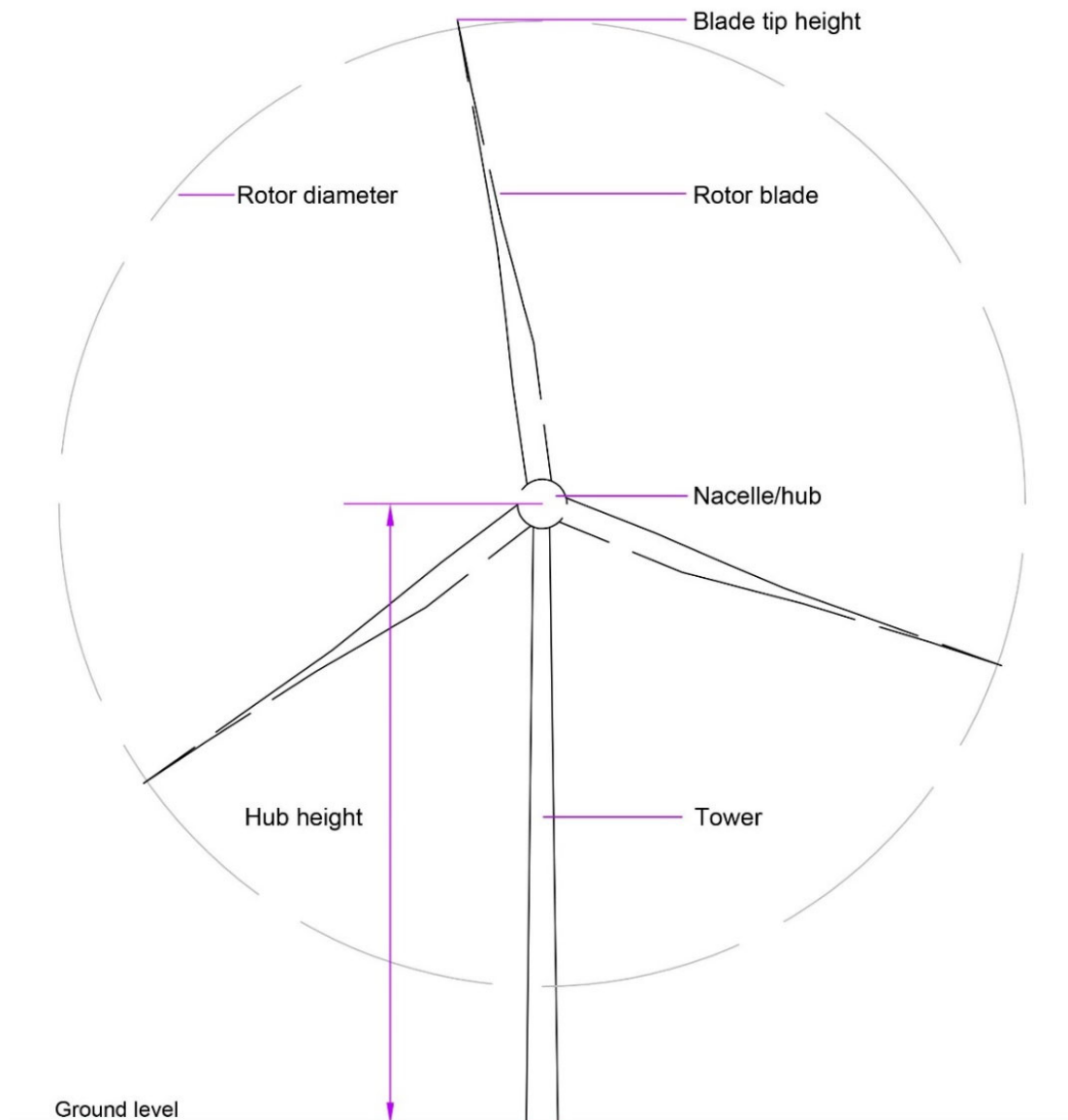
3.3 Wind turbines

The specific elements of the wind turbines typically comprise:

- concrete foundations;
- tubular tapering steel and/or concrete towers;
- nacelles at the top of the tower housing the gearbox and electrical generator;
- rotors comprising a hub (attached to the nacelle) with three blades; and
- three composite material blades attached to each hub.

The proposed indicative wind turbine design is illustrated in **Figure 3**.

The following diagram identifies the main components of a typical wind turbine:



3.4 Electrical works and aviation obstacle lighting

The proposed wind turbines would be connected to 2 substations located to the east and west of the Henty Highway. The substations would be connected by a single circuit 220kV transmission line. Ancillary electrical infrastructure associated with the project is unlikely to form significant visual elements within the viewshed and not create significant visual effects on surrounding sensitive view locations.

The Proponent commissioned an aeronautical study which included a consideration with regard to obstacle lighting needs and requirements for the installation and operation of obstacle lighting. The aeronautical study

concluded that whilst obstacle lighting may be required, a determination for the installation and operation of obstacle lighting would be subject to Civil Aviation Safety Authority (CASA) requirements. Any hazard lighting

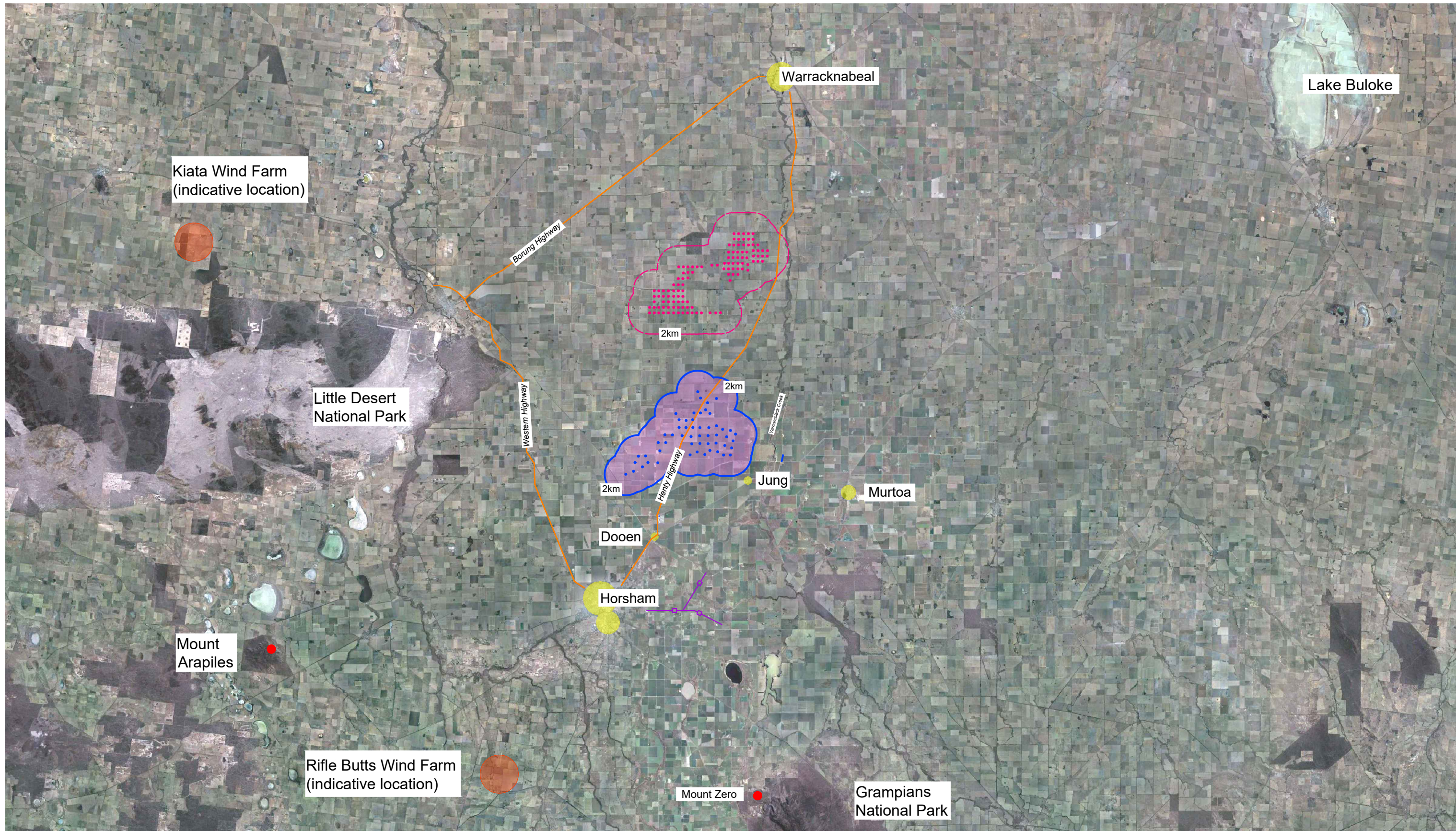
requirements would be installed in accordance with the Civil Aviation Safety Authority Manual of Standards Part 139 -Aerodromes, Chapter 9, paragraph 9.4.7.

3.5 Wind monitoring masts

Up to 4 permanent meteorological masts would be installed on the project site. The permanent masts are expected to be of a guyed, narrow lattice or tubular steel design extending up to 160m in height. The masts would include a small number of meteorological instruments including a wind vane, anemometer and temperature/humidity sensor. The instruments would be small scale and not significantly visible beyond the mast locality.

The permanent wind monitoring masts would not create a significant visual impact in the context of the overall wind farm development.

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Legend

- Proposed wind turbines
- Existing 220kV transmission line
- Highway
- Distance from wind turbine
- Approved Murra Warra wind turbine (indicative)
- 2km distance from Murra Warra turbine
- 2 km view shed
- Township/locality

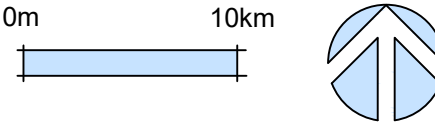
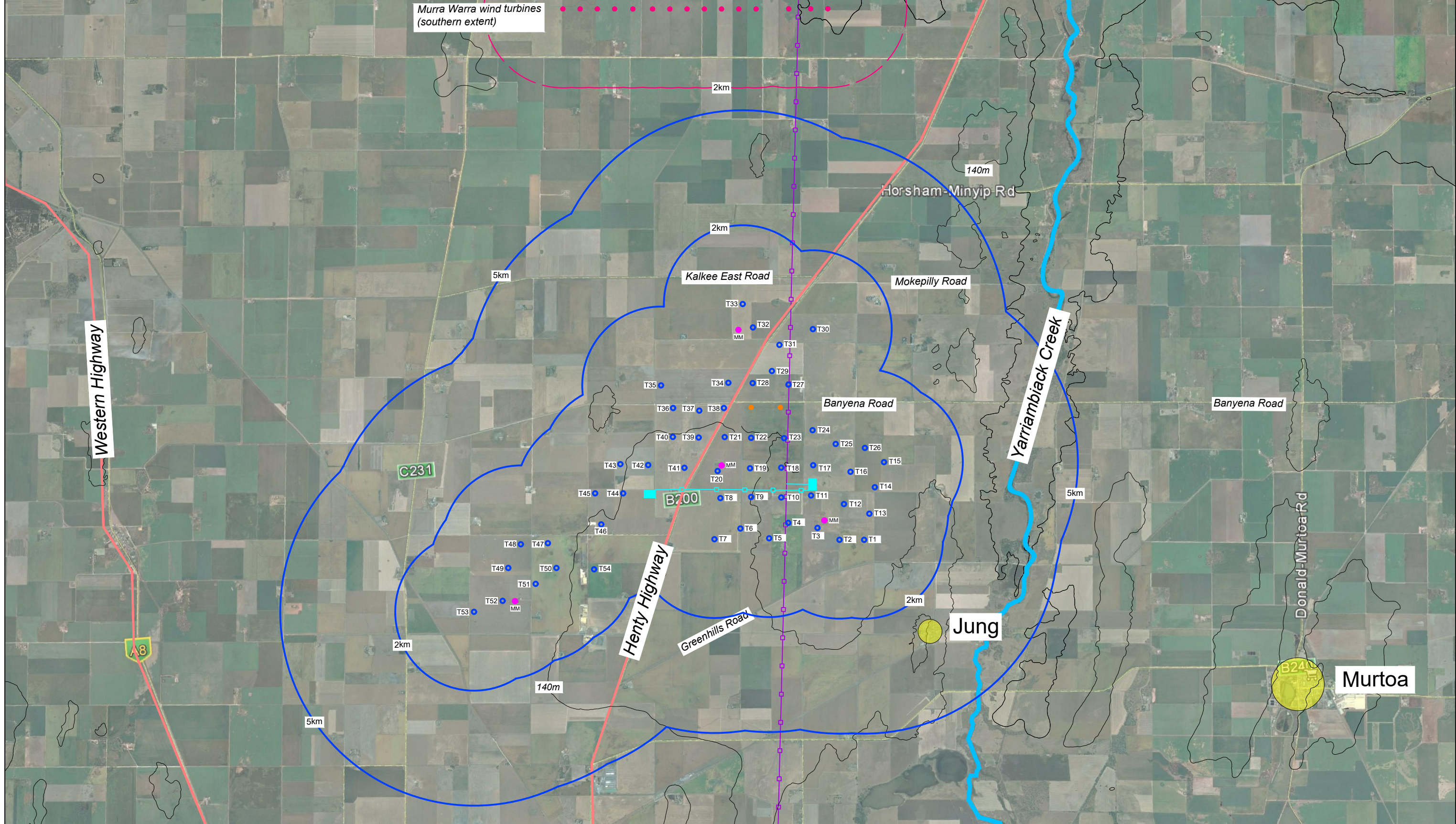


Figure 1
Regional location

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Wimmera Plains Energy Facility LVIA

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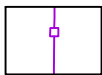
Legend



Proposed wind turbine



Proposed substation location (indicative)



Existing 220kV transmission line



Highway



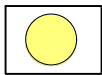
Approved Murra Warra wind turbines



Proposed meteorological mast



Proposed overhead transmission line



Township/locality



Ground contour (at 10 metre interval)



Approved Jung wind turbines

0m 2km



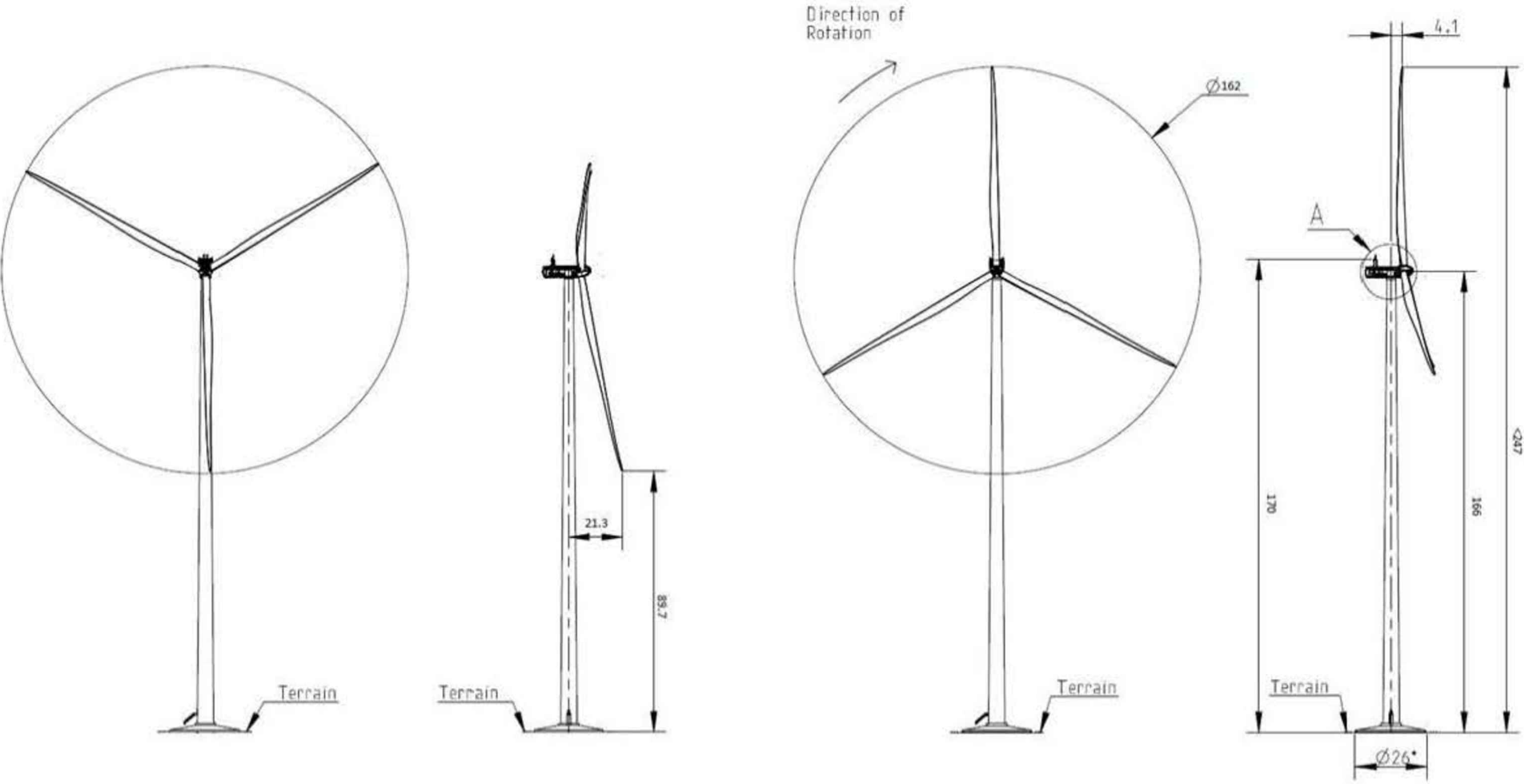
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Wimmera Plains Energy Facility LVIA

Figure 2
Project locality

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Wind turbine dimensions
in metres



Make: VESTAS
Model: V162
Capacity: 5.6 MW
Nacelle/Cooler Top/ Rotor Hub Material: Steel framed construction with fibreglass composite cover
Blade Material: Fibreglass composite
Tower Material: Steel
Foundation Material: Concrete with steel reinforcement
Stair Material: Aluminium
Colour and Finish of Stairs: Natural Aluminium
Colour and Finish of Turbines (nacelles, cooler tops, rotor hub, blades and towers): 'light grey' (RAL 7035). (Industry Standard, Non-Reflective)
Colour and Finish of Foundations: Cement Grey, Natural Concrete

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Figure 3
Indicative wind turbine design

Legislative and planning frameworks

Section 4

4.1 Introduction

This LVIA has been undertaken with regard to various State and Local planning policies, as well as controls and policy guidelines applicable to the Wimmera Plains Wind Farm project. These include:

Planning Policies

- Victorian State Planning Policy Framework – relevant Clause 19.01
- Local Planning Policy Framework – relevant Clauses 21-22

Planning Controls

- Particular Provisions – relevant Clauses 52.32
- Zoning and Overlays

Relevant guidelines

- Policy and planning guidelines: Development of wind energy facilities in Victoria, March 2019
- Draft National Wind Farm Guidelines, July 2010

4.2 State Planning Policy Framework

The Victorian Government State Planning Policy Framework Clause 19.01, Renewable Energy, sets out objectives, strategies and policy guidelines for the provision of renewable energy including the development of wind energy facilities.

4.3 Local Planning Policy Framework - Horsham Rural City Planning Schemes

The Local Planning Policy Framework for Horsham Rural City Council is set out in Clause 21 and Clause 22 of the Planning Schemes. Clause 21 sets out the Municipal Strategic Statements (MSS) and Clause 22 the Local Planning Policies particular to each Council. The Horsham Rural City Planning Scheme references numerous Clauses in relation to objectives, strategies and policy guidelines to address Councils strategic planning objectives. Those with specific relevance to the Wimmera Plains Wind Farm project include:

Clause 21.02-2 of the Horsham Rural City Planning Scheme MSS which states that:

- the Grampians National Park is of great environmental and scenic value (classified by the National Trust) as well as containing many sites of Aboriginal cultural importance. The adjacent Black Range forms part of the significant landscape, remnant habitat and water supply catchment in the southern area of the municipality; and
- Mt Arapiles is a renowned rock-climbing venue attracting 70,000 visitors each year, assisting to sustain the nearby town of Natimuk. The Mount is an important landscape feature visible across the plains from many areas within the municipality.

Wimmera Plains Energy Facility Landscape and Visual Impact Assessment v3 April 2020

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4.4 Zoning and Overlays

The proposed Wimmera Plains Wind Farm is wholly located within the Rural Farming Zone (FZ) as defined in Clause 35.07 of the Planning Scheme. Wind energy facilities are a permissible use subject to the wind energy project meeting the requirements of the State Planning Policy Clause 52.32 Wind Energy Facility.

No Significant Landscape Overlays (SLO's) in the Horsham Planning Schemes have been identified within the proposed Wimmera Plains Wind Farm 5km viewshed.

4.5 Particular provisions

Particular Provisions Clause 52.32, Wind Energy Facility sets out a framework which includes the preparation of a design response to assess the visual impact of the proposal on the surrounding landscape. Both Planning Schemes outline application requirements for wind energy facilities under Clause 52.32. In broad terms the application information with specific regard to landscape and visual includes:

- Direction and distances to nearby dwellings, townships, urban areas, significant conservation and recreation areas, water features, tourist routes and walking tracks, major roads, airports, aerodromes and existing and proposed wind energy facilities;
- Views to and from the site, including views from existing dwellings and key vantage points including major roads, walking tracks, tourist routes and regional population growth corridors;
- A site plan, photographs or other techniques to accurately describe the site and surrounding area;
- Accurate visual simulations illustrating the development in the context of the surrounding area and from key public view points;
- A description of how the proposal responds to any significant landscape features for the area identified in the planning scheme; and
- An assessment of:
 - the visual impact of the proposal on the landscape; and
 - the visual impact on abutting land that is subject to the National Parks Act 1975 and Ramsar wetlands and coastal areas.

4.6 Policy and planning guidelines: Development of wind energy facilities in Victoria, March 2019 (the Victorian Guidelines) The purpose of the Victorian Guidelines is to set out:

- a framework to provide a consistent and balanced approach to the assessment of wind energy projects across the state;
- a set of consistent operational performance standards to inform the assessment and operation of a wind energy facility project; and

- guidance as to how planning permit application requirements might be met.

The Victorian Guidelines outline the key criteria for evaluation of the planning merits of a wind energy facility. Section 5.1.3 Landscape and visual amenity identifies a number of considerations with regard to the degree of visual impact caused by wind farm developments.

4.7 Draft National Wind Farm Guidelines

The Draft National Wind Farm Development Guidelines, originally issued October 2009, have been revised following a first round of public consultation and comment. The revised Guidelines were re-issued in July 2010 for a second round of comments. The Environment Protection and Heritage Standing Committee ceased further development of the Guidelines in 2010.

4.8 Planning considerations

The key considerations drawn from the existing planning policy framework which are directly relevant to this LVIA are as follows:

- The Horsham Planning Scheme applies SLO to a number of significant landscape features within the municipality including the Mount Arapiles-Tooan State Park and the Grampian and Black Range Environs. These prominent landmark features afford regional vistas, but located approximately 40km from the wind turbines, are at the limit of visibility to a point where the wind turbines would have no significant visual impact on available views from these key landmark sites.
- The Wimmera Plains Wind Farm project site is located within land designated as Farming Zone within the Horsham Planning Schemes.
- There are no Significant Landscape Overlays (SLO) within the immediate project site viewshed.
- There are various Environmental Significance Overlays (ESO2 and ESO3) within the wind turbine viewshed. These generally relate to the protection of amenity along main roads and preservation of vegetation which enhances visual characteristics of Road Zones.
- There are no Regional Cities, Townships or urban settlements within the immediate project site viewshed, and most principal Townships are located beyond 10km from the project turbines.
- The Victorian Guidelines (March 2019) present a comprehensive and clear set of considerations by which to assess the potential visual impacts of wind farm developments; however, some of the considerations require a greater degree and more detailed level of assessment than is required for this LVIA.
- The Draft National Guidelines (July 2010) ceased development in 2010 and have not been revisited or updated. The guidelines lack a degree of technical application which is more clearly set out in standard industry texts such as the Guidelines for Landscape and Visual Impact Assessment (3rd Edition) Landscape Institute and Institute of Environmental Management & Assessment, 2013.

Viewshed

Section 5

5.1 Viewshed

For the purpose of this LVIA the viewshed is defined as the area of land surrounding and beyond the project area which may be potentially affected by the wind turbines. In essence, the viewshed defines this LVIA study area. The viewshed for the proposed Wimmera Plains Wind Farm has been illustrated at a distance of 5km extending across the landscape away from the wind turbines. The 5km viewshed illustrates the location of the approved Murra Warra Wind Farm site to the north of the Wimmera Plains Wind Farm site.

The distance of the viewshed can vary between wind farm projects, and may be influenced and informed by a number of criteria including the height of the wind turbines together with the nature, location and height of landform that may limit and influence the extent of wind farm visibility.

It is important to note that the wind turbines would be visible from areas of the landscape beyond the 5 kilometre viewshed; however, within the general parameters of normal human vision, a wind turbine at a maximum height of 247 metres to the tip of the rotor blade would occupy a relatively small proportion of a person's field of view from distances in excess of 5km and result in a relatively low level of perceived visual significance.

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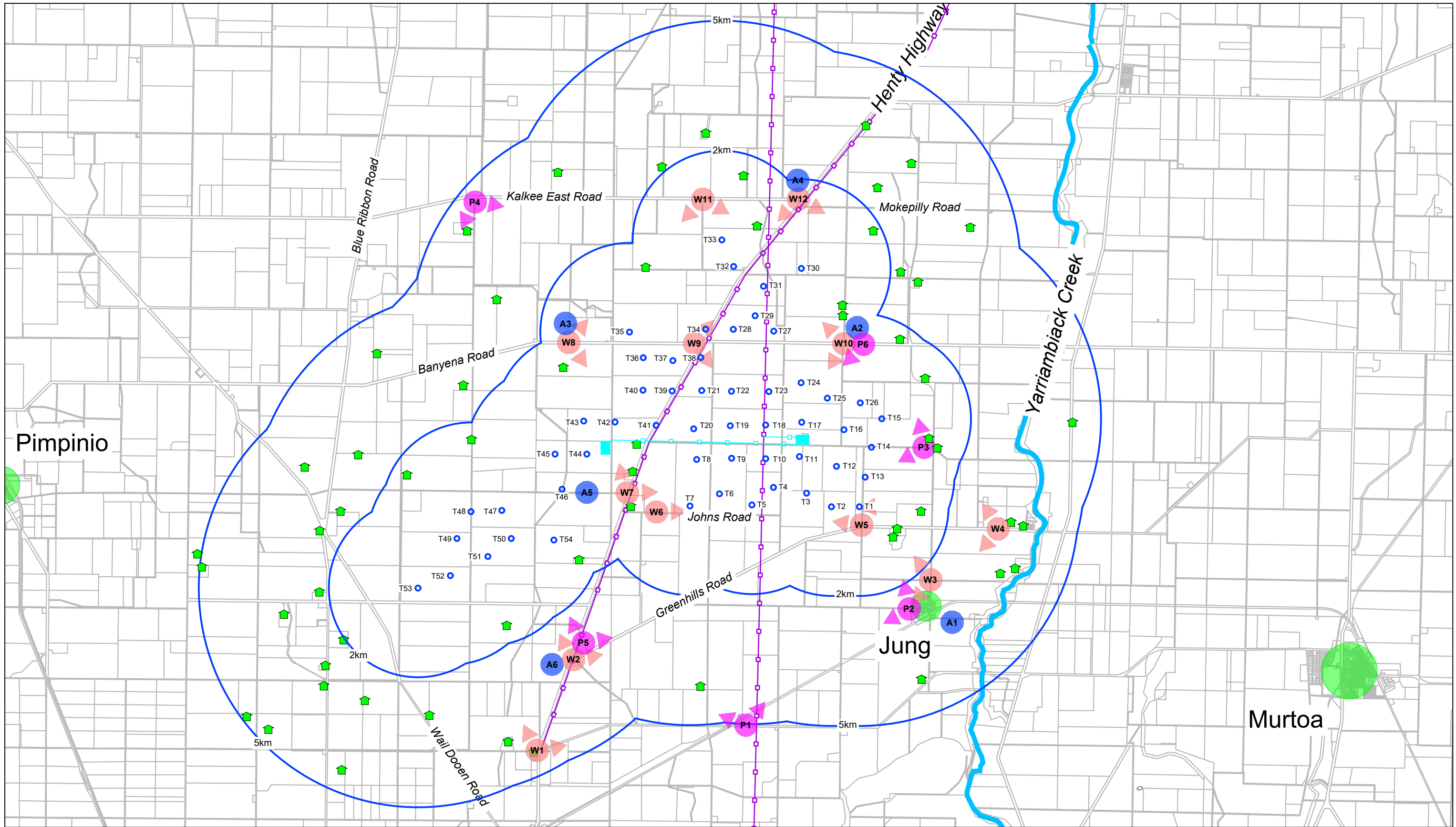
Panoramic and aerial photographs

Section 6

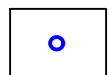
6.1 Panoramic and aerial photographs

A series of individual and panorama digital photographs and aerial photographs were taken during the course of the fieldwork to illustrate existing views in the vicinity of the project site and to give a sense of the overall site in its setting. The panorama photographs were digitally stitched together to form a segmented panorama image to provide a visual illustration of the existing view from each photo location.

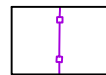
The panoramic and aerial photographs presented in this LVIA have been annotated to identify local features within and beyond the project site. The panoramic photograph locations are illustrated in **Figure 4**, and the panoramic and aerial photographs illustrated in **Figures 5 to 16**.



Legend



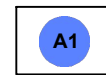
Proposed Wimmera
wind turbine



Existing transmission line



Panorama photo location



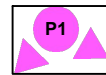
Aerial photo location



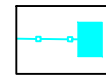
2 km viewshed



Residential dwelling within
5km of wind turbine



Photomontage location



Proposed onsite powerline and
substation location (indicative)

0m 2km

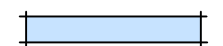


Figure 4
Photo and photomontage
locations

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Wimmera Plains Energy Facility LVIA

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Photo panorama W1 - Existing view north west to north east from Dooen School Road. Approximate distance to closest wind turbine 5.2 kilometres.



Photo panorama W2 - Existing view north west to north east from Greenhills Road. Approximate distance to closest wind turbine 3.47 kilometres.

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Photo panorama W3 - Existing view south west to north west from Jung North Road. Approximate distance to closest wind turbine 2.7 kilometres.

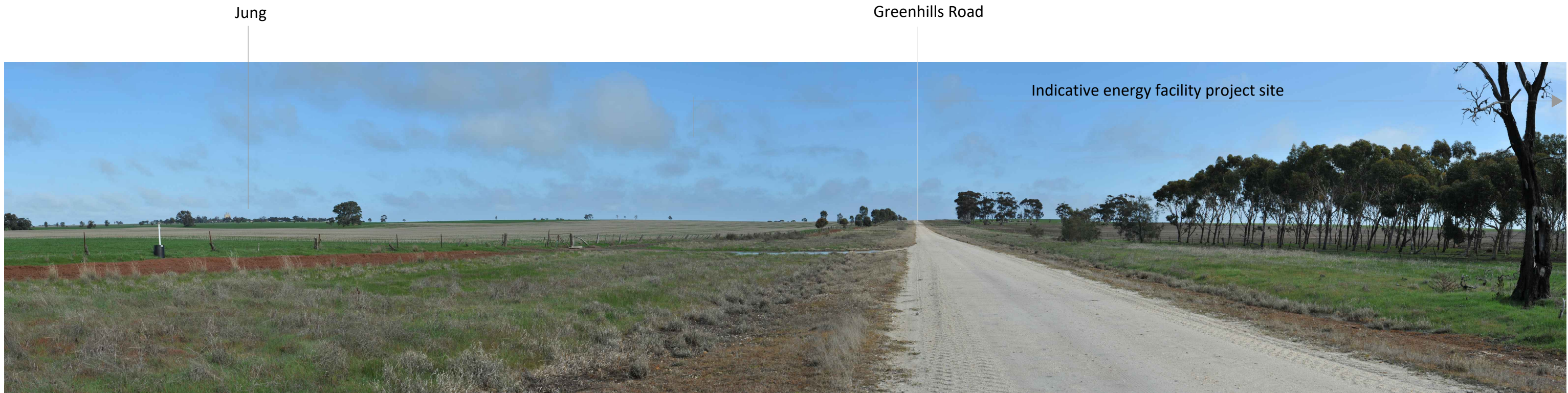


Photo panorama W4 - Existing view south west to north west from Greenhills Road. Approximate distance to closest wind turbine 3.4 kilometres.

Henty Highway

Banyena Road

Agricultural sheds north
of Banyena Road

Indicative energy facility project site



Photo panorama W5 - Existing view west to north north west from Greenhills Road and Jung Wheat Road intersection. Approximate distance to proposed wind turbine 500 metres.

Henty Highway

Agricultural sheds north
of Banyena Road

Indicative energy facility project site



Photo panorama W6 - Existing view north north west to north east from Johns Road. Approximate distance to closest wind turbine 500 metres.

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Figure 7
Photo panorama W5 and W6

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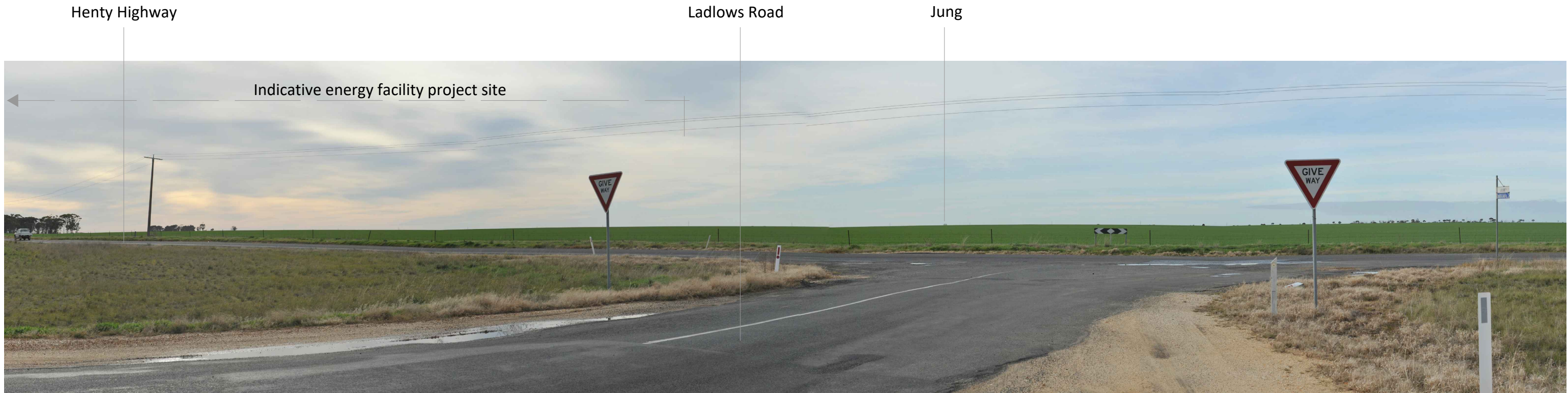


Photo panorama W7 - Existing view north east to south east from Ladlows Road. Approximate distance to closest wind turbine 3.2 kilometres.

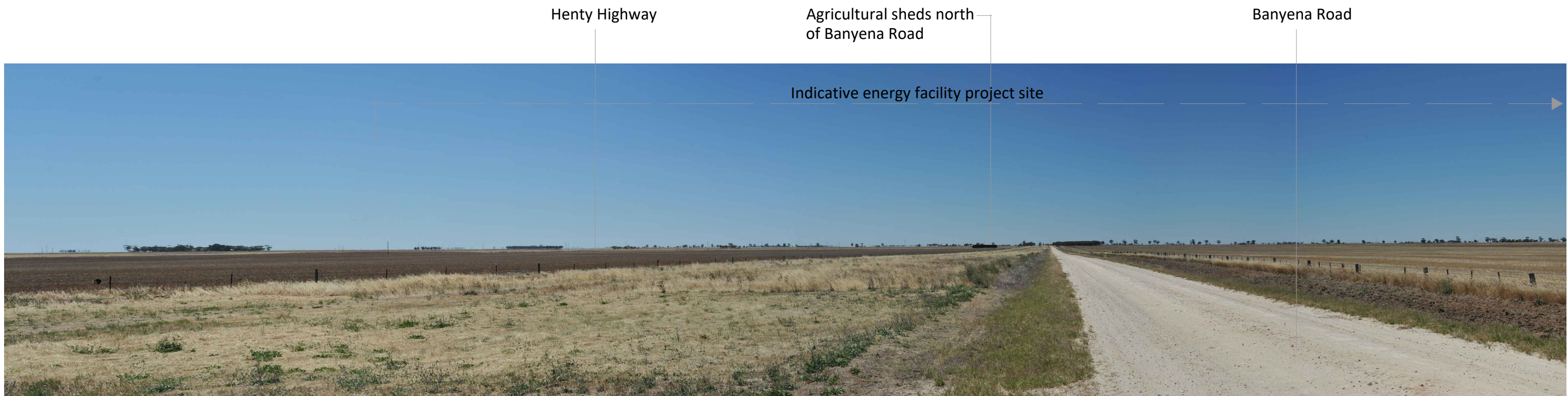


Photo panorama W8 - Existing view north east to east south east from Banyena Road. Approximate distance to closest wind turbine 1.2 kilometres.



Photo panorama W9 - Existing view east to south south west from Kalkee East Road. Approximate distance to closest wind turbine 3.4 kilometres.



Photo panorama W10 - Existing view south west to west north west from Jung Wheat Road. Approximate distance to closest wind turbine 2.2 kilometres.

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Photo panorama W11 - Existing view east to south south west from Kalkee East Road. Approximate distance to closest wind turbine 820 metres.

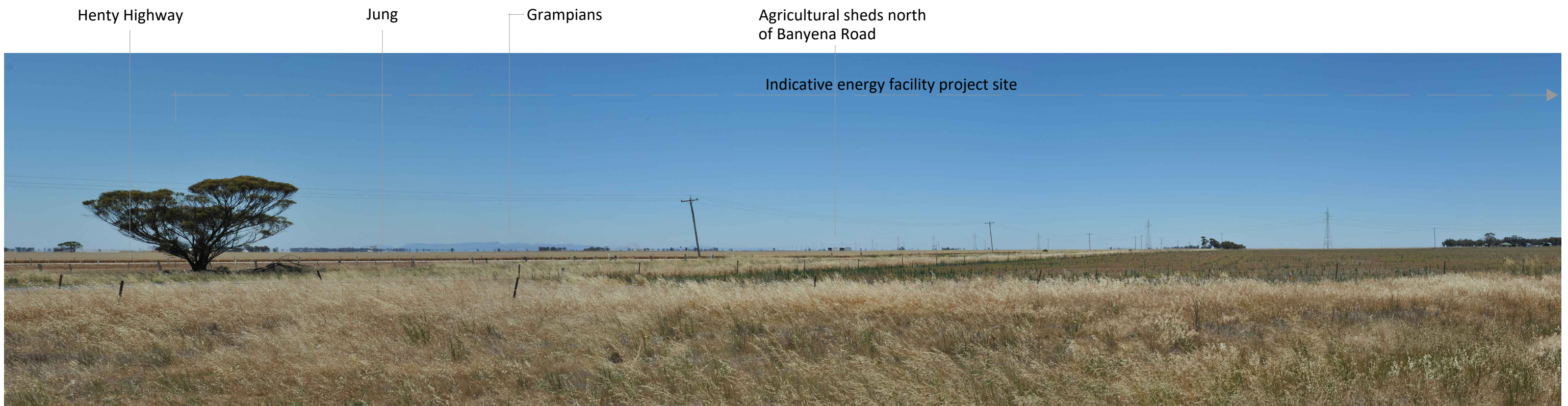


Photo panorama W12 - Existing view south south east to south west from Kalkee East Road. Approximate distance to closest wind turbine 1.47 kilometres.

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Jung West Road

Henty Highway

Substation east
(indicative location)

Banyena Road

Indicative energy facility project site



Aerial photo A1 - Existing view north north west to north above and across Jung toward the energy facility project site.

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Wimmera Plains Energy Facility LVIA

Figure 11
Aerial photo A1

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Banyena Road

Mount Arapiles

Henty Highway

Indicative energy facility project site



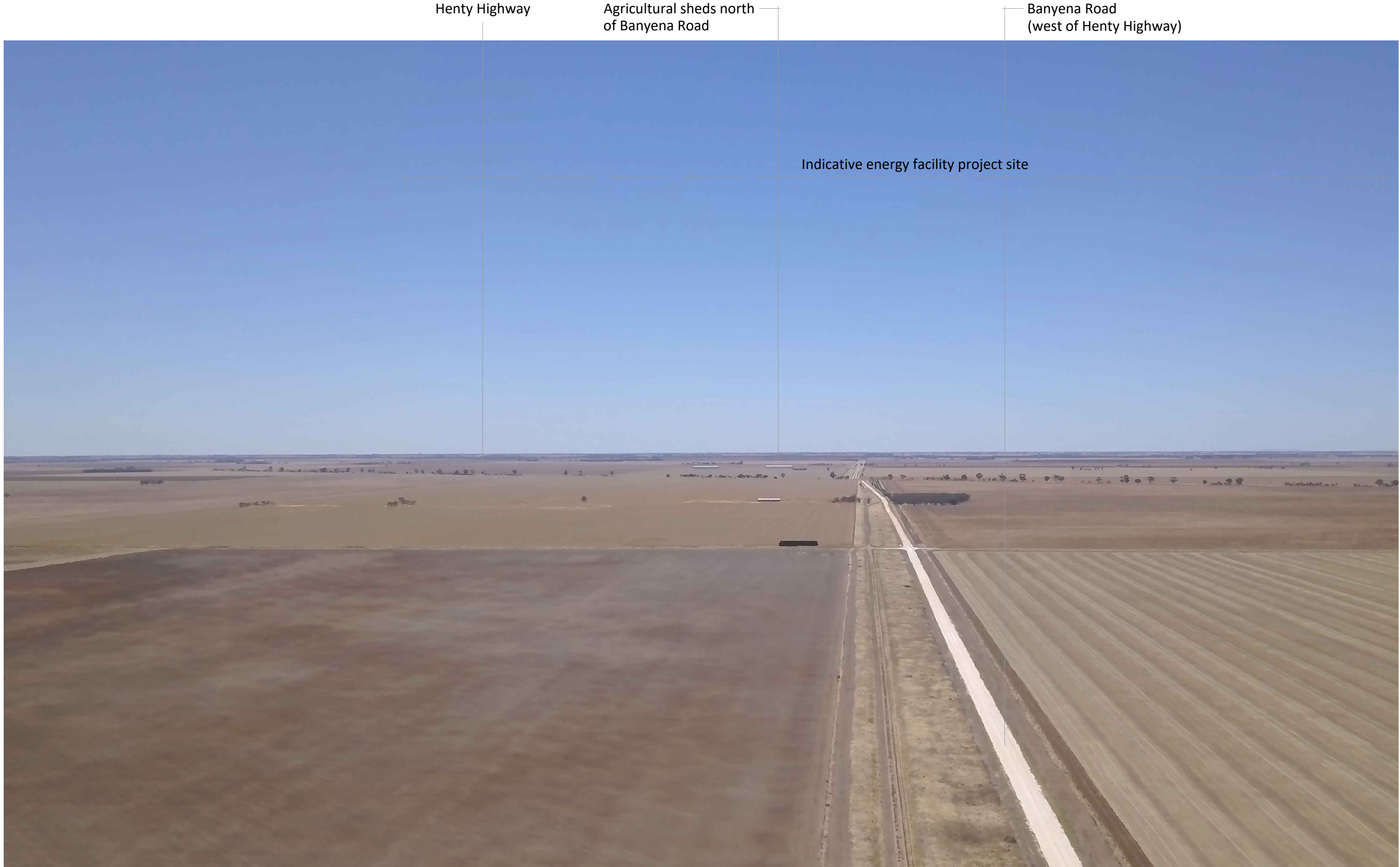
Aerial photo A2 - Existing view west above Jung Wheat Road toward the energy facility project site.

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Wimmera Plains Energy Facility LVIA

Figure 12
Aerial photo A2

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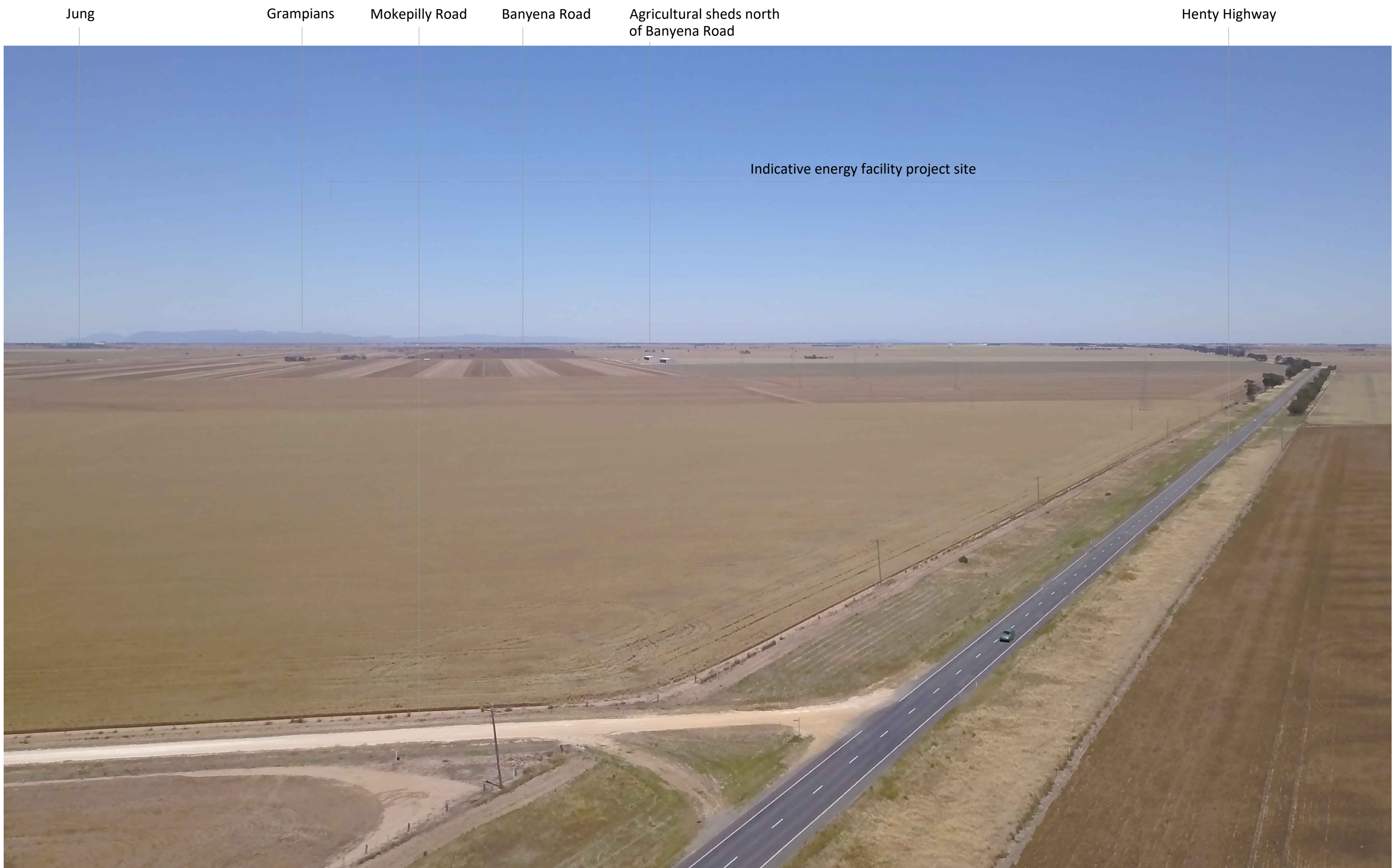


Aerial photo A3 - Existing view east above Banyena Road toward the energy facility project site.

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Figure 13
Aerial photo A3



Aerial photo A4 - Existing view south above Henty Highway toward the energy facility project site.

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Aerial photo A5 - Existing view north west to north above Findlayson Road toward the energy facility project site.

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Wimmera Plains Energy Facility LVIA

Figure 15
Aerial photo A5



Aerial photo A6 - Existing view north to north east above the Henty Highway toward the energy facility project site.

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Wimmera Plains Energy Facility LVIA

Figure 16
Aerial photo A6

Landscape character assessment

Section 7

7.1 Landscape character area

As part of the LVIA process it is important to understand the nature and sensitivity of different components of landscape character, and to assess them in a clear and consistent process. For the purpose of this LVIA, landscape character is defined as *'the distinct and recognisable pattern of elements that occur consistently in a particular type of landscape'* (The Countryside Agency and Scottish Natural Heritage 2002). The pattern of elements includes characteristics such as landform, vegetation, landuse and settlement.

For the purposed of this LVIA, the landscape character surrounding the wind farm site has been determined as a singular landscape unit which generally occurs within the 10 kilometre viewshed of the proposed Wimmera Plains Wind Farm site. The landscape unit represents an area that is relatively consistent and recognisable in terms of its key landscape elements and physical attributes; which include a relatively limited combination of topography/landform, vegetation/landcover, land use and built structures (including settlements and local road corridors).

Whilst the landscape character surrounding the wind turbines has been defined as a singular landscape unit, this LVIA recognises that localised and specific characteristics can occur within the landscape unit, including:

- landscape areas associated with the Barrett State Forest;
- Yarriambiack Creek and associated vegetative patterns extending alongside the creek line corridor; and
- Henty Highway corridor.

For the purpose of this LVIA the predominant landscape unit within and surrounding the project site has been identified as a level to very gently inclined and modified agricultural land.

7.2 Landscape character assessment

An understanding of a particular landscape's key characteristics and principal visual features is important in defining a regional distinctiveness and sense of place and to determine its sensitivity to change. The criteria applied in the determination of landscape character assessment and the ability of a landscape to accommodate change are outlined in **Table 3**. These criteria are based on established industry good practice employed in the assessment of wind farm developments and have been adopted for numerous wind farm assessments across Australia. The criteria are broadly outlined in the National Wind Farm Development Guidelines (Draft v2.4), Section 6.1 Landscape Character Units, and covered in more detail within the Guidelines for Landscape and Visual Impact Assessment, Third Edition, Landscape Institute and Institute of Environmental Management & Assessment, 2013 – Chapter 5 Assessment of landscape effects.

Landscape sensitivity is a relative concept, and landscape values of the surrounding environment may be considered of a higher or lower sensitivity than other areas in the Victorian region.

Whilst landscape character assessment is largely based on a systematic description and analysis of landscape characteristics, this LVIA acknowledges that some individuals and other members of the local community may

place higher values on the local landscape. These values may transcend preferences (likes and dislikes) and include personal, cultural as well as other parameters that may be explored in more depth through consultation with the local community.

Table 3 – Criteria for the assessment of landscape character

Landscape Character Assessment Criteria			
Characteristic	Aspects indicating lower sensitivity to the wind farm development	↔	Aspects indicating higher sensitivity to the wind farm development
Landform and scale: patterns, complexity and consistency	<ul style="list-style-type: none"> • Large scale landform • Simple • Featureless • Absence of strong topographical variety 	↔	<ul style="list-style-type: none"> • Small scale landform • Distinctive and complex • Human scale indicators • Presence of strong topographical variety
Landcover: patterns, complexity and consistency	<ul style="list-style-type: none"> • Simple • Predictable • Smooth, regular and uniform 	↔	<ul style="list-style-type: none"> • Complex • Unpredictable • Rugged and irregular
Settlement and human influence	<ul style="list-style-type: none"> • Concentrated settlement pattern • Presence of contemporary structures (e.g. utility, infrastructure or industrial elements) 	↔	<ul style="list-style-type: none"> • Dispersed settlement pattern • Absence of modern development, presence of small scale, historic or vernacular settlement
Movement	<ul style="list-style-type: none"> • Prominent movement, busy 	↔	<ul style="list-style-type: none"> • No evident movement, still
Rarity	<ul style="list-style-type: none"> • Common or widely distributed example of landscape character area within a regional context 	↔	<ul style="list-style-type: none"> • Unique or limited example of landscape character area within a regional context
Intervisibility with adjacent landscapes	<ul style="list-style-type: none"> • Limited views into or out of landscape • Neighbouring landscapes of low sensitivity • Weak connections, self-contained area and views • Simple large-scale backdrops 	↔	<ul style="list-style-type: none"> • Prospects into and out from high ground or open landscape • Neighbouring landscapes of high sensitivity • Contributes to wider landscape • Complex or distinctive backdrops

The landscape sensitivity assessment criteria set out in **Table 4** have been evaluated for the landscape character area by applying a professionally determined judgement on a sliding scale between 1 and 5.

A scale of 1 indicates a landscape characteristic with a lower sensitivity to the wind farm development (and would be more likely to accommodate the wind farm development). A scale of 5 indicates a landscape characteristic with a high level of sensitivity to the wind farm development (and less likely to accommodate the wind farm development).

The scale of sensitivity for the landscape character area is outlined in **Table 4** and is set out against each characteristic identified in **Table 3**.

The overall landscape sensitivity for the landscape character area is a summation of the scale for each characteristic identified in **Tables 4**.

The overall scale is expressed as a total out of 30 (i.e. 6 characteristics for the landscape character area with a potential top scale of 5). Each characteristic is assessed separately, and the criteria set out in **Table 3** are not ranked in equal significance. The overall landscape sensitivity for the landscape character area has been determined as either:

High (Scale of 23 to 30) – key characteristics of the landscape character area would be impacted by the proposed project, and would result in major and visually dominant alterations to perceived characteristics of the landscape character area which may not be fully mitigated by existing landscape elements and features. The degree to which the landscape may accommodate the proposed project development would result in a number of perceived uncharacteristic and significant changes.

Medium (Scale 15 to 22) – distinguishable characteristics of the landscape character area may be altered by the proposed project, although the landscape character area may have the capability to absorb some change. The degree to which the landscape character area may accommodate the proposed project would potentially result in the introduction of prominent elements to the landscape character area but may be accommodated to some degree.

Low Rating (Scale of 7 to 14) – the majority of the landscape character area characteristics are generally robust and would be less affected by the proposed project. The degree to which the landscape may accommodate the wind turbines would not significantly alter existing landscape character.

Negligible Rating (Up to 6) the characteristics of the landscape character area would not be impacted or visibly altered by the proposed project.

Table 4 – Wimmera farming landscape character area

	Lower Sensitivity		↔	Higher Sensitivity	
	Low	Low to Med	Medium	Med to High	High
Rating	1	2	3	4	5
Landform and Scale		2			
	<p>The level to very gently inclined agricultural land within, and neighbouring, the project site is a very small portion of the Wimmera district landscape, located in regional Western Victoria. The Wimmera district covers the dry land agricultural area south of the range of Mallee scrub, east of the South Australian border and north of the Great Dividing Range. The landform and morphology of the landscape within and surrounding the project site is distinctively flat, although some very gently inclined landform extends throughout the area from south to north and runs parallel to the Yarriambiack Creek drainage line. There</p>				

Landscape character assessment

Section 7

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Rarity	<ul style="list-style-type: none"> • Common or widely distributed example of landscape character area within a regional context 	↔	<ul style="list-style-type: none"> • Unique or limited example of landscape character area within a regional context
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Table 4 – Wimmera farming landscape character area

	Lower Sensitivity		↔	Higher Sensitivity	
	Low	Low to Med	Medium	Med to High	High
Rating	1	2	3	4	5
Landform and Scale		2			
The level to very gently inclined agricultural land within, and neighbouring, the project site is a very small portion of the Wimmera district landscape, located in regional Western Victoria. The Wimmera district covers the dry land agricultural area south of the range of Mallee scrub, east of the South Australian border and north of the Great Dividing Range. The landform and morphology of the landscape within and surrounding the project site is distinctively flat, although some very gently inclined landform extends throughout the area from south to north and runs parallel to the Yarriambiack Creek drainage line. There					

Table 4 – Wimmera farming landscape character area

	Lower Sensitivity		↔	Higher Sensitivity	
	Low	Low to Med	Medium	Med to High	High
Rating	1	2	3	4	5
	project site offers no elevated viewpoints. Whilst views can, depending on prevailing climatic conditions, extend toward landscapes with a high visual sensitivity (such as the Grampians National Park), the level of visibility is restricted to landform silhouettes. From far distant and elevated viewpoints, including the Mount Arapiles lookout, the Wimmera district provides an extensive and distinctive backdrop. Whilst the Wimmera Plains Wind Farm wind turbines would be visible from some elevated areas, the distance between wind farm and elevated receiver locations would tend to render the wind turbines as generally indistinct features which would occupy a relatively small portion of the overall available view.				
Overall Sensitivity Rating	Score 14 out of 30 In consideration of the existing landscape characteristics, the landscape within and surrounding the project site is determined to have a low sensitivity to the wind farm development. The majority of the landscape character area characteristics are generally robust and would be less affected by the proposed project. The degree to which the landscape may accommodate the wind turbines would not significantly alter existing landscape character.				

This LVIA notes the presence of constructed and approved wind turbines within the landscape beyond and within the project site, including the 2 wind turbines associated with the approved Jung Wind Farm. The extent of existing and/or approved wind turbines are not considered to dominate existing landscape characteristics and do not currently form a distinctive 'wind farm landscape' unit.

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Table 4 – Wimmera farming landscape character area

	Lower Sensitivity		↔	Higher Sensitivity	
	Low	Low to Med	Medium	Med to High	High
Rating	1	2	3	4	5
	is an overall large scale to the landscape despite field patterns being more moderate in scale. Landscape features and strong topographical elements are generally lacking within and beyond the project site; however, in a regional context, far distant (around 40 kilometres) views extend toward the Grampians and Mount Arapiles.				
Landcover		2			
	Landcover is both simple and predictable across the site and surrounding landscape areas. European settlement established an agricultural presence and defines much of the contemporary arable and livestock areas across the project site and beyond. Cropping and pastoral fields create a regular and uniform appearance throughout the seasonal and repetitive operations associated with agricultural production.				
Settlement and human influence			3		
	Settlement is generally dispersed throughout the project site and surrounding landscape and consists largely of farmsteads and individual dwellings. There are limited examples of small scale, historic or vernacular structures within the landscape. The project site is directly to the west of a 220kV transmission line, with a regular arrangement of supporting pylon structures extending in a north south alignment across the landscape.				
Movement		2			
	Movement within the project site is generally restricted to local vehicular movements, including cars and trucks travelling along the Banyena Road and other local roads. Occasional agricultural vehicles are seen within fields, with movement and activity increasing during more intense periods such as harvesting.				
Rarity		2			
	The project site and adjoining landscape are considered to be a relatively common landscape type within a regional context which extends across the Wimmera district.				
Intervisibility			3		
	The project site does allow for far distant and regional scale views (more significantly toward the south) from flat to very gently inclined areas, but the				

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Table 4 – Wimmera farming landscape character area

	Lower Sensitivity		↔	Higher Sensitivity	
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This LVIA notes the presence of constructed and approved wind turbines within the landscape beyond and within the project site, including the 2 wind turbines associated with the approved Jung Wind Farm. The extent of existing and/or approved wind turbines are not considered to dominate existing landscape characteristics and do not currently form a distinctive 'wind farm landscape' unit.

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Zone of Visual Influence

Section 8

8.1 Zone of Visual Influence (ZVI)

The ZVI diagram is used to identify theoretical areas of the landscape from which wind turbines, or portions of turbines, may be visible within the viewshed. They are useful for providing an overview as to the extent to which the proposed Wimmera Plains Wind Farm may be visible from surrounding areas within the viewshed.

8.2 ZVI Methodology

The ZVI methodology is a purely geometric assessment where the visibility of the proposed Wimmera Plains wind turbines is determined from carrying out an assessment based on a digital terrain model of the site and the surrounding terrain. Calculations have been made to determine the visibility of the wind turbines from blade tips (essentially a view toward any part of the wind turbine rotor, including views toward the tip of the rotor blade. The ZVI assessment methodology is considered to be very conservative as:

- the screening effects of any structures and vegetation above ground level are not considered in any way. Therefore, the wind turbines may not be visible at some locations indicated on the ZVI diagrams due to the local presence of trees or other screening elements.
- additionally, wind turbines visible from any location is also influenced by prevailing weather conditions. Inclement or cloudy weather would tend to mask the visibility of the proposed wind turbines.

Accordingly, while the ZVI diagram is a useful visualisation tool, it is very conservative in nature and the level of visibility as illustrated on the ZVI is unlikely to occur from all view locations within the surrounding viewshed.

A diagram illustrating the tip of blade visibility and the ZVI diagram are shown in **Figures 17** and **18**. This LVIA notes that the Project viewshed would generally extend across the same viewshed established for the approved Jung Wind Farm.

8.3 Visibility

The level of wind turbine visibility within the Wimmera Plains Wind Farm viewshed can result from a number of factors including, but not limited to:

Distance

With an increase in distance the proportion of a person's horizontal and vertical view cone occupied by a visible turbine structure, or group of turbine structures, would decline.

As the view distance increases so do the atmospheric effects resulting from dust particles and moisture in the atmosphere, which makes the turbines appear to be grey thus potentially reducing the contrast between the wind turbines and the background against which they are viewed.

Whilst the distance between a view location and the wind turbines is a primary factor to consider when determining potential visibility, there are other issues which may also affect the degree of visibility. The influence of distance on visibility and proportional representation is illustrated in **Figure 19**.

Movement

The visibility of each wind turbine would vary between the categories of static and dynamic view locations. In the case of static views the relationship between a wind turbine and the landscape would not tend to vary greatly. The extent of vision may be relatively wide as a person would tend to scan back and forth across the landscape where panoramic views are available.

In contrast views from a moving vehicle are dynamic as the visual relationship between each wind turbine is constantly changing as well as the visual relationship between the wind turbines and the landscape in which they are seen. The extent of vision can be partially constrained by the available view from within a vehicle at proximate distances.

Relative position

In situations where the view location is at a lower elevation than the wind turbine structure most of it would be viewed against the sky. The degree of visual contrast between a white coloured turbine and the sky would depend on the presence of background clouds and their colour. Dark grey clouds would contrast more strongly with white turbines than a background of white clouds.

The level of contrast is also influenced by the position of the sun relative to the individual wind turbines and the view location. Where the sun is located in front of the viewer, the visible portion of the wind turbine would be seen in shadow. Where the background to the wind turbine is dark toned the visual contrast would be reduced.

Where the sun is located behind the view location then the visible portion of the wind turbine would be in full sun. If the background is also light toned, such as white clouds, then the contrast is less when compared to a dark background.

8.4 Climatic and Atmospheric Conditions

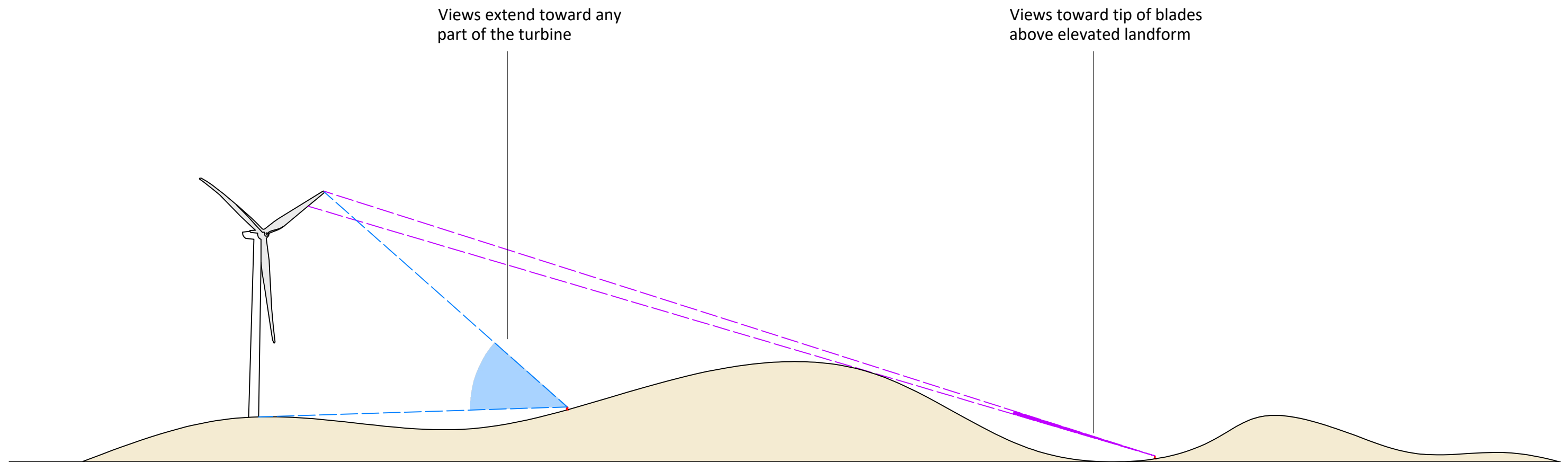
Local climatic and atmospheric conditions have the potential to influence the visibility of the proposed wind turbines from surrounding view locations, and more significantly, from middle ground and distant view locations.

Rainfall would tend to reduce the level of visibility toward the wind turbines from a number of surrounding view locations, with the degree of visibility tending to decrease over distance. Rain periods may also reduce the number of visitors travelling through the areas from which the proposed wind turbines may be visible, and potentially decrease the duration of time spent at a particular public view location with a view toward the proposed wind turbines.

Cloud cover would also tend to reduce the level of visibility of the proposed wind turbines and lessen the degree of contrast between the wind turbine structures and the background against which the wind turbines may be visible.

On clear or partly cloudy days, the position of the sun would also have an impact on the degree of visibility of the proposed wind turbines. The degree of impact would be largely dependent on the relationship between the position and angle of the sun relative to the view location. Late afternoon and early evening views toward the west would result in the wind turbines silhouetted above the horizon line, and with increasing distance would tend to reduce the contrast between the wind turbine structures and the surrounding landform.

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'Tip of blade'

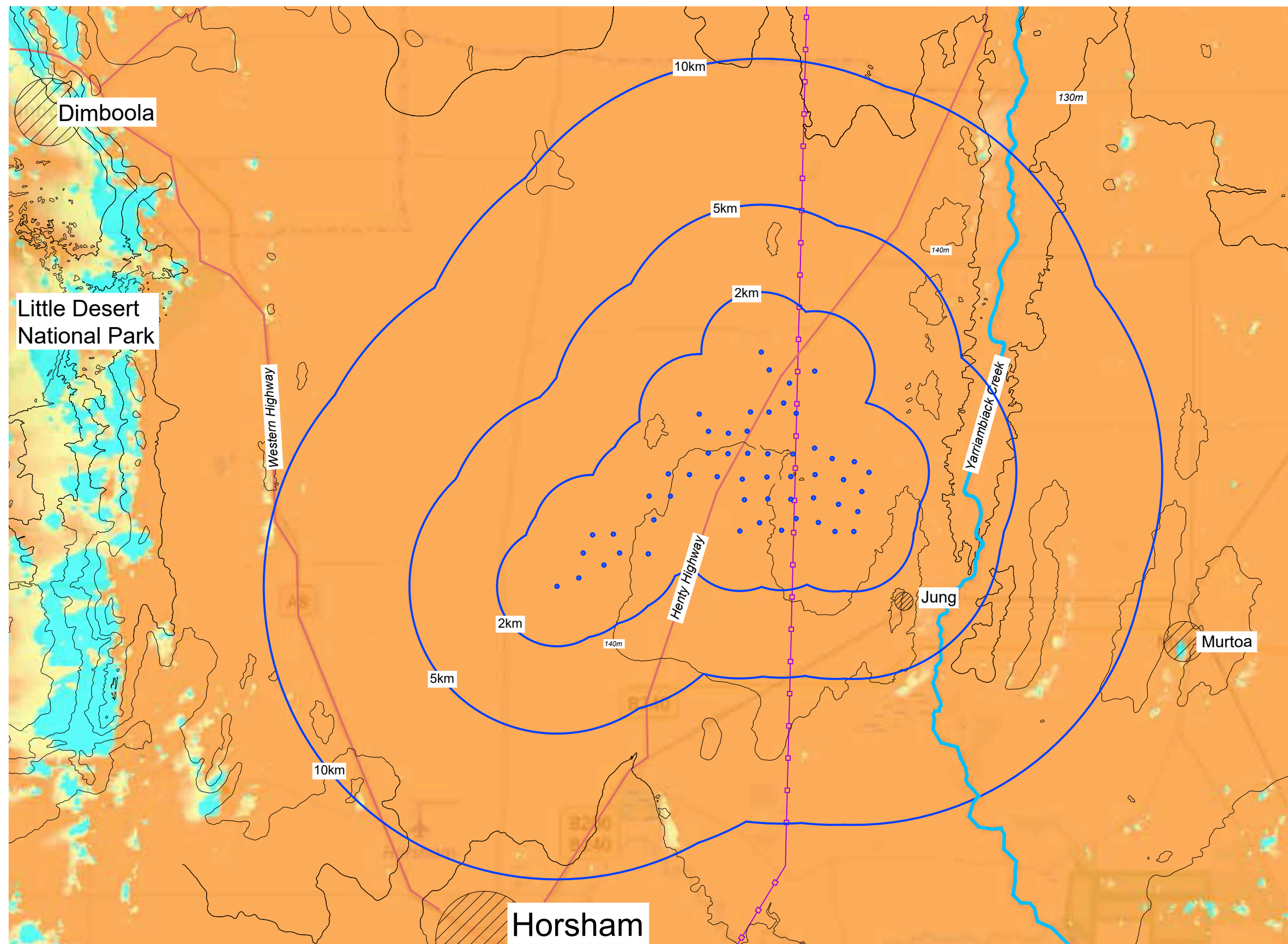
View toward 'tip of blade' - where views extend toward any part of the turbine including views toward the tip of blades above elevated landforms.

Figure 17
Zone of Visual Influence
for wind turbine tip height

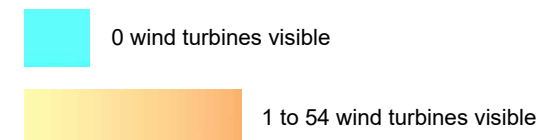
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Wimmera Plains Energy Facility LVIA

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ZVI (tips visible)



NOTES:

The ZVI methodology is a purely geometric assessment where the visibility of the proposed Jung wind turbines is determined from carrying out calculations based on a digital terrain model of the site and the surrounding terrain.

This assessment methodology is assumed to be conservative as the screening affects of any structures and vegetation above ground level are not considered in any way. Therefore the wind farm may not be visible at many of the locations indicated on the ZVI maps due to the local presence of trees, vegetation or other screening potential. While the ZVI maps are a useful visualisation tool, they are very conservative in nature.

Additionally, wind turbine visibility is also affected by the weather condition at the time. Inclement or cloudy weather tends to mask the visibility of the proposed wind project.

Legend

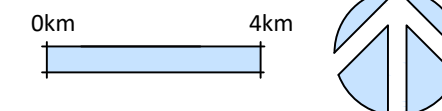
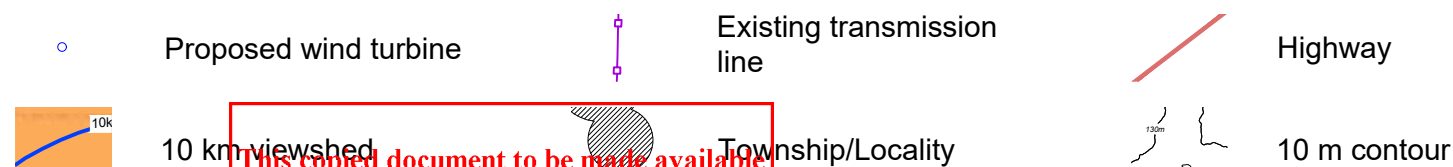


Figure 18
Zone of Visual Influence
wind turbine tip height



Image 1 Modelled wind turbine 240 metre tip height - view distance 2 km

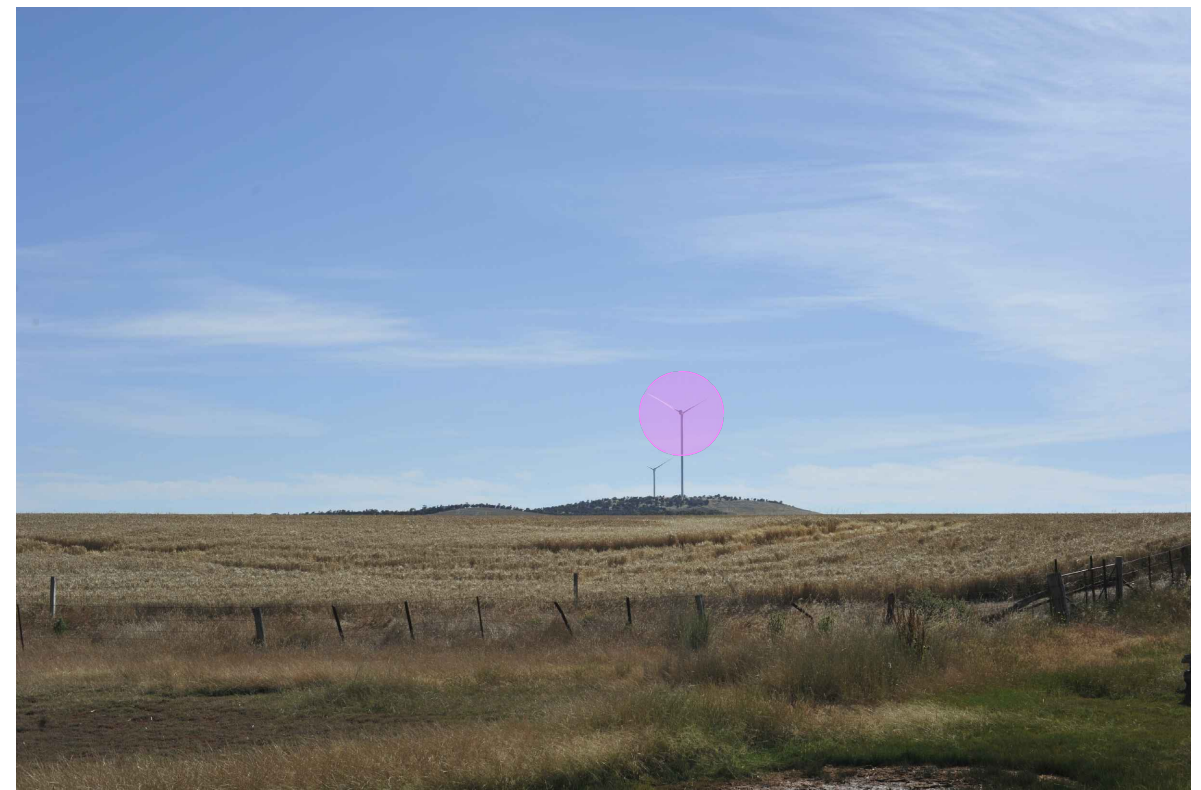


Image 2 Modelled wind turbine 240 metre tip height - view distance 3 km

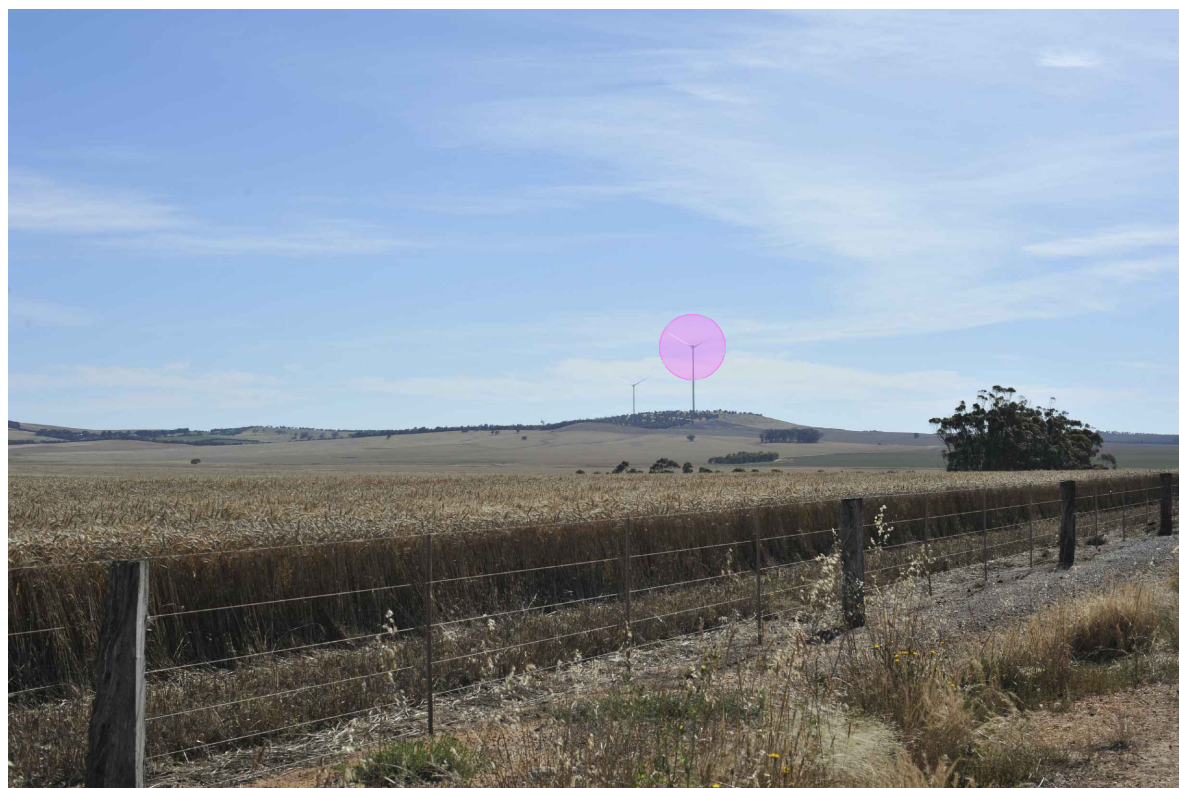


Image 3 Modelled wind turbine 240 metre tip height- view distance 4 km



Image 4 Modelled wind turbine 240 metre tip height - view distance 5 km

Modelled wind turbine 240 metre tip height available for public comment and its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright.

Wimmera Plains Energy Facility LVIA

Approximate wind turbine swept area

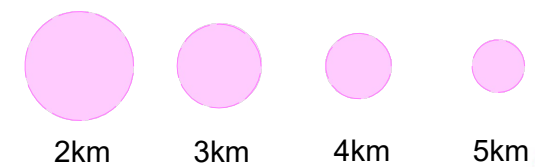


Figure 19
Wind turbine visibility

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Key views and visual effects

Section 9

9.1 Introduction

The overall determination of visual effects resulting from the construction and operation of the Wimmera Plains wind turbines would result primarily from a combination of receiver sensitivity and the magnitude of visual effects.

A determination of visual effects from the combination of receiver sensitivity and the magnitude of visual effect is a well-established methodology and has been applied extensively on wind farm LVIA in Victoria and across Australia. The standard methodology is set out in industry and best practice guidelines including the Guidelines for Landscape and Visual Impact Assessment, Third Edition, Landscape Institute and Institute of Environmental Management & Assessment, 2013 – Chapter 6 Assessment of visual effects.

9.2 Sensitivity of visual receivers

Judging the sensitivity of visual receivers needs to take account of the occupation or activity of people experiencing the view at particular locations and the extent to which their attention or interest is focussed on views within and surrounding the wind farm site.

9.3 Magnitude of visual effects

Judging the magnitude of the visual effects needs to take account of:

- the scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development
- the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line height, colour and texture
- the nature of the view of the proposed development, in terms of the relative amount of time over which it would be experienced and whether views would be full, partial or glimpses.

Tables 5 and 6 set out definitions and criteria for sensitivity and magnitude.

The combination of sensitivity and magnitude would provide the rating of visual effect for viewpoints. **Table 7** sets out the relative visual impact grading values which combines issues of sensitivity and magnitude for the Wimmera Plains Wind Farm project.

Table 5 – Receiver location sensitivity

View Category	Sensitivity
Dwellings	Highest Sensitivity
Areas of high scenic value (National Parks or designated landscapes)	▽
Public recreational areas	▽
Rural employment/farming	▽
Motorists	▽
Business (commercial)	▽
Industrial areas	Lower Sensitivity

Table 6 – Magnitude assessment criteria

Criteria	Definition
Distance	
Very short	<1 km
Short	1 – 3 km
Moderate	3 km – 5 km
Long	5 km - 10 km +
Duration of effect	
High	> 2 hours
Moderate	30 - 120 minutes
Low	10 – 30 minutes
Very low	< 10 minutes
Degree of screening	
High	Screening effectively blocks views toward wind turbines
Moderate	Screening partially screens views toward wind turbines
Low	Screening filters some views toward wind turbines
Very low	Limited or no screening toward wind turbines

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An overall determination of visual effect at each receiver location has also been assessed and determined against the visual impact grading matrix in **Table 7** below. The levels of sensitivity and magnitude of visual effects outlined in **Table 7** are **used as a guide** to determine levels of visual effect and are not absolute.

Whilst a receiver location may have both a high sensitivity and high magnitude, which result in a high visual impact; the visual impact may be offset and mitigated by screening, through tree cover or intervening landform surrounding or beyond the receiver location.

The location of dwellings is illustrated in **Figure 20**. Non-dwelling structures, such as agricultural sheds, within 5km of the proposed wind turbines have not been assessed.

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Table 7 Visual impact grading matrix

		Scale or magnitude of visual effects				
		High	Moderate	Low	Negligible	
		Very short distance view over a long duration of time. A high extent of wind turbine visibility would tend to dominate the available skyline view and significantly disrupt existing views or vistas. Total loss or major change to pre-development view or introduction of elements which are uncharacteristic to the existing landscape features.	Short to medium distance views over a medium duration of time. A moderate extent of wind turbine visibility would have the potential to dominate available views with visibility recessing over increasing distance. Partial alteration to pre-development view or introduction of elements that may be prominent but not uncharacteristic with the existing landscape.	Medium to long distance views over a low to medium duration of time. Wind turbines in views, at long distances or visible for a short duration not expected to be significantly distinct in the existing view. Minor alteration to pre-development view or introduction of elements that may not be uncharacteristic with the existing landscape.	Visible change perceptible at a very long distance, or visible for a very short duration, and/or is expected to be less distinct within the existing view. Very minor loss or alteration to pre-development view or introduction of elements which are not uncharacteristic with the existing landscape features.	
Sensitivity of visual receptor	High	Indicator People with a proprietary interest and prolonged viewing opportunities such as those in dwellings or visitors to attractive and/or well-used recreational facilities. Views from a regionally important location whose interest is specifically focussed on the landscape e.g. from lookouts or areas within National Parks.	High	High-moderate	Moderate	Negligible
	Moderate	People with an interest in their environment e.g. visitors to environmental areas, bush walkers and horse riders etc...those travelling with an interest in their surroundings	High-moderate	Moderate	Moderate-low	Negligible
	Low	People with a passing interest in their surroundings e.g. those travelling along local roads between townships, or people whose interest is not specifically focussed on the wider landscape e.g. service providers or commuters.	Moderate	Moderate-low	Low	Negligible
	Negligible	People with no specific interest in their surroundings or those with occasional and transient views travelling at speed along highways or from a place of work where attention may not be focussed on surrounding views.	Negligible	Negligible	Negligible	Negligible

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9.4 Key views and visual effects

The Horsham Rural City Planning Scheme identifies key view situations within the municipal area that are subject to planning considerations with regard to their potential visual amenity value. These locations include:

- Mount Arapiles and
- Grampian & Black Range Environs.

The location of Mount Arapiles and the Grampian & Black Range Environs is illustrated in **Figure 1** which indicates that the closest wind turbine would be located within the order of 40km from these view locations. At this distance it is unlikely that the proposed Wimmera Plains wind turbines would result in any significant level of visual impact and would not be readily discernible depending on climatic conditions.

Table 8 Visual impact grading

Sensitivity of visual receiver	High
Magnitude of visual effects	Negligible
Visual Impact	Negligible

9.5 Views from Regional Cities, Townships and Localities

Regional Cities, Townships and Localities within the landscape surrounding the Wimmera Plains Wind Farm include:

- Horsham, Post Office Firebrace Street (around 12.5km south of the wind turbines)
- Jung, closest dwelling (around 3km south east of the wind turbines)
- Dooen, Dooen Hotel (around 6.5km south of the wind turbines) and
- Murtoa (around 11km south east of the wind turbines).

Whilst wind turbines are theoretically visible over the distances between populated areas and the wind turbines, views toward the wind turbines would be partially restricted by development and built structures within urban areas. Potential views toward the wind turbines would also tend to be disrupted by discrete areas of vegetation both within and beyond urban and peri-urban areas.

It is unlikely that the wind turbines would have any significant visual impact on people within regional cities, townships and localities surrounding the proposed wind turbines.

Table 9 Visual impact grading

Sensitivity of visual receiver	High
Magnitude of visual effects	Negligible
Visual Impact	Negligible

9.6 Views from highways and local roads

The main roads as illustrated in **Figure 2** include the Henty Highway as well as a number of local roads largely orientated north to south and east to west grids. The Wimmera Plains wind turbines would only be partially visible from some sections of the Henty Highway and that views from some local roads would be influenced by vegetation and tree planting alongside road corridors. The dynamic and constantly changing nature of views from vehicles travelling along local roads would also tend to be transitory in nature and generally short term; however, views from local roads are likely to offer proximate and direct views toward each wind turbine. As the sensitivity of receivers travelling along highways and local roads tends to be low, in combination with the generally short duration of views, the overall visual impact from the highway is likely to be low and moderate from local roads with proximate views.

Table 10 Visual impact grading (highways)

Sensitivity of visual receiver	Low
Magnitude of visual effects	Low
Visual Impact	Low

Table 11 Visual impact grading (local roads)

Sensitivity of visual receiver	Low
Magnitude of visual effects	Moderate
Visual Impact	Moderate

9.7 Views from agricultural land

The proposed Wimmera Plains Wind Farm may have the potential to impact people engaged in predominantly farming activities, where views toward wind turbines occur from surrounding and non-associated agricultural

areas. Ultimately the level of impact would depend on the type of activities engaged in as well as the location of the activities together with the degree of screening provided by local vegetation within individual properties. Whilst views toward the turbines would occur from a wide area of surrounding rural agricultural land, this LVIA has determined that the sensitivity of visual impacts is less for those employed or carrying out work in rural areas compared to potential views from dwellings; however, the sensitivity of individual view locations would also depend on the perception of the viewer.

Table 12 Visual impact grading

Sensitivity of visual receiver	Low
Magnitude of visual effects	Moderate
Visual Impact	Moderate-low

9.8 Views from publicly accessible locations

Publicly accessible locations, other than road corridors, include various public open spaces, recreational areas, reserves or public meeting places. The majority of public open spaces and recreational areas are those associated and located within surrounding urban localities, where the influence of both distance and existing vegetative cover is likely to screen any potential views toward the Wimmera Plains Wind Farm site.

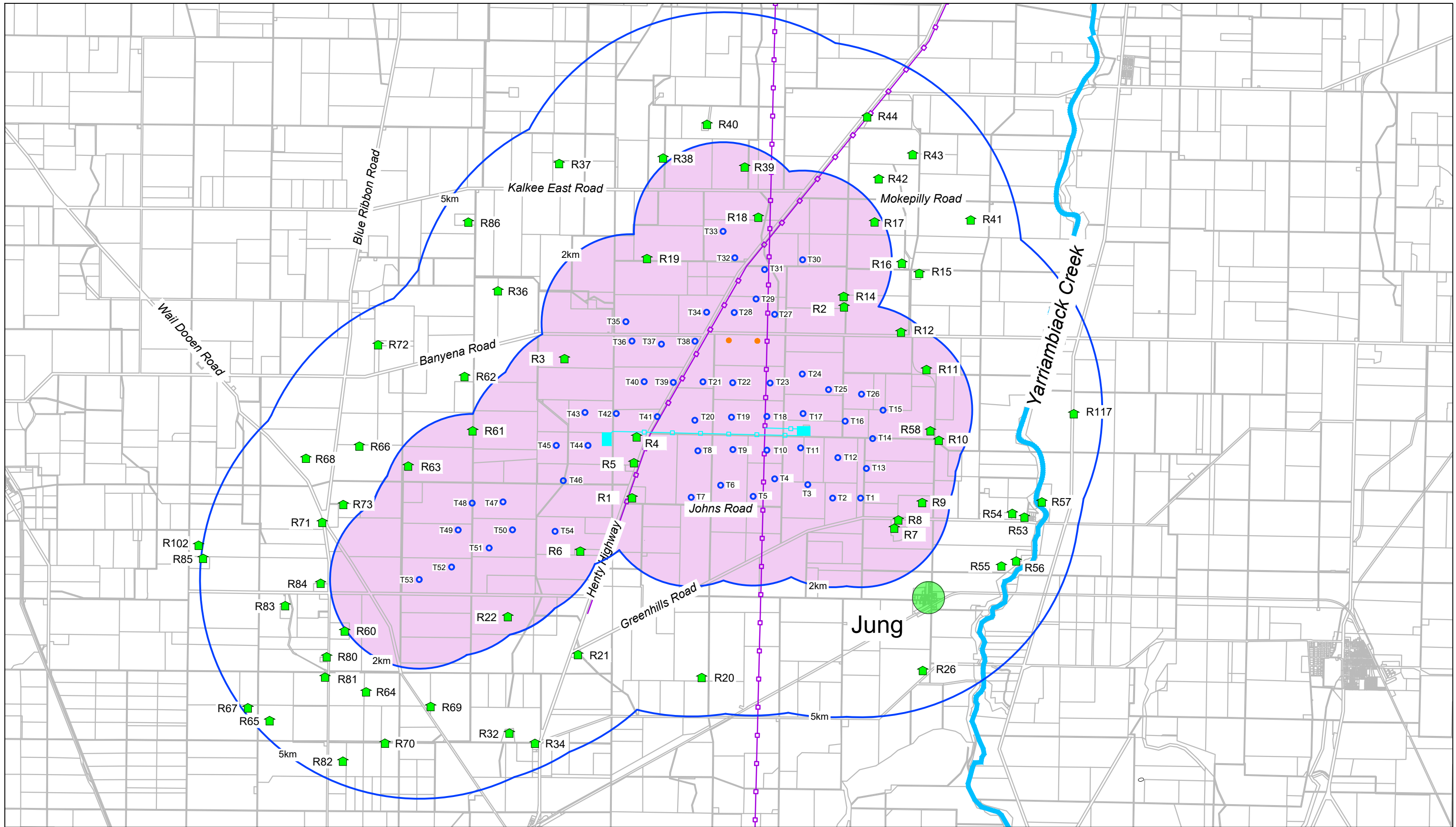
Table 13 Visual impact grading

Sensitivity of visual receiver	Low
Magnitude of visual effects	Moderate
Visual Impact	Moderate-low

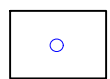
9.9 Views from dwellings within 5km of wind turbines

Existing dwellings are illustrated in **Figure 20** and include dwellings on properties that are not associated with the proposed Wimmera Plains Wind Farm development as well as those that are. For the purpose of this LVIA associated dwellings have not been included in the assessment.

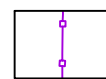
The site inspection noted that a number of dwellings within the landscape surrounding the wind turbines are screened by tree and/or windbreak shelter planting. It is possible that not all dwellings would have direct or significant views toward the proposed Wimmera Plains wind turbines. An assessment of the potential visual effect of wind turbines within 5km of dwellings surrounding the project site is presented in **Table 14**.



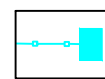
Legend



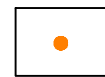
Proposed wind turbines
(indicative locations)



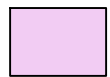
Existing transmission line



Proposed onsite powerline and
substation location (indicative)



Approved Jung wind turbines
(indicative locations)



2 km viewshed



Residential dwelling within
5 km of wind turbine

0m 2km



Figure 20
Residential dwellings

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

	SENSITIVITY	MAGNITUDE					
Receiver location	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading	Degree of visibility and screening	Potential visual effect
Dwellings within 5km of a wind turbine							
R2 Dwelling located west of the Jung Wheat Road	Non-associated landowner Sensitivity: High	1.74km	High	High	High	Short distance and direct views extend south west from the dwelling and curtilage toward wind turbines within the project site. Views toward the wind turbines would be partially filtered and/or screened by tree planting surrounding the dwelling. Degree of existing screening at dwelling: Moderate to High	Moderate
R5 Dwelling located west of the Henty Highway corridor.	Non-associated landowner Sensitivity: High	1.17km	High	High	High	Short distance and direct views extend from the dwelling and curtilage in a north to south east direction toward wind turbines within the project site. Views toward wind turbines within the north west to south west portions of the project site would be partially filtered and/or screened	Moderate to High

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Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						by tree planting surrounding and beyond the dwelling. Degree of existing screening at dwelling: Low to Moderate	
R7 Dwelling located south of Greenhills Road	Non-associated landowner Sensitivity: High	1.45km	High	High	High	Short distance and direct views extend from the dwelling and curtilage in a north west to westerly direction toward wind turbines within the Wimmera Plains Wind Farm project site. Views toward the wind turbines would be partially filtered and/or screened by tree planting surrounding the dwelling. Degree of existing screening at dwelling: High	Moderate
R8	Non-associated landowner	1.39km	High	High	High	Short distance and direct views extend from the dwelling and curtilage in a north west to westerly direction toward wind	Moderate

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Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
Dwelling located south of Greenhills Road	Sensitivity: High					turbines within the Wimmera Plains Wind Farm project site. Views toward the wind turbines would be partially filtered and/or screened by tree planting surrounding the dwelling. Degree of existing screening at dwelling: High	
R11 Dwelling located north of Jung North Road	Non-associated landowner Sensitivity: High	1.51km	High	High	High	Short distance views east toward the wind turbines may be subject to some partial filtering by tree planting to the west of the dwelling as well as scattered tree planting beyond the dwelling. Portions of the wind turbines may be visible from areas to the west of the dwelling curtilage. Degree of screening at dwelling: Moderate	Moderate to High
R12	Non-associated landowner	1.75km	High	High	High	Short distance views west toward the wind turbines may be subject to some limited	Moderate to High

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Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
Dwelling located north of Banyena Road	Sensitivity: High					partial filtering by tree cover to the west of the dwelling. Portions of the wind turbines may be visible from areas to the west of the dwelling curtilage. Degree of screening at dwelling: Low	
R14 Dwelling located west of Jung Wheat Road	Non-associated landowner Sensitivity: High	1.6km	High	High	High	Short distance and direct views extend from the dwelling and curtilage in a north west to south west direction toward wind turbines within the project site. Views toward the wind turbines would be partially filtered and/or screened by tree planting surrounding the dwelling. Degree of existing screening at dwelling: Moderate	Moderate to High
R15	Non-associated landowner	2.96km	High	High	High	Moderate distance views west to south west toward the wind turbines may be subject to screening and some partial	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
Dwelling located east of Jung North Road	Sensitivity: High					filtering by tree planting to the west of the dwelling as well as scattered tree planting beyond the dwelling. Portions of the wind turbines may be visible from areas to the west of the dwelling curtilage. Degree of screening at dwelling: Moderate	
R16 Dwelling located north of Smiths Road	Non-associated landowner Sensitivity: High	2.56km	High	High	High	Short distance views west to south west toward the wind turbines may be subject to screening and some partial filtering by tree planting to the west of the dwelling as well as scattered tree planting beyond the dwelling. Portions of the wind turbines may be visible from areas to the west of the dwelling curtilage. Degree of screening at dwelling: Moderate	Moderate
R17	Non-associated landowner	2km	High	High	High	Short distance views west to south west toward the wind turbines may be subject to	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
Dwelling located south of Mokepilly Road	Sensitivity: High					some partial filtering by tree planting adjoining the dwelling as well as scattered tree planting beyond the dwelling. Portions of the wind turbines may be visible from areas to the south and west of the dwelling curtilage. Degree of screening at dwelling: Low to Moderate	
R19 Dwelling located north of Shearwoods Road	Non-associated landowner Sensitivity: High	1.43km	High	High	High	Short distance and direct views extend from the dwelling and curtilage in a north-east through to south-west direction toward wind turbines within the project site. Views are likely to be restricted to upper portions of the turbine structures (nacelle and blades) by tree cover to the east of the dwelling. Degree of existing screening at dwelling: Moderate	High

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Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R20 Dwelling located west of Max Johns Road	Non-associated landowner Sensitivity: High	4.41km	High	High	High	Moderate distance views north-west to north east toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwellings would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Moderate	Low to Moderate
R21 Dwelling location south of Greenhills Road	Non-associated landowner Sensitivity: High	3.23km	High	High	High	Moderate distance views north-west to north-east toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwellings would also be partially filtered by surrounding tree planting.	Low to Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						Degree of screening at dwelling: Moderate	
R26 Dwelling located north of the Wimmera Highway	Non-associated landowner Sensitivity: High	4.55km	High	High	High	Moderate distance views north-west to north toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwellings would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Moderate	Low to Moderate
R32 Dwelling located north of the Dooen School Road	Non-associated landowner Sensitivity: High	4.45km	High	High	High	Moderate distance views north to north-east toward the wind turbines may be subject to some partial filtering by tree planting and farm buildings beyond the dwelling. Views toward the wind turbines from the general curtilage surrounding the	Low to Moderate

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Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						dwelling would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Low to Moderate	
R34 Dwelling located south of the Dooen School Road	Non-associated landowner Sensitivity: High	4.95km	High	High	High	Long distance views north to north-east toward the wind turbines may be subject to some partial filtering by tree planting and farm buildings beyond the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwelling would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Moderate	Low
R37 Dwelling located to the north of Kalkee East Road	Non-associated landowner Sensitivity: High	3.75km	High	High	High	Moderate distance views south-east to south-west toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views	Moderate

Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						toward the wind turbines from the general curtilage surrounding the dwelling would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Low to Moderate	
R38 Dwelling located west of Ray Mills Road	Non-associated landowner Sensitivity: High	1.90km	High	High	High	Short distance views south-east to south-west toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwellings would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Low to Moderate	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R39 Dwelling located north of Kalkee East Road	Non-associated landowner Sensitivity: High	1.48km	High	High	High	Short distance views south-east to south-west toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwellings would also be partially filtered by surrounding tree planting. Degree of screening at dwelling: Low to Moderate	Moderate
R40 Dwelling located south of Byrneville Road	Non-associated landowner Sensitivity: High	2.29km	High	High	High	Short distance views south-east to south-west toward the wind turbines may be subject to some partial filtering by tree planting surrounding the dwelling. Views toward the wind turbines from the general curtilage surrounding the dwellings would also be partially filtered by surrounding tree planting.	Moderate

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Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						Degree of screening at dwelling: Low to Moderate	
R41 Dwelling located south of Mokepilly Road	Non-associated landowner Sensitivity: High	4.23km	High	High	High	Moderate distance views west from the dwelling toward the wind turbines would be largely screened by tree planting to the west of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling and sheds. Degree of screening at dwelling: High	Low
R42 Dwelling located north of Mokepilly Road	Non-associated landowner Sensitivity: High	2.65km	High	High	High	Short distance views south to south-west from the dwelling toward the wind turbines would be partially screened by tree planting to the south of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by	Low to Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						scattered tree planting beyond the dwelling and sheds. Degree of screening at dwelling: Moderate to High	
R43 Dwelling located west of Jung North Road	Non-associated landowner Sensitivity: High	3.64km	High	High	High	Moderate distance views south to south-west from the dwelling toward the wind turbines would be partially screened by tree planting to the south of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling and sheds. Degree of screening at dwelling: Moderate to High	Low to Moderate
R44	Non-associated landowner	3.58km	High	High	High	Moderate distance views south to south-west from the dwelling toward the wind turbines would be partially screened by	Low to Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
Dwelling located east of Henty Highway corridor	Sensitivity: High					tree planting to the south of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling and sheds. Degree of screening at dwelling: Low to Moderate	
R53 Dwelling located north of Greenhills Road	Non-associated landowner Sensitivity: High	4.18km	High	High	High	Moderate distance views west to north-west from the dwelling toward the wind turbines would be partially screened by tree planting to the west of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate to High	Low

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R54 Dwelling located north of Greenhills Road	Non-associated landowner Sensitivity: High	3.87km	High	High	High	Moderate distance views west to north-west from the dwelling toward the wind turbines would be partially screened by tree planting to the west of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: High	Low
R55 Dwelling located south of Greenhills Road	Non-associated landowner Sensitivity: High	4km	High	High	High	Moderate distance views west to north-west from the dwelling toward the wind turbines would be partially screened by tree planting to the west of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling.	Low

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						Degree of screening at dwelling: Moderate to High	
R56 Dwelling located south of Greenhills Road	Non-associated landowner Sensitivity: High	4.27km	High	High	High	Moderate distance views west to north-west from the dwelling toward the wind turbines would be partially screened by tree planting to the west of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate to High	Low
R57 Dwelling located north of Greenhills Road	Non-associated landowner Sensitivity: High	4.48km	High	High	High	Moderate distance views west to north-west from the dwelling toward the wind turbines would be partially screened by tree planting to the west of the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by	Low

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						scattered tree planting beyond the dwelling. Degree of screening at dwelling: High	
R64 Dwelling located east of Blue Ribbon Road	Non-associated landowner Sensitivity: High	3.1km	High	High	High	Moderate distance views north-east from the dwelling toward the wind turbines would be partially screened by farm buildings and tree planting beyond the dwelling. Views from the dwelling curtilage would also be generally open and extend toward the project site. Degree of screening at dwelling: Low	Moderate
R65 Dwelling located off Hobbs Road west of Blue Ribbon Road	Non-associated landowner Sensitivity: High	4.82km	High	High	High	Moderate distance views would extend north-east from the dwelling and curtilage toward the wind turbines within the south west portion of the project site. Degree of screening at dwelling: Low	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R66 Dwelling located east of Blue Ribbon Road	Non-associated landowner Sensitivity: High	2.58km	High	High	High	Short distance views north-east to south-east from the dwelling toward the wind turbines would be partially screened by farm buildings and tree planting beyond the dwelling. Degree of screening at dwelling: Moderate	Low to Moderate
R67 Dwelling located off Flacks Road west of Blue Ribbon Road	Non-associated landowner Sensitivity: High	4.98km	High	High	High	Moderate distance views north-east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate to High	Low to Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R68 Dwelling located west of Blue Ribbon Road	Non-associated landowner Sensitivity: High	3.39km	High	High	High	Moderate distance views south-east to north-east from the dwelling extend toward wind turbines within the project site. There is minimal screening beyond the dwelling. Views from the dwelling curtilage would also be generally open and extend toward the project site. Degree of screening at dwelling: Low	Moderate
R69 Dwelling located east of the Wail Dooen Road	Non-associated landowner Sensitivity: High	3.37km	High	High	High	Moderate distance views north to north-east from the dwelling extend toward wind turbines within the project site. There is minimal screening beyond the dwelling. Views from the dwelling curtilage would also be generally open and extend toward the project site. Degree of screening at dwelling: Low	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R70 Dwelling located south of Dooen School Road	Non-associated landowner Sensitivity: High	4.16km	High	High	High	Moderate distance views north to north-east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate to High	Low
R71 Dwelling located west of the Blue Ribbon Road	Non-associated landowner Sensitivity: High	2.21km	High	High	High	Short distance views east to north-east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding and beyond the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling.	Low to Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						Degree of screening at dwelling: Moderate to High Degree of screening at dwelling: Moderate to High	
R72 Dwelling located east of the Blue Ribbon Road	Non-associated landowner Sensitivity: High	3.87km	High	High	High	Moderate distance views north-east to south from the dwelling toward the wind turbines would be partially screened by tree planting surrounding and beyond the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate	Low to Moderate
R73 Dwelling located east of the Blue Ribbon Road	Non-associated landowner Sensitivity: High	2.06km	High	High	High	Short distance views north-east to south-east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding and beyond the	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate	
R80 Dwelling located west of the Blue Ribbon Road	Non-associated landowner Sensitivity: High	2.85km	High	High	High	Short distance views north-east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding and beyond the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Low to Moderate	Moderate
R81	Non-associated landowner	3.23km	High	High	High	Moderate distance views north-east from the dwelling extend toward wind turbines	Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
Dwelling located west of the Blue Ribbon Road	Sensitivity: High					within the project site. There is minimal screening beyond the dwelling. Views from the dwelling curtilage would also be generally open and extend toward the project site. Degree of screening at dwelling: Low	
R82 Dwelling located south of Rules Road	Non-associated landowner Sensitivity: High	4.78km	High	High	High	Moderate distance views north north-east to north east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding and beyond the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate to High	Low

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
R83 Dwelling located south of Rules Road	Non-associated landowner Sensitivity: High	2.96km	High	High	High	Short distance views north-east from the dwelling toward the wind turbines would be partially screened by individual tree planting beyond the dwelling. Views from the dwelling curtilage would be filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Low to Moderate	Low to Moderate
R84 Dwelling located north of Rules Road	Non-associated landowner Sensitivity: High	2km	High	High	High	Short distance views east to north-east from the dwelling toward the wind turbines would be partially screened by individual tree planting beyond the dwelling. Views from the dwelling curtilage would be filtered by scattered tree planting beyond the dwelling.	Low to Moderate

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						Degree of screening at dwelling: Low to Moderate	
R85 Dwelling located to the east of Geodetic Road.	Non-associated landowner Sensitivity: High	4.75km	High	High	High	Moderate distance views east to north east from the dwelling toward the wind turbines would be partially screened by tree planting surrounding and beyond the dwelling. Views from the dwelling curtilage would also be partially screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate	Low
R86 Dwelling located to the west of Dooen North Road.	Non-associated landowner Sensitivity: High	4.14km	High	High	High	Moderate distance views from east to south from the dwelling toward the wind turbines would be partially screened by mature tree planting surrounding and beyond the dwelling. Views from the dwelling curtilage would also be partially	Low

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

Receiver location	SENSITIVITY	MAGNITUDE				Degree of visibility and screening	Potential visual effect
	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading		
						screened and or filtered by scattered tree planting beyond the dwelling. Degree of screening at dwelling: Moderate to High	
R102 Dwelling located east of the Longerenong-Warracknabeal Rd	Non-associated landowner Sensitivity: High	4.89km	High	High	High	Moderate distance views east to north east from the dwelling toward the wind turbines would be partially screened by scattered tree planting and agricultural buildings beyond the dwelling. Degree of screening at dwelling: Low Moderate	Low to Moderate
R117 Dwelling located east of the Longerenong-Warracknabeal Rd	Non-associated landowner Sensitivity: High	4.75km	High	High	High	Moderate distance views from north-west to south-west from the dwelling toward the wind turbines would be largely screened by mature tree planting surrounding and to the west of the dwelling. Views from the dwelling curtilage	Low

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Table 14 – Dwelling visual effect matrix (Refer **Figure 20** for dwelling locations)

	SENSITIVITY	MAGNITUDE					
Receiver location	Category of receiver location and sensitivity grading	Approximate distance to closest turbine	Potential duration of effect	Extent of visibility (ZVI tip height)	Overall magnitude grading	Degree of visibility and screening	Potential visual effect
						would also be largely screened and or filtered by tree cover beyond the dwelling. Degree of screening at dwelling: High	

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9.10 Summary of the dwelling visual effect (within 5km of wind turbines)

This LVIA identified a combined total of 43 non-associated dwellings within the Wimmera Plains Wind Farm 5km viewshed.

An assessment of dwellings determined:

- 1 of the 48 dwelling locations (R19) would have a High visual effect
- 4 of the 48 dwelling locations would have a Moderate to High to Low visual effect
- 17 of the 48 dwelling locations would have a Moderate visual effect
- 14 of the 48 dwelling locations would have a Low to Moderate visual effect and
- 12 of the 48 dwelling locations would have a Low visual effect.

The field assessment for the majority of dwelling locations was undertaken from the closest publicly accessible location, with a conservative approach adopted where there was no opportunity to confirm the actual extent of available view from areas within or immediately surrounding the dwelling. It is anticipated that some visibility ratings would be less than those determined subject to a process of verification of existing screening from private property.

9.11 Summary of dwelling visual effect (beyond 5km of wind turbines)

The majority of dwellings located beyond the 5km wind turbine offset are unlikely to be significantly impacted by the wind turbines. Dwellings beyond 5km include varying degrees of tree planting within proximity to dwellings which may offer greater screening significance as distance from the wind turbines increases.

9.12 Substations and 220kV transmission line

The project would incorporate 2 substations connected by a single circuit 220kV transmission line. Electrical connection to the grid will be from the eastern substation connecting into the existing 220kV powerline which transects the eastern portion of the project.

The substations would be located on existing agricultural land within the project site, one to the east of the Henty Highway corridor at the intersection of Whytes Road and Bells Road (north of wind turbine T11). The other substation would adjoin Dogwood Road to the west of the Henty Highway corridor (east of wind turbine (T44).

The substation locations and the 220kV transmission line corridor are illustrated on **Figure 20**.

Each substation footprint would be approximately 180m x 80m and would contain a typical arrangement of electrical infrastructure components including overhead gantry, busbars and transformers. Each substation would also include a switchyard control room, a switch room, an operations and maintenance building and a control room. These would be generally single storey small-scale buildings within the substation footprint surrounded within a gated chainmesh security fence.

The substations would be connected by an overhead 200kV single circuit transmission line. From the eastern substation the transmission line would extend in a westerly alignment alongside Bells Road for approximately 2.76km. Spanning the Henty Highway corridor, the transmission line would then extend west for another 822m, spanning Dogwood Road to connect with the western substation. The transmission line conductors would be supported on a single tapered metal pole extending to height between 36m and 42m.

The substations, associated buildings and electrical infrastructure would not be out of character with other moderate to large scale agricultural and existing electrical infrastructure located within the landscape surrounding the project site.

9.13 Visual Absorption Capability

Visual Absorption Capability (VAC) is a classification system used to describe the relative ability of the landscape to accept modifications and alterations without the loss of landscape character or deterioration of visual amenity. VAC relates to physical characteristics of the landscape that are often inherent and often quite static in the long term. The visual expanse of the agricultural landscape occasionally interrupted by scattered and groups of trees will have a moderate to high capability to visually absorb the substations without significantly altering the character of the landscape.

A moderate to high VAC would tend to mitigate views toward the substations and overhead 220kV transmission line where the proposed structures would be viewed against an expansive agricultural landscape.

9.14 Substations and 220kV transmission line visual effect

This LVIA has considered and assessed key view locations within 3km of the substations and transmission line. The visual magnitude of the substation and transmission line structures would not result in significant visual effects from view locations beyond 3km.

An assessment of the potential visual effect of electrical infrastructure within 3km of view locations surrounding the project site is presented in **Table 15**. This LVIA notes that there are no dwellings within 3km of the eastern substation.

Table 15 – Visual effect matrix (Refer **Figure 20** for substation and transmission line locations)

Receiver location	Category of receiver location and sensitivity grading	Approximate distance to substation and/or 220kV transmission line	Potential duration of effect	Degree of visibility and screening	Potential visual effect
R5 Dwelling located west of (and adjoining) the Henty Highway corridor, and south east of the western substation.	Non-associated landowner Sensitivity: High	882m from west substation 700m south of transmission line	Long	Short distance and direct views extend north west to north east from the dwelling and curtilage toward the west substation and transmission line within the project site. Views toward the substation and transmission line would be partially filtered and/or screened by tree planting surrounding and beyond the dwelling. Degree of existing screening at dwelling: Low to Moderate	Moderate
Henty Highway corridor located to the east of the western substation	Drivers and passengers in vehicles Sensitivity: Low	828m from the west substation Passes beneath the transmission line	Short Views toward the substation and transmission line would be transitory and short term.	Short distance and indirect views would extend west toward the substation location with occasional screening and filtering of views by tree cover alongside and beyond the road corridor.	Low
Banyena Road corridor	Drivers and passengers in vehicles	2.2km north of the eastern substation and transmission line	Short	Moderate distance and indirect views would extend south toward the east substation and	Low

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Table 15 – Visual effect matrix (Refer **Figure 20** for substation and transmission line locations)

Receiver location	Category of receiver location and sensitivity grading	Approximate distance to substation and/or 220kV transmission line	Potential duration of effect	Degree of visibility and screening	Potential visual effect
	Sensitivity: Low		Views toward the substation and transmission line would be transitory and short term.	transmission line corridor. The overall low visual magnitude of the substation facility and transmission line beyond 2km from the road corridor would not result in any significant visual effects.	
Greenhills Road corridor	Drivers and passengers in vehicles Sensitivity: Low	2.4km south of the eastern substation and transmission line	Short Views toward the substation and transmission line would be transitory and short term.	Moderate distance and indirect views would extend north toward the east substation and transmission line corridor. The overall low visual magnitude of the substation facility and transmission line beyond 2km from the road corridor would not result in any significant visual effects.	Low

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Cumulative assessment

Section 10

10.1 What is Cumulative Impact Assessment?

A cumulative landscape and visual impact may result from a wind farm being constructed in conjunction with other existing or proposed wind farm developments or other large-scale infrastructure projects and may be either associated or separate to it.

Separate wind farm or other developments may occur within the established viewshed of the proposed wind farm or may be located within a regional context where visibility is dependent on a journey between each site or project viewshed.

‘Direct’ cumulative visual impacts may occur where two or more wind farms or other infrastructure developments have been constructed within the same locality and may be viewed from the same view location simultaneously.

The approved 2 Jung wind turbines would be located within the project site boundary. The Jung wind turbines would be visually contiguous with the Wimmera Plains wind turbines and viewed as associated elements with the Project, rather than separate to it.

The Wimmera Plains wind turbines are likely to be visible from view locations where both the proposed Wimmera Plains and approved (and partially constructed) Murra Warra wind turbines are visible within the same field of view. These view locations, including potential sensitive dwellings, would tend to be located either proximate to one of the wind farms and at a greater distance from the other, or more distant locations from either wind farm. It is therefore unlikely that ‘direct’ views toward wind turbines within each wind farm would result in a significant magnitude of visual effect.

‘Indirect’ cumulative visual impacts may occur where two or more wind farms or other infrastructure developments have been constructed within the same locality, and may be viewed from the same view location but not within the same field of view (i.e. the viewer has to turn their head in order to view both wind farms).

‘Indirect’ views between the Wimmera Plains and Murra Warra wind turbines are likely to occur from view locations situated between both wind farms, where the most proximate views would be around 5km to either site.

‘Sequential’ cumulative visual impacts may arise as a result of multiple wind farms or other infrastructure developments being observed at different locations during the course of a journey (e.g. from a vehicle travelling along a highway or from a network of local roads), which may form an impression of greater magnitude within the construct of short term memory.

The Wimmera Plains and Murra Warra wind turbines would be visible from vehicles travelling north or south along sections of the Henty Highway, or from a combination of local roads either side of the highway. Views from vehicles would be transitory and generally short term.

The distances between the Wimmera Plains Wind Farm and Kiata Wind Farm (around 52km), and the Rifle Butts Wind Farm (around 40km) would preclude any potential direct or indirect visual impacts. The significance for sequential visual impacts would also be limited by distance as well as the overall small number of wind turbines within each wind farm project.

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Photomontages

Section 11

11.1 Photomontages

Photomontages have been prepared to illustrate the general appearance of the proposed Wimmera Plains Wind Farm turbines following construction. Seven locations were selected to illustrate the proposed Wimmera Plains Wind Farm from view locations in surrounding areas.

The photomontage locations were selected following a review of ZVI maps, together with a site inspection to identify potential representative viewpoints. The photomontage locations were selected from surrounding road corridors and at a range of distances between the viewpoint and wind turbine to illustrate the potential influence of distance on visibility. The photomontages are presented at around 80 degrees and a detailed 30-degree field of view. The 80-degree photomontage includes an extended panorama view to provide context within the photomontage. The 30-degree view angle photomontage illustrates a view within the human central cone of binocular vision and provides a greater level of detail.

The photomontage locations are illustrated in **Figure 4** and presented in the following figures:

- **Figure 21** Photomontage P1
- **Figure 22** Photomontage P2
- **Figure 23** Photomontage P3
- **Figure 24** Photomontage P4
- **Figure 25** Photomontage P5
- **Figure 26** Photomontage P6 and
- **Figure 27** Photomontage P7.

Each photomontage was generated through the following steps:

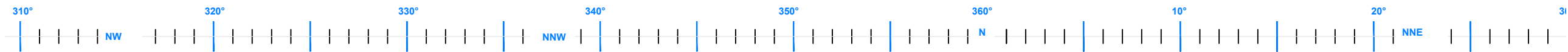
- A digital terrain model (DTM) of the proposed Wimmera Plains Wind Farm site was created from a terrain model of the surrounding area using digital contours
- The site DTM was loaded into the Wind Pro software package
- The layout of the wind farm and 3-dimensional representation of the wind turbine was configured
- The location of each viewpoint (photo location) was configured in Wind Pro – the sun position for each viewpoint was configured by using the time and date of the photographs from that viewpoint
- The view from each photomontage location was then assessed in Wind Pro. This process requires accurate mapping of the terrain as modelled, with that as seen in the photographs. The photographs, taken from each photomontage location were loaded into Wind Farmer and the visible turbines

superimposed on the photographs

- The photomontages were adjusted using Photoshop CS3 to compensate for fogging due to haze or distance, as well as screening by vegetation or obstacles and
- The final image was converted to JPG format and imported and annotated as the final figure.

The horizontal and vertical field of view within the majority of the photomontages exceeds the parameters of normal human vision. However, in reality the eyes, head and body can all move and under normal conditions a person would sample a broad area of landscape within a panorama view. Rather than restricting the extent of each photomontage to a single photographic image, a broader field of view is presented to more fully illustrate the extent of the wind turbines.

Whilst a photomontage can provide an image that illustrates a very accurate representation of a wind turbine in relation to its proposed location and scale relative to the surrounding landscape, this LVIA acknowledges that large scale objects in the landscape can appear smaller in photomontage than in real life and is partly due to the fact that a flat image does not allow the viewer to perceive any information relating to depth or distance.



Photomontage P1 - Proposed view north west to north north east from the Wimmera Highway corridor. Approximate distance to closest wind turbine (T5) 5.3 kilometres.



Photomontage P1 - Detail view through 20 degrees

Wimmera Plains Energy Facility LVIA

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Extent of detail view

General Notes:

Coordinates:
Easting 617567, Northing 5945088

Photo date:
30th June 2019, 10.51am

Elevation:
147m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P1 is illustrated at a view angle of around 80 degrees which is within the central, binocular field, of human vision.

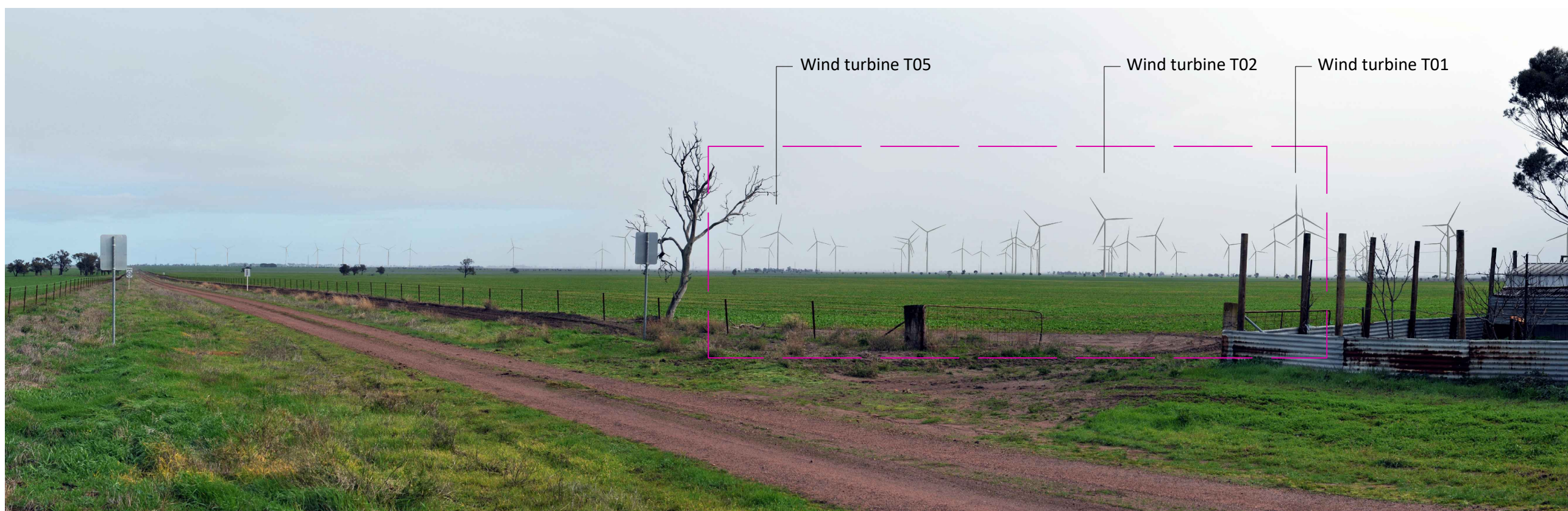
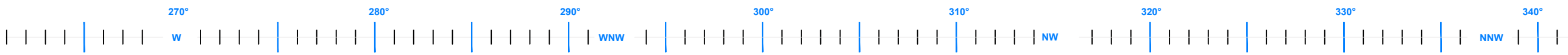
Photomontage limitations

A photomontage can never show exactly what the wind turbines will look like in reality due to factors such as different lighting, weather and seasonal conditions which vary through time and the resolution of the image. Also a static image cannot convey turbine movement.

The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate.

The viewpoints illustrated are representative of views in this location, but cannot represent visibility at all locations.

Figure 21
Photomontage P1



Photomontage P2 - Proposed view west to north north west from Jung West Road. Approximate distance to closest wind turbine (T01) 3 kilometres.



Photomontage P2 - Detail view through 30 degrees

General Notes:

Coordinates:
Easting 621241, Northing 5947770

Photo date:
11th June 2019, 11.16am

Elevation:
153m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P2 is illustrated at a view angle of around 80 degrees which is within the central, binocular field, of human vision.

Photomontage limitations

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Photomontage P3 - Proposed view west south west to north north west from Bells Road. Approximate distance to closest wind turbine (T15) 1.5 kilometres.



Photomontage P3 - Detail view through 30 degrees

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Wimmera Plains Energy Facility LVIA



Extent of detail view

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GREEN BEAN DESIGN

landscape architects

General Notes:

Coordinates:
Easting 621523, Northing 5951487

Photo date:
30 June 2019, 11.26am

Elevation:
157m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P3 is illustrated at a view angle of around 80 degrees which is within the central, binocular field, of human vision.

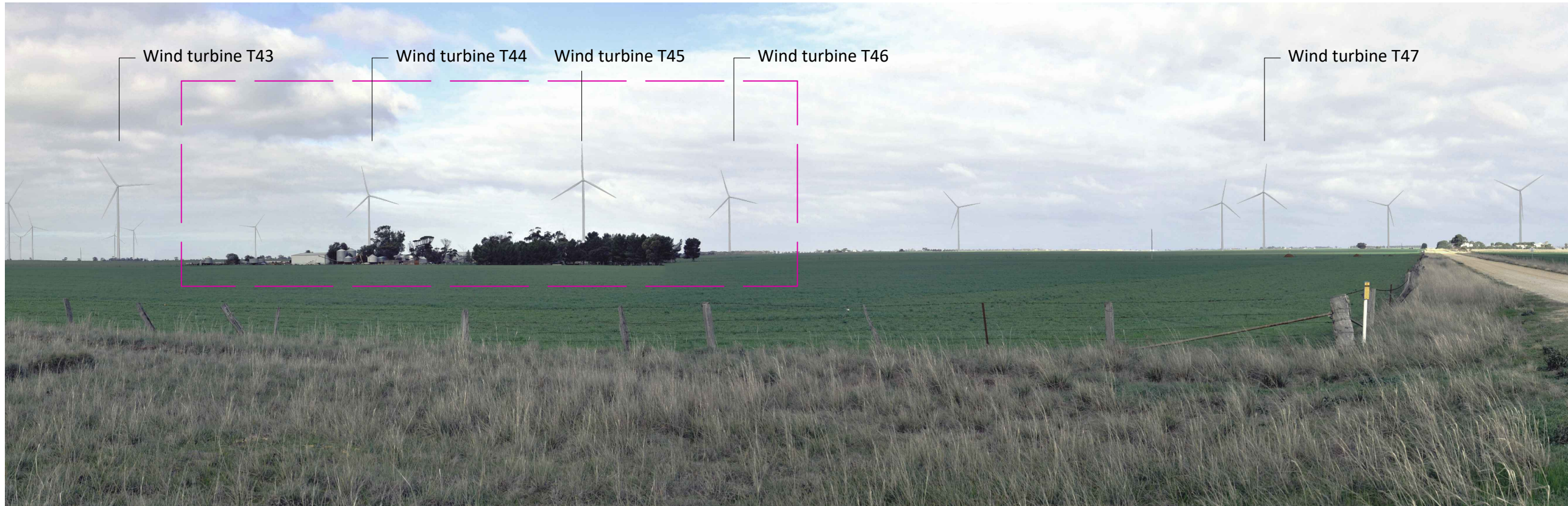
Photomontage limitations

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The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate.

The viewpoints illustrated are representative of views in this location, but cannot represent visibility at all locations.

Figure 23
Photomontage P3



Photomontage P4 - Proposed view east south east to south from Doon North Road. Approximate distance to closest wind turbine 2.5 kilometres.



Photomontage P4 - Detail view through 30 degrees

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Extent of detail view

General Notes:

Coordinates:
Easting 611085, Northing 5953509

Photo date:
30th June 2019, 2.08pm

Elevation:
139m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P4 is illustrated at a view angle of around 80 degrees which is within the central, binocular field, of human vision.

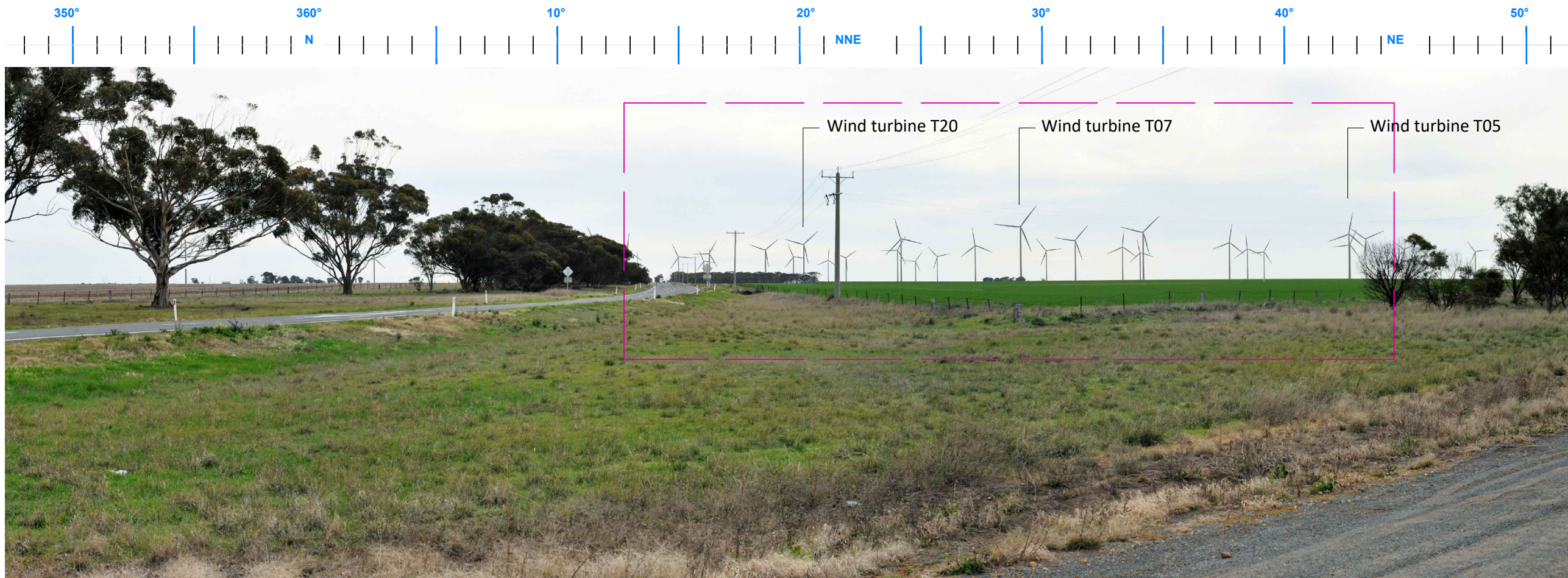
Photomontage limitations

A photomontage can never show exactly what the wind turbines will look like in reality due to factors such as different lighting, weather and seasonal conditions which vary through time and the resolution of the image. Also a static image cannot convey turbine movement.

The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate.

The viewpoints illustrated are representative of views in this location, but cannot represent visibility at all locations.

Figure 24
Photomontage P4



Photomontage P5 - Proposed view north north west to north east from Greenhills Road. Approximate distance to closest wind turbine (T07) 4.5 kilometres.



Photomontage P5 - Detail view through 30 degrees

General Notes:

Coordinates:
Easting 613340, Northing 5946568

Photo date:
30th June 2019, 2.43pm

Elevation:
147m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P5 is illustrated at a view angle of around 60 degrees which is within the central, binocular field, of human vision.

Photomontage limitations

A photomontage can never show exactly what the wind turbines will look like in reality due to factors such as different lighting, weather and seasonal conditions which vary through time and the resolution of the image. Also a static image cannot convey turbine movement.

The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate.

The viewpoints illustrated are representative of views in this location, but cannot represent visibility at all locations.

Figure 25
Photomontage P5



Extent of detail view



Photomontage P6 - Proposed view south west to west north west from Jung Wheat Road. Approximate distance to closest wind turbine 2.2 kilometres.



Photomontage P6 - Detail view through 30 degrees

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Extent of detail view

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GREEN BEAN DESIGN
landscape architects

General Notes:

Coordinates:
Easting 619659, Northing 5954100

Photo date:
10th December 2017, 11.40am

Elevation:
136 m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P6 is illustrated at a view angle of around 80 degrees which is within the central, binocular field, of human vision.

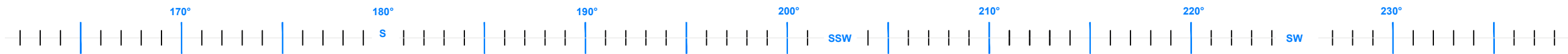
Photomontage limitations

A photomontage can never show exactly what the wind turbines will look like in reality due to factors such as different lighting, weather and seasonal conditions which vary through time and the resolution of the image. Also a static image cannot convey turbine movement.

The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate.

The viewpoints illustrated are representative of views in this location, but cannot represent visibility at all locations.

Figure 26
Photomontage P6



Photomontage P7 - Proposed view south to south west from Kalkee East Road. Approximate distance to closest wind turbine 3.6 kilometres.



Photomontage P7 - Detail view through 30 degrees

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Wimmera Plains Energy Facility LVIA



Extent of detail view

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GREEN BEAN DESIGN
landscape architects

General Notes:

Coordinates:
Easting 618631, Northing 5957221

Photo date:
10th December 2017, 1.29pm

Elevation:
135 m Australian Height Datum

Camera:
Nikon D700, 50mm 1:1.4D Lens

Original Page Format - A3 Landscape

Photomontage P7 is illustrated at a view angle of around 80 degrees which is within the central, binocular field, of human vision.

Photomontage limitations

A photomontage can never show exactly what the wind turbines will look like in reality due to factors such as different lighting, weather and seasonal conditions which vary through time and the resolution of the image. Also a static image cannot convey turbine movement.

The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate.

The viewpoints illustrated are representative of views in this location, but cannot represent visibility at all locations.

Figure 27
Photomontage P7

Pre-construction and construction

Section 12

12.1 Potential visual impacts

There are potential visual impacts that could occur during both pre-construction and construction phases of the project. The Project construction phase is likely to occur over a period of around 24 months, although the extent and nature of pre-construction and construction activities would vary at different locations within the Project area.

The key pre-construction and construction activities that would be visible from areas surrounding the proposed wind farm include:

- ongoing detailed site assessment including sub surface geotechnical investigations
- various civil works to upgrade local roads and access point
- temporary construction compound buildings and facilities
- temporary construction facilities, including portable structures and laydown areas
- various temporary construction and directional signage
- mobilisation of rock crushing equipment and concrete batching plant (if required)
- excavation and earthworks and
- various construction activities including erection of wind turbines, monitoring mast and electrical infrastructure works.

The majority of pre-construction and construction activities, some of which would result in physical changes to the landscape (which have been assessed in this LVIA report), are generally temporary in nature and for the most part restricted to various discrete areas within or beyond the immediate wind farm project area. The majority of pre-construction and construction activities would be unlikely to result in an unacceptable level of visual impact for their duration and temporary nature. The following images illustrate typical construction activities during preparation and installation of wind turbines:



Plate 1 Cable laying equipment



Plate 2 Typical crane plant utilised in wind turbine construction

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Plate 3 Typical storage and laydown area



Plate 4 Typical contractors site office and amenities compound

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Plate 5 Typical view toward wind turbines under construction

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Mitigation measures

Section 13

13.1 Mitigation measures

The British Landscape Institute states '*the purpose of mitigation is to avoid, reduce, or where possible remedy or offset any significant negative (adverse) effects on the environment arising from the proposed development*' (2012). In general mitigation measures would reduce the potential visual impact of the project in one of two ways:

- firstly, by reducing the visual prominence of the wind turbines and associated structures by minimising the visual contrast between the wind turbines and the landscape in which they are viewed; and
- secondly, by screening views toward the wind turbines from specific receiver locations.

The mitigation measures generally involve reducing the extent of visual contrast between the visible portions of the proposed structures and the surrounding landscape, and/or screening direct views toward the proposed wind turbines where possible.

13.2 Detail design

Mitigation measures during the detail design process should consider:

- further refinement in the design and layout which may assist in the mitigation of bulk and height of proposed structures
- consideration in selection and location for tree planting which may provide partial screening or backdrop setting for constructed elements (excluding wind turbine structures) and
- a review of materials and colour finishes for selected components including the use of non-reflective finishes to structures where possible.

13.3 Construction

Mitigation measures during the construction period should consider actions to:

- avoidance of temporary light spill beyond the construction site where temporary lighting is required and
- progressively rehabilitate disturbed areas.

13.4 Operation

Mitigation measures during the operational period should consider:

- ongoing maintenance and repair of constructed elements
- replacement of damaged or missing constructed elements.

13.5 On-site and off-site landscape works

Both on-site and offsite landscape works would be actively considered in order to reduce the visual impact of the wind turbines and associated ancillary infrastructure. A programme of landscape works would be documented in accordance with any relevant permit conditions.

Wimmera Plains Energy Facility Landscape and Visual Impact Assessment v3 April 2020

Conclusion

Section 14

14.1 Conclusion

The key findings of the Wimmera Plains Energy Facility LVIA are summarised below:

- the landscape character type, identified and described in this LVIA, is generally well represented throughout the Horsham Rural City and surrounding Council areas and more broadly across the Wimmera and within rural western Victoria
- this LVIA determined the overall landscape character sensitivity to be low. Most landscape characteristics are generally robust and would tend to be less affected by the proposed wind turbines. The degree to which the landscape may accommodate the wind turbines would not significantly alter the existing landscape character
- the proposed wind turbines would be located between 35 and 40 kilometres from prominent landscape features including the Grampian National Park and Mount Arapiles. Given that distance is one key determinant for establishing degrees of visual impact, the proposed wind turbines are unlikely to dominate or significantly detract from the existing view from these key view locations
- the capability of the landscape to accommodate change is largely derived from the large scale and open landscape character identified in this part of the Wimmera Plain, together with the relatively low density of people located within the immediate and surrounding area of the wind turbine viewshed
- the proposed wind turbines are unlikely to have any visual impact on the character of the surrounding townships and localities, where views toward the wind turbines from the majority of dwelling view locations would be screened by adjoining residences, tree cover and broad low undulations in local landform
- views toward the proposed wind turbines from local roads and highways would offer a range of transitory views which would be subject to direction of travel and potential screening influence of vegetation alongside road corridors
- the majority of rural dwellings surrounding the wind turbines maintain tree planting and/or windbreaks around dwellings. The extent of windbreak planting reduces the potential visibility of the wind turbines from a number of dwelling view locations within the surrounding viewshed
- the extent and nature of cumulative visual effects are likely to be mitigated in part by the distance between the proposed wind turbines and those within the Murra Warra wind farm site
- the substations and 220kV transmission line would not form large scale visual elements within the landscape and would not result in significant visual effects
- both pre-construction and construction activities are unlikely to result in an unacceptable level of visual

impact due to the temporary nature of these activities, together with proposed restoration and revegetation activities. The preferred location for some of the construction activities, including the on-site

concrete batch plant and rock crusher, would generally be located away from publicly accessible areas, with the closest residential view location generally comprising associated landowners

- although some mitigation measures may be considered appropriate to minimise the visual impact for a number of the elements associated with the wind farm including the wind turbines, it is acknowledged that the degree to which the wind turbines may be visually mitigated is limited by their scale and position within the landscape relative to surrounding view locations.

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