

# ADVERTISED PLAN

## Landscape Visual Impact Assessment and Landscape Strategy

for the

Waubra BESS



Revision 5

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Prepared by Horizon Studio Landscape Architecture

For Acciona Energia

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*The authors acknowledge the Wadawurrung people, the traditional owners of the land and waters considered in this report, their connection to country and their ongoing contribution to improving the environment and the health and well-being of all people.*

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Abbreviations

| Abbreviation | Title                                                 |
|--------------|-------------------------------------------------------|
| AILA         | Australian Institute of Landscape Architects          |
| BMO          | Bushfire Management Overlay                           |
| BPA          | Bushfire Prone Area                                   |
| m            | Metres                                                |
| Km           | Kilometre                                             |
| DEECA        | Department of Energy, Environment, and Climate Action |
| LCT          | Landscape Character Type                              |
| LPPF         | Local Planning Policy Framework                       |
| LSIO         | Land Subject to Inundation Overlay                    |
| LVIA         | Landscape and Visual Impact Assessment                |
| FO           | Floodway Overlay                                      |
| FOV          | Field Of View                                         |
| FZ           | Farming Zone                                          |
| HO           | Heritage Overlay                                      |
| PCRZ         | Public Conservation and Resource Zone                 |
| PUZ          | Public Use Zone                                       |
| PV           | Photo Voltaic cells (solar panels)                    |
| REAP         | Renewable Energy Action Plan                          |
| RDZ          | Road Zone                                             |
| SPPF         | State Planning Policy Framework                       |
| SMO          | Salinity Management Overlay                           |
| TZ           | Township Zone                                         |
| VFOV         | Vertical Field of View                                |
| ZTV          | Zone of Theoretical Visibility                        |

## 1. Executive summary

---

This Landscape Visual Impact Assessment (LVIA), has been prepared for Acciona Energia as a requirement for a planning permit application to the Victorian State Planning Department. The LVIA is for a proposed Battery Energy Storage System (BESS), and associated transmission infrastructure, to be located on 151 Troys Road, Waubra. The proposed BESS will connect to an existing terminal substation immediately opposite the site on Troys Road.

The study area for the LVIA extends 6 kilometres out from the proposed site, defined by the distance at which some of the associated infrastructure such as transmission poles may be theoretically visible. A field assessment was carried out within this area to understand the existing landscape character, identify visual receptors and to establish representative viewpoints.

The site is within a Farming Zone with agriculture being the predominant activity throughout the study area and broader region. The wind turbines of the operational Waubra Wind Farm, standing some 120 metres tall, are synonymous with the location, being scattered across the landscape up to nine kilometres distance from the site. The Waubra township is located approximately 2.5 kilometres due east of the site with visibility between the two locations not possible due to the intervening hilly terrain.

Two Landscape Character Types (LCT), were determined within the study area including:

**LCT 1 - Agricultural plains**, has a low sensitivity to change, with cleared, treeless paddocks, rolling terrain and wind turbines being key characteristics.

**LCT 2 - Township**, defined as the Waubra township, has a medium sensitivity to change, being distinguished from the surrounding agricultural plains with clustered buildings, tree lined roads, community and commercial land uses.

A range of factors combine to limit the impacts on landscape character and visual impact associated with the proposed BESS. The hilly terrain and the scattered trees throughout the study area significantly limit visibility of the site. The existing pine wind breaks that run along three sides of the site provide an effective screen. The proposed development will not introduce a new characteristic into the agricultural landscape and the scale of the proposal relative to existing power generation infrastructure in the area is minor. Consequently the impact on the existing landscape character of the Agricultural Plains is considered to be Minor.

The impact on the landscape character of the Waubra township (LCT 2), is considered insignificant due to the separation of the proposed BESS from the township by distance and terrain. The limited visibility of the site due to the intervening hilly terrain was confirmed during the site visit.

Six representative viewpoints were established taking into account the proximity and location of nearby dwellings and views of the site from public roads.

VP1 - 280 metres east of the site on Troys road. - Representative of the proposed site owners dwelling and local road users

VP2 - at the site entry on Troys road. - Representative of local road users.

VP3 - at the intersection of Troys and Gordons Road. - Being an elevated location and representative of local road users.

VP4 - southwest corner of the site on Gordons Road. - Being an elevated location and representative of local road users.

VP5 - 1.3 kms due west of the site on Troys Road. - Representative of nearby dwellings and local road users.

VP6 - 880 metres due south of the site on Gordons Road. Representative of nearby dwellings and local road users.

The visual impacts associated with the proposed development have been rated from Negligible to Minor - Moderate due to the low sensitivity of visual receptors and the limited visibility of the site. VP1 received the highest rating of Minor to Moderate due to the proximity of the property owners dwelling to the site and the gaps in the existing pine row along the eastern property boundary which allow for a moderate level of view frequency and duration of exposure to the site.

The existing rows of mature pines along the north, south and western boundaries provide an effective screen significantly limiting visibility of the site. Maintaining these pine rows will assist to minimise the visibility of the proposed BESS from the adjacent roads and nearby properties as well as limiting impacts on the agricultural plains landscape character.

The location of the proposed BESS is not on a major roadway and minimises the potential for this development to contribute to cumulative impacts at the regional scale. At a local scale, there will be potential for simultaneous viewing of the proposed BESS and the existing Terminal substation on Troys Road. However, the existing pine rows along the Troys Road site frontage will screen the proposed BESS and minimise the duration of simultaneous viewing.

The proposed new site access from Gordons Road will require the removal of one, potentially two pines, and this will be a noticeable change however, the visual impact will be Minor due to the low frequency and duration of exposure for visual receptors, and the distance and lower elevation of sensitive receptors from this change, (Viewpoint 5, 1.4kms west).

### Mitigation measures

- All buildings and structures to have muted colour, non reflective cladding and finishes.
- Any lighting must be designed and installed in accordance with all relevant standards including AS 4282-1997. Control of the effects of outdoor lighting.
- Assess the health and longevity of the existing pines along all boundaries and implement measures to improve their condition where required.
- Remove any dead or poor condition pines and replace with same species filling in any gaps to maintain a consistent screen along all boundaries.
- Infill gaps on eastern property boundary that do not impinge on the transmission line corridor, to reduce the visual impact on the nearby dwelling.
- Infill the existing row of pines along the eastern property boundary up to the transmission line corridor to reduce the visual impact on the neighbouring dwelling and to receptors using Troys Road.
- Plant native shrubs under the existing Eucalyptus trees in the south west corner of the site property boundary.

## 2. Introduction

### 2.1 Purpose of this report

Horizon Studio has been engaged by Acciona Energia to conduct a Landscape Visual Impact Assessment, (LVIA), for a proposed Battery Energy Storage System, (BESS) at 151 Troys Road, Waubra. Landscape Visual Impact Assessments are a mandatory requirement for all planning applications to the Victorian State Government for renewable energy facilities including battery energy storage systems. A planning permit is required for the construction and operation of the BESS. The BESS will connect to the Waubra wind farm and the national grid via a new substation which will be located on the same site as the BESS.

The purpose of this LVIA is to assess the potential impacts associated with the proposed development on the landscape character of the surrounding area, to assess the potential impacts on views for a range of visual receptors, and to make recommendation for mitigating or reducing impacts where they are considered significant or an improved outcome can be achieved.

The existing terminal station and the site of the proposed BESS facility are both situated approximately 2.4 kilometres west of the Waubra township and approximately 28 kilometres northwest of Ballarat. The existing terminal station services the Waubra wind farm which encompasses the surrounding farmland extending across the landscape up to nine kilometres to the north and some six kilometres to the south from the proposed BESS site.

### 2.2 Project scope

The proposal is to construct and operate a 200MW Battery Energy Storage System, (BESS), located on Troys Road, Waubra, immediately opposite to the existing Waubra Wind Farm Terminal Station. The proposed BESS will cover an area up to 6 hectares and will include a dedicated compound for the BESS units and associated inverters, a substation compound, operational and maintenance compound; and an overhead transmission cable connecting to the existing terminal station via four transmission poles. The proposal also includes two separate access roads to the site from Gordons Road and Troys Road.

Temporary compounds will also be used for the construction of the BESS including a batching plant, lay-down area and a construction operations compound. It is anticipated construction of the BESS facility will take approximately twenty four months after which the temporary compounds will be removed and the sites reinstated as farmland.

This LVIA only considers the permanent BESS infrastructure, as the temporary infrastructure will be removed and the sites rehabilitated to their current existing condition on completion of construction.

### 2.3 Report objectives

The objectives of this LVIA are to:

- Assess the existing landscape character and land use activities in the area surrounding the proposed site and establish their capacity to absorb changes from development.
- Evaluate the alignment of the proposal to the relevant legislation and planning policy that guide land use of the site and surrounding area.
- Determine the sensitivity of existing and potential viewers of the site and assess the potential degree of visual impact associated with the proposed development.
- Provide recommendation to mitigate potential impacts on landscape character and visual amenity, particularly in instances where such impacts are assessed as unacceptable or where opportunities exist to achieve an improved outcome.

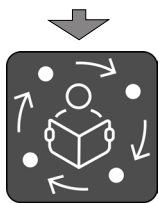
### 2.4 Report structure

This report is structured in accordance with the logical process for conducting a landscape and visual impact assessment with the key components as follows:



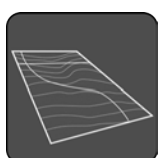
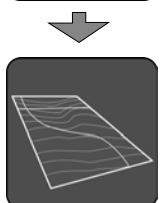
#### Project description and planning context

Understand the proposed project including location, scale, the physical attributes of components and their operation..



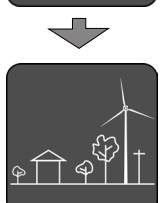
#### Methodology

Develop a suitable methodology in accordance with the proposed project setting and scale.



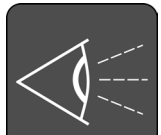
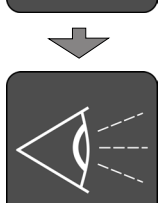
#### Project area

Define the project area - defined by the extent to which the proposal may have an impact.



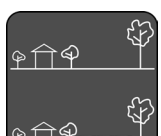
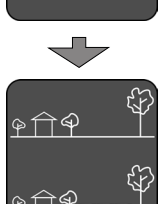
#### Landscape character

Evaluate the existing landscape character and land use surrounding the site to determine it's capacity to absorb changes associated with the proposed development.



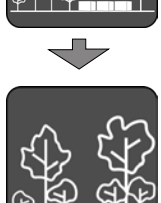
#### Visual receptors

Identify potential visual receptors, (viewers), and establish their sensitivity to changes in their views.



#### Visual Impact Assessment

Assess the potential visual impact associated with the proposed development by comparing existing views with photomontages of the proposed views.



#### Mitigation strategy

Make recommendation for mitigating or reducing the impacts on landscape character and views where the impact is considered to be unacceptable or an improved outcome can be achieved.

3. Project description

3.1 Overview

The project includes the construction and operation of a 200MW Battery Energy Storage System (BESS), connected to the existing Waubra Terminal Station and the national electricity grid via an overhead transmission line and new substation. The facility will be securely enclosed and have allocated areas for BESS units, power system modules, a substation compound, and an operations and maintenance building. The total permanent footprint of the facility is approximately 31,610 m<sup>2</sup>. *Footnote 1*

Temporary compounds will be required for the duration of construction including a concrete batching plant, equipment and personnel compound and a materials lay down area. The approximate footprint of the temporary construction areas is 13,500 m<sup>2</sup>. These areas will be rehabilitated to their pre existing condition on completion of construction.

3.2 Site location

The proposed site address is 151 Troys Road, Waubra, which is approximately 2.5 kilometres due west of the Waubra township on the Sunraysia highway. The Waubra Terminal Station is immediately opposite the proposed BESS site on Troys Road. The wind turbines of the Waubra wind farm are spread out across the broader landscape on farming land up to 9 kilometres to the north of the site and some 7 kilometres to the south and west. The wind turbines are some 120 metres tall and there is one turbine on the property of the proposed BESS site.

The township of Waubra is approximately 28 kilometres due northwest of Ballarat with other nearby settlements including Lexton, approximately 13 kilometers to the north west, Clunes, approximately 15 kilometres north east and Beaufort being approximately 23 kilometres west south west.

1 The project area does not include the existing access road from Troys road outside of the fenced compound.

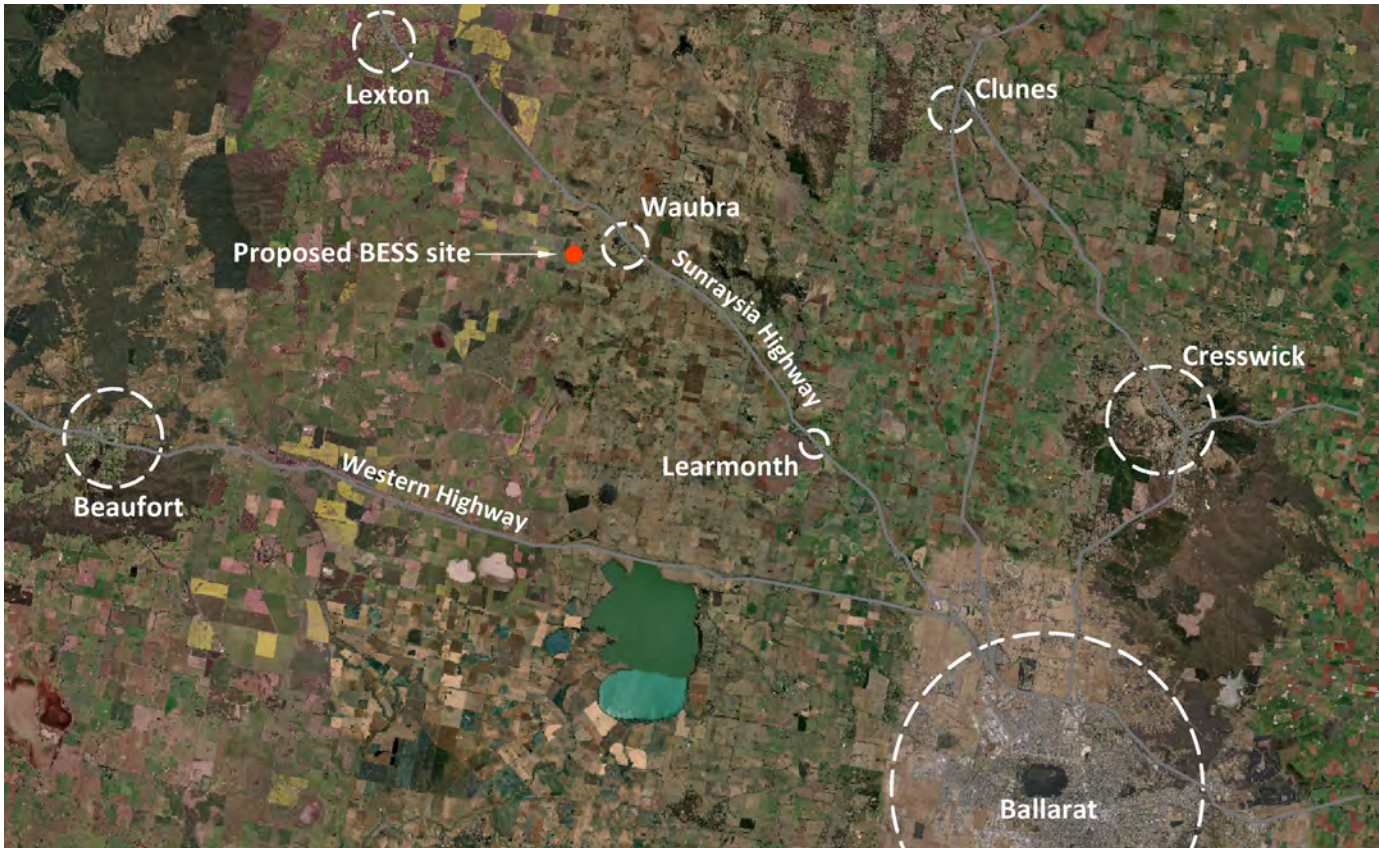


Figure 1. Regional context



Figure 2. Local context

3.3 Project components

Permanent components of the proposed BESS include:

| Project component                                              | Material and colour                                                  | Dimensions - metres                                 |
|----------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------|
| <b>BESS compound - 19,750m<sup>2</sup></b>                     |                                                                      |                                                     |
| 90 of Battery energy storage units - <i>Figure 3</i>           | Steel - off white                                                    | 6m L x 2.4m W x 2.9m H                              |
| 60 of Power station module units - <i>Figure 4</i>             | Steel - off white                                                    | 6m L x 2.4m W x 2.9m H                              |
| <b>Substation compound - 8,800m<sup>2</sup></b>                |                                                                      |                                                     |
| 2 of winding main power transformers                           | Steel and woven steel cable - galvanised grey.                       |                                                     |
| <b>Operation and maintenance compound - 3,060m<sup>2</sup></b> |                                                                      |                                                     |
| Roads and set down areas                                       | Blue metal crushed rock surface                                      |                                                     |
| <b>Transmission infrastructure</b>                             |                                                                      |                                                     |
| 4 of transmission poles                                        | Steel - galvanised grey                                              | 50m H x 2.0m diameter at base narrowing to the top. |
| Transmission cable                                             | Steel - grey                                                         | 318 linear meters                                   |
| <b>Ancillary infrastructure</b>                                |                                                                      |                                                     |
| Access roads                                                   | Blue metal crushed rock surface                                      |                                                     |
| Compound fencing - <i>Figure 5</i>                             | Galvanised cyclone mesh fencing with 3 x strand of barbed wire above | 18m high plus 0.45m barbed wire above.              |
| 3 of Water tanks - <i>Figure 6</i>                             | Concrete or non-reflective steel                                     | 5.25m radius, 1.7m height                           |
| Pump house                                                     | Non reflective steel cladding                                        | 5x4m wide, 2.5m height approx.                      |
| Hydrants                                                       | Painted steel                                                        | 1.0m height x 0.25m wide.                           |
| Spill containment area                                         | Earthen grassed swale                                                | 130m L x 9m wide x 0.4m deep                        |
| Facility signage                                               | Steel - painted black and white with text                            | Varies                                              |
| <b>Civil works</b>                                             |                                                                      |                                                     |
| BESS compound                                                  | Structural surface                                                   | To be raised 600mm from existing ground level.      |

Table 1. BESS components

Temporary components of construction infrastructure include:

- Equipment and personnel compound - 4,500m<sup>2</sup>
- Concrete batching plant - 4,500m<sup>2</sup>
- Materials lay down area - 4,500m<sup>2</sup>

All temporary construction infrastructure will be removed on completion of the BESS facility and rehabilitated to the pre existing condition.

The proposed layout and configuration of the BESS and associated infrastructure is shown in Figure 7, on the following page.



Figure 3. Example image - Battery Energy Storage unit



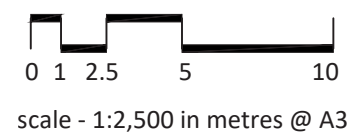
Figure 4. Example image - Power module unit



Figure 5. Example image - fencing



Figure 6. Example image - water tank



- Legend**
- Property Boundary
  - Existing gravel access road
  - New gravel access road
  - Compacted crushed rock pavement

Figure 7. Site layout plan

## Site layout plan

## 4. Site context

### 4.1 Planning Framework

Waubra and surrounds is within the Pyrenees local government area with planning and land use legislation implemented via the Pyrenees Planning Scheme. The site of the proposed BESS facility is in the Farming Zone and it is within the Bushfire Prone Area.

Clause 35.07 of the Planning Scheme provides the purpose of the Farming Zone as:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for the use of land for agriculture.
- To encourage the retention of productive agricultural land.
- To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.
- To encourage the retention of employment and population to support rural communities.
- To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
- To provide for the use and development of land for the specific purposes identified in a schedule to this zone.

The proposed BESS facility best fits the definition of a 'Utility installation', (other than Minor utility installation and Telecommunications facility). A permit is required for a Utility installation in accordance with table 2, clause 35.07.

### 4.2 Land use and settlement

Agriculture is by far the dominant land use in the area with open paddocks spreading out in all directions from the site. Grazing and crop production are the primary type of agricultural activity. There are a number of dwellings scattered throughout the area that are associated with the farming properties.

The Waubra township located approximately 2.5 kilometres to the east is primarily zoned Rural Living with a portion being Township Zone and a smaller portion being Public Park and Recreation Zone. According to the 2021 Census, Waubra has a population of 308. This figure is inclusive of residents on rural properties within the Waubra location as well as those living in the township.

### 4.3 Terrain

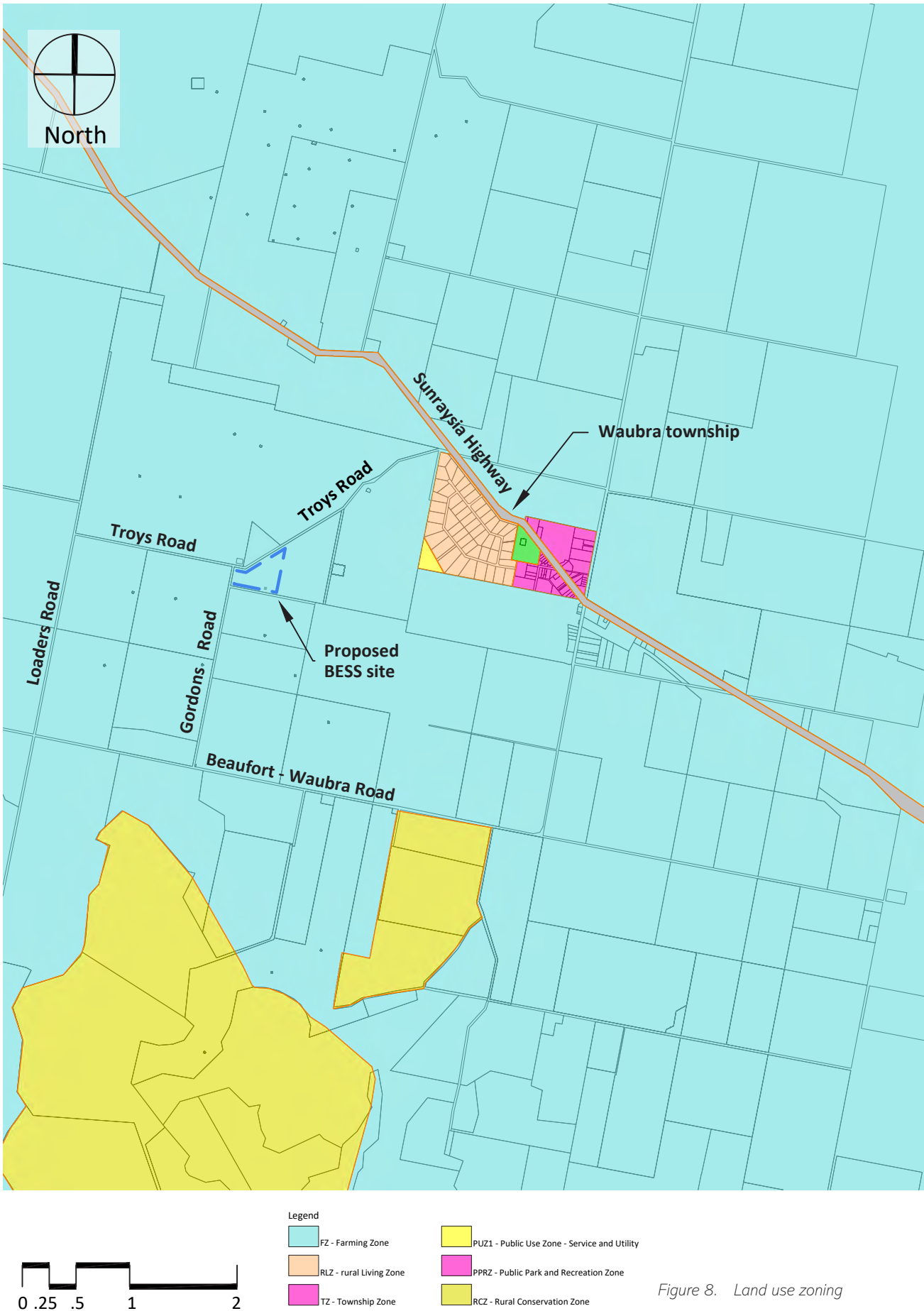
The terrain of the site and surrounds is best described as undulating hills being the result of historical volcanic activity. The proposed site is on an elevated plateau at approximately 520 metres elevation with hills to the north, south, east and west at distances ranging between 1 to 1.5 kilometres, rising some 60 to 70 metres above the site. Waubra township on the Sunraysia Highway is geographically separated from the site by a hill and associated north to south ridge line which rises to 575 meters elevation. Waubra township is further downslope at approximately 460 metres elevation.

The hilly terrain continues to the north and south while flattening over a number of kilometres to the west.

### 4.4 Vegetation

The landscape of the site and surrounding area is sparsely vegetated being primarily farmland and cleared for grazing or crop production. Exotic species are evident as wind breaks along property boundaries or as landscaping around dwellings. Stands of native trees are scattered throughout the landscape associated with water bodies or being remnant vegetation.

The proposed BESS site has continuous rows of mature pine along the north, west and southern boundaries. There is also a row of mature pines along the eastern boundary with significant gaps due to the high voltage transmission lines which bisect this boundary, (running northwest to southeast).



5. Assessment methodology

Landscape and Visual Impact Assessments require the comparison of existing landscape and visual values against the potential changed conditions resulting from the proposed development. There is no legislated or absolute guidelines for carrying out an LVIA in Victoria, however there are a number of references that are widely acknowledged as appropriate guidance for conducting LVIA's. Those references include:

- The Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA), UK, (2002) Guidelines for Landscape and Visual Impact Assessment, Third Edition.
- The Australian Institute of Landscape Architects, (AILA), (2018), Guidance Note for Landscape and Visual Assessment.

Key considerations highlighted in both of these references include:

- Impact levels should include a combination of effect, (magnitude of change), and sensitivity of the visual receptor, (viewer).
- Potential impacts should be ranked or graduated to allow for a range of impacts to be considered.

While the U.K. guidelines recommend using professional judgement in carrying out an LVIA, the AILA guidelines recommend a matrices approach to allow for a range of values to be considered and to remove the potential for mis-interpretation or subjectivity in the assessment.

The methodology adopted for this LVIA is summarised in the steps in the adjacent column.

Step 1 - Understanding the proposal

- Assess the proposed development including footprint, the physical dimensions of the proposed infrastructure, layout, access ways and existing on site features and vegetation to be retained.
- Review site context at the state, regional and local level.
- Review relevant planning and land use legislation to understand development requirements and acknowledge any directions regarding landscape values in the assessment process.

Step 2 - Defining the study area

- The study area is defined as the extent to which the proposed development will be visible and may subsequently impact landscape character or create visual impact. Determining the study area is carried out by mapping the Zone of Theoretical Visibility, (ZTV, also referred to as the Zone of Theoretical Visual Influence, ZTVI), and the Vertical Field of View, (VFOV). The results of these mapping tasks are combined to define the extents to which the proposed development may be potentially visible, hence the study area.

Step 3 - Field study

- Visit the site and surrounds to understand the landscape setting and values, identify potential visual receptors, identify viewpoints and take photos from those viewpoints to be used for the comparison of existing and potential views.

Step 4 - Landscape Character, sensitivity and magnitude of change

- Through desktop analysis and the field study, identify and describe the key characteristics of the site and surrounds. This will provide the baseline for the comparison of the existing landscape character against the potential changes associated with the proposed development.
- Determine the sensitivity or capacity of the landscape to absorb change.
- Establish criteria for rating the potential magnitude of change.
- Rate the Landscape Impact according the level of sensitivity and magnitude of change.

Step 5 - Visual receptors, sensitivity and magnitude of change

- From desktop analysis and the field study, identify potential sensitive visual receptors and establish representative viewpoints.
- Establish criteria for ranking visual receptor sensitivity according to frequency and duration of exposure.
- Establish criteria for rating the potential magnitude of change.
- Rate the visual impact for each sample viewpoint according the level sensitivity and magnitude of change.

Step 6 - Visualisations

- Prepare visualisations / photomontages, that depict the outcome from the proposed development as seen from representative viewpoints.

Step 7 - Evaluation of potential impacts

- Landscape character impact assessment - using the established criteria to compare the baseline characteristics to the potential changes in landscape character associated with the proposed development.
- Visual impact assessment - using the established criteria, compare existing views to the potential views as depicted in the photomontages to assess the level of visual impact in accordance with receptor sensitivity and magnitude of change.
- Cumulative impact assessment - review existing and proposed developments within the region that may have potential to combine with the Waubra BESS proposal to allow for simultaneous viewing or a relatively extended period of viewing.

Step 8 - Mitigation measures

- Provide recommendations to reduce unacceptable impacts or to achieve better outcomes where possible

6. Defining the study area

The extent to which the proposed development may impact landscape character or views needs to be defined. The study area is defined through conducting a number of desktop assessments including determining the viewshed of the proposed development, determining the vertical field of view (VFOV), and conducting a field assessment to validate these desktop tasks and articulate the study area.

The Vertical Field of View (VFOV) provides the distance at which the components of the development would be discernible. The viewshed is determined by mapping the Zone of Theoretical Visibility, (ZTV), which provides the extents to which components of the development may be visible in a theoretical scenario where there are no objects such as buildings or vegetation in the landscape that may obstruct views.

Defining the study area requires assessment of these mapping tasks as well as a field assessment to understand the broader landscape character and to identify objects such as vegetation or buildings that may obstruct views of the proposed site.

6.1 Vertical Field of View

The Field of View is the area in which an object or objects are discernible to the human eye. The Field of View is considered as being either vertical, (VFOV), or Horizontal, (HFOV). The degree of visibility of an object is dependent on its height and breadth, and the distance of the viewer from the object.

The central field of view of a typical person is 10 degrees when standing, starting from zero at eye level then radiating downward to 10 degrees. Figure 9 shows the typical Vertical Field of View of a person with normal eyesight. Objects are typically visible if they occupy more than 5% or 0.5 degrees of the cone of vision. If objects occupy less than 5% of the cone of vision they are typically indiscernible and the visual impact is considered negligible. Figure 10 shows the relative distance for the vertical field of view of the key components of the proposal.

The tallest components of the proposed BESS are four 50 metre transmission poles spread over 315 metres between the proposed substation and the existing terminal substation. Using CAD software, the distance at which the transmission towers occupy less than 5% of the Vertical Field of View on a theoretical flat plain with no intervening objects, has been measured to be 5.75 kilometres. The Battery Energy Storage units and power station modules are both 2.9 metres high. The Vertical Field of View of these components has been calculated to be 332 metres.

This is a theoretical calculation and does not take into account terrain or objects in the landscape that may obstruct views and visibility of the project components. However the Vertical Field of View of the transmission poles will be considered for defining the study area in combination with the viewshed of the proposed development.

6.2 Viewshed

The viewshed is the area from which an object is visible, taking into account terrain and objects in the landscape that may obstruct some views of the proposed development site. The Zone of Theoretical Visibility, (ZTV), is the area from which an object can be seen not taking into account any objects in the landscape such as buildings or vegetation that may obstruct some views. ZTV mapping provides a basis for defining the viewshed of an object or development and provides a basis for defining the study area.

ZTV mapping requires combining terrain data such as contour information or LIDAR data with height and footprint information of the proposed development, in GIS software. Using specific viewshed algorithms the software combines the data to calculate the ZTV.

For this project 1.0 metre contour data was combined with a virtual CAD model of the proposed development to determine the ZTV. The model used the project component data as described in Section 2 and as per the proposed layout shown in Figure 7. Site layout plan.

6.3 Field assessment

The VFOV and viewshed mapping were used as a guide for the field assessment. Refer to Figure 11, Study area.

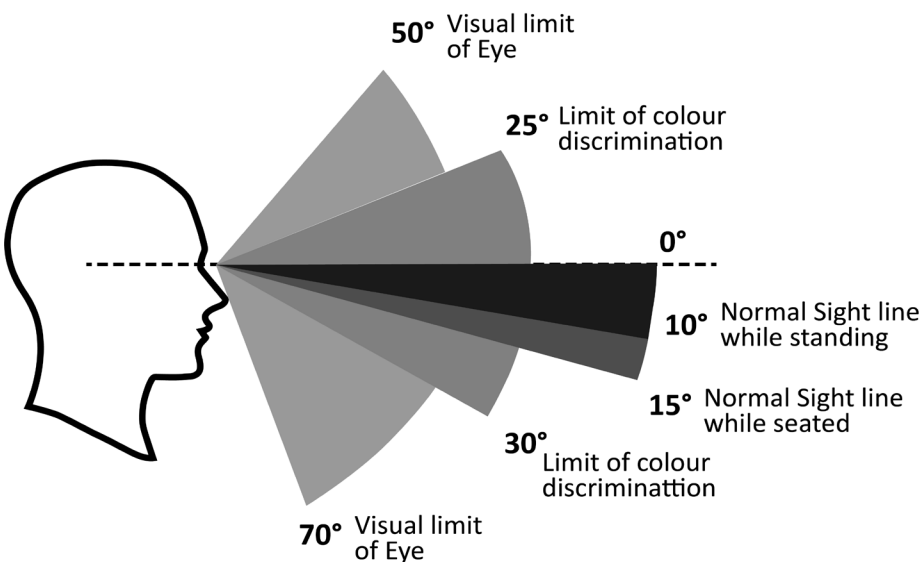


Figure 9. Typical Vertical Field of View

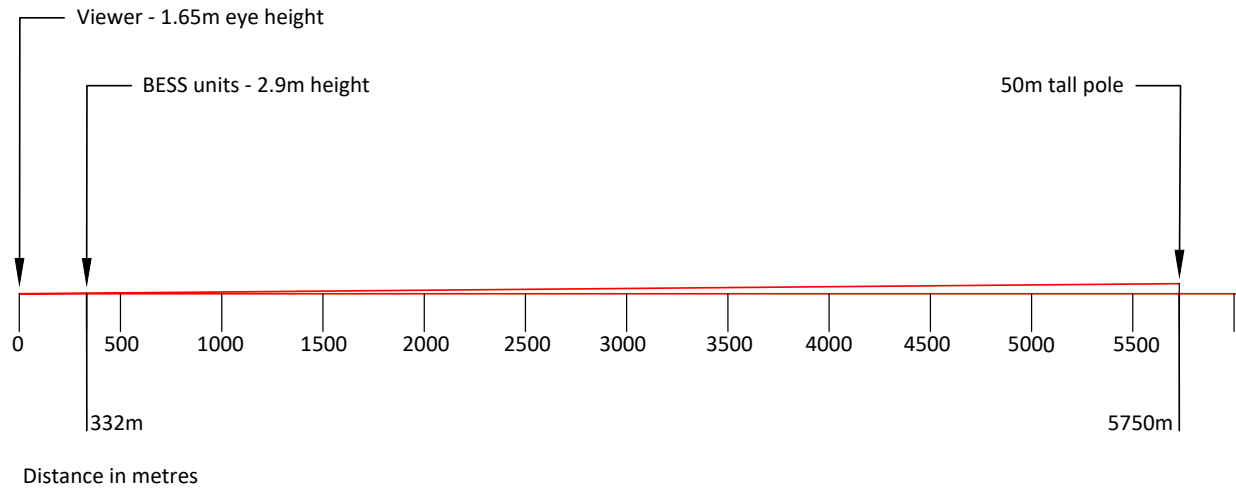


Figure 10. Project component Vertical Field of View

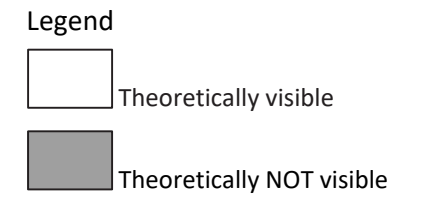
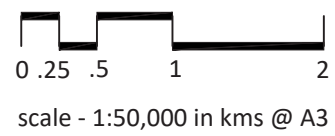


Figure 11. Study area

7. Landscape character

Landscape is defined as the combination of physical features and cultural influences within a given area which combine to form a perceptible patterning. Physical features include terrain, vegetation and waterways and man made elements such as roads, buildings or utility infrastructure. Cultural influences include past, present and emerging land uses. Understanding the existing landscape character provides the baseline for comparison with the potential impacts from the proposed development.

This section of the report assesses the potential impacts of the proposed development on landscape character. This requires understanding the characteristics of the existing landscape and determining the landscape's sensitivity, or capacity to absorb change.

For assessment purposes the landscape is categorised according to the dominant or primary characteristics, these are called Landscape Character Type (LCT). Each LCT is then assessed for its capacity to absorb change according to its sensitivity.

7.1 Regional landscape context

Waubra is situated on the western edge of the Victorian Central Highlands and being primarily a farming district, is characterized by large open paddocks, rural fencing, rural roads, occasional wind breaks and scattered buildings including farm sheds and houses. The topography of the area is gently undulating open plains with scattered hills rising up between 50 to 100 meters throughout the region.

The wind turbines of the Waubra wind farm are scattered across the landscape as far as nine kilometres to the north of the township, seven kilometres to the south and up to seven kilometres to the west. The wind turbines are not contiguous across the landscape, moreover they are clustered in locations according to their operational requirements.. Although not contiguous across the landscape the wind turbines are a dominant feature in this landscape being 120m tall.

7.2 Local landscape character

The landscape of the proposed BESS site and surrounding area is treeless farmland with clusters of wind turbines on and adjacent to the site. The Waubra Terminal Station is immediately opposite the proposed site, on the north side of Troys Road. The site is bordered by rows of mature pine trees, (Pinus radiata to 40m tall), on the north, south and western property boundary which provides an effective vegetative screen blocking views into the site. There are stands of mature pine scattered across the landscape, these being wind breaks or remnants of past breaks.

The site is on an elevated plateau or plain, at an elevation of approximately 518m with open, treeless hills rising to the north, (Quion Hill, 635m elevation), to the east, (565m - 546m elevation), and to the south, (544 - 577m elevation). Wind turbines are positioned on these hills taking advantage of the elevated and often windy locations. The landscape gradually descends to the west, being open treeless paddocks.

This is an undulating, treeless landscape with the wind turbines being significant visual features.

The township of Waubra is approximately 2.5 kilometres east of the proposed development site. The township is located on the Sunraysia Highway and includes a number of dwellings, a hotel and general store. A mix of mature trees form an avenue along the Sunraysia Highway through the township. Tree species of the avenue include Pine, Oak, Paperbark and Eucalyptus. Other vegetation in the township is confined to the residential properties. The secondary streets are typically void of trees however power lines stand out as a dominant feature. Likewise the wind turbines are prominent, standing tall on the hills in the surrounding landscape.

7.3 Landscape Character Type - LCT

Two Landscape Character Types, (LCT), have been identified within the study area:

LCT1 - Agricultural Plains

This is the predominant landscape character type across the region. The landscape is primarily open paddock with scattered trees, tree windbreaks or clustered trees at watering holes or associated with a dwelling. The terrain is undulating hills and the wind turbines are a dominant feature.

| Key characteristics                         |                             |
|---------------------------------------------|-----------------------------|
| - Treeless paddocks                         | - Power transmission towers |
| - Scattered stands of trees and wind breaks | - Agricultural buildings.   |
| - Wind Turbines                             | - Undulating terrain        |



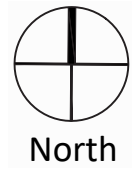
LCT 2 - Township.

The density of buildings and concentration of mature trees combine to create a cohesive landscape character that is distinct from the surrounding agricultural plains.

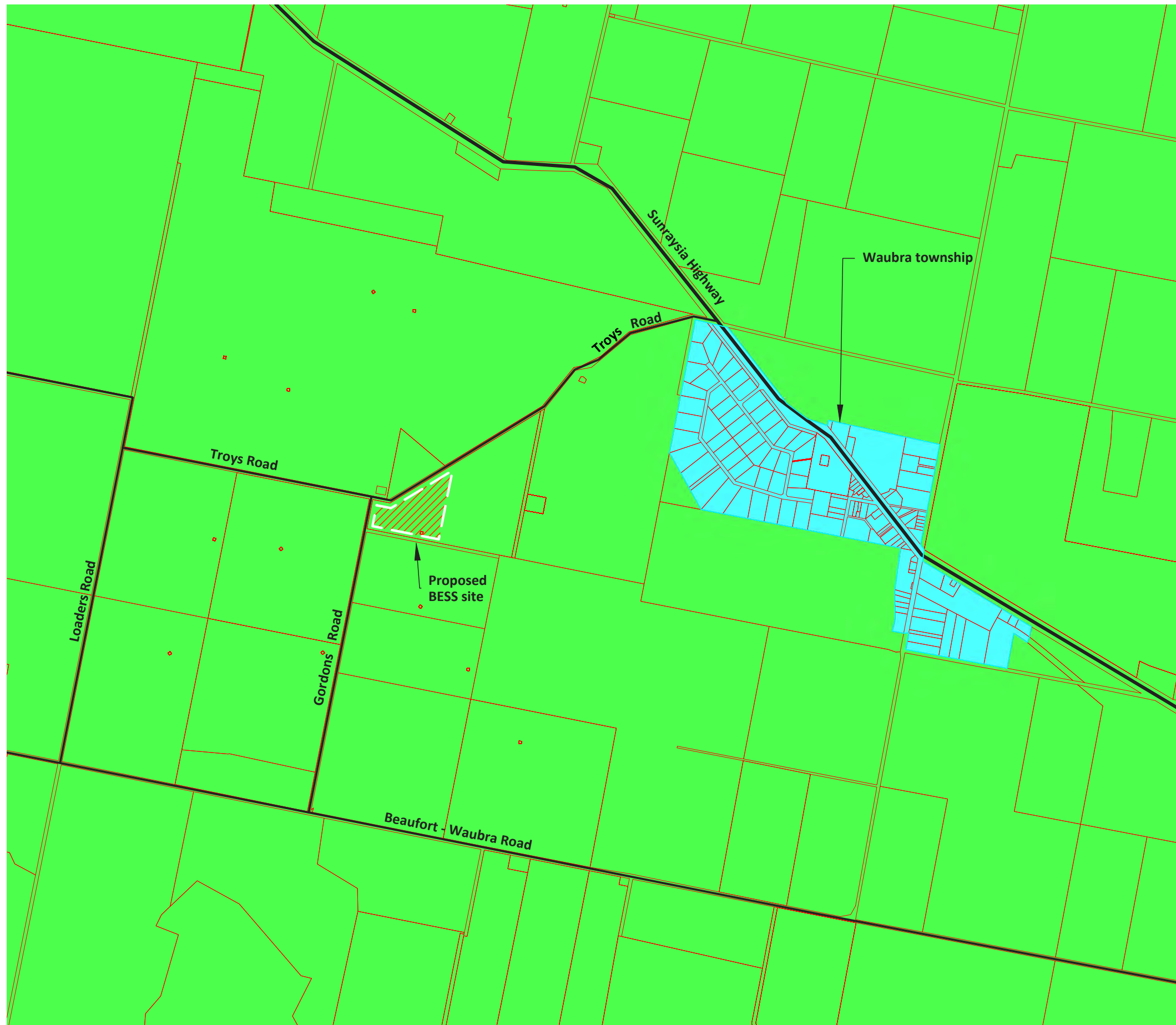
| Key characteristics                               |                           |
|---------------------------------------------------|---------------------------|
| - Buildings - dwellings, hotel and general store. | - Views of wind turbines. |
| - Avenue of trees.                                | - Relatively flat terrain |
| - Overhead power lines                            |                           |



The extents of each LCT is shown on Figure 12 on the following page.



- Landscape Character Types
- LCT1 - Agricultural Plains
  - LCT2 - Township
  - Property Boundary
  - Public roads



0 1 2.5 5 10  
scale - 1:25,000 in metres @ A3

Figure 12. Landscape character Type

7.4 Landscape character sensitivity

The sensitivity of a landscape is dependent on its capacity to absorb changes in the combination of features or cultural influences without adverse impact or change to its existing character. The value of a landscape is dependent on its condition, cultural significance and land use designation. The following definitions and criteria have been used for establishing the sensitivity value for the Landscape Character Types, (LCTs).

| Landscape Sensitivity | Description                                                                                                                                                                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High                  | Recognized Nationally or at the state level as having significant natural or cultural values. Typically a cohesive character with little variation in activity or land use. Potentially having noteworthy features such as a waterway, mountain range or shoreline. |
| Medium                | Having a generally cohesive character with capacity to absorb change in activity or land use that does not detract from the dominant positive character.                                                                                                            |
| Low                   | Noticeable variation in current activity or land use with potential for a degree of degradation yet having a generally positive mixed character.                                                                                                                    |
| None                  | Significant variation in activity or land use or having obvious degradation. A highly modified landscape with no positive character.                                                                                                                                |

Table 2. Landscape character sensitivity rating

7.5 Magnitude of change

The magnitude of change is dependent on the size and scale of the proposed development in context of the site and surrounds, the duration of the proposed development and the potential reversibility of the change. For this landscape character assessment the following definitions and criteria have been used for measuring the magnitude of change associated with the proposed development.

| Magnitude     | Description                                                                                                                                                        |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Predominant   | An obvious and constant change in the landscape character affecting the entire area                                                                                |
| Significant   | An obvious change in the landscape character affecting a significant portion of the area.                                                                          |
| Noticeable    | A noticeable change in the landscape character for a portion of the area only, not impacting on the wider area                                                     |
| Insignificant | Only slight change in the landscape character, only noticeable from specific locations, no impact on the overall character or the character in specific locations. |

Table 3. Magnitude of change

7.6 Impact rating

The landscape sensitivity is rated to the Magnitude of change as per the following matrix to provide an impact rating for each LCT.

|                       |        | Magnitude of change |                   |                     |                     |
|-----------------------|--------|---------------------|-------------------|---------------------|---------------------|
|                       |        | Predominant         | Significant       | Noticeable          | Insignificant       |
| Landscape sensitivity | High   | Major               | Moderate to major | Moderate            | Minor to moderate   |
|                       | Medium | Moderate to major   | Moderate          | Minor to Moderate   | Minor               |
|                       | Low    | Moderate            | Minor to Moderate | Minor               | Negligible to Minor |
|                       | None   | Minor to moderate   | Minor             | Negligible to Minor | Negligible          |

Table 4. Landscape character impact rating

7.7 Impact significance

The combination of the sensitivity and magnitude of change provide a means for rating the potential impacts in accordance with Table 4. Landscape character impact rating. Impacts may be either adverse - creating a negative or diminished outcome, beneficial - creating an improved outcome, or neutral - no change from the current condition.

7.8 Landscape Impact Assessment

LCT1 - Agricultural Plains

| Landscape sensitivity - Medium                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| While this is a modified landscape with a mix of agricultural and power generation activity the landscape character is cohesive due to the breadth and scale of these activities which are apparent to the horizon in all directions. The mix of land use activity supports this landscape having some capacity to absorb change. |
| Magnitude of Change - Noticeable                                                                                                                                                                                                                                                                                                  |
| The proposed development will only be noticeable at the immediate local level. As there is an existing substation and power generation infrastructure in the area the proposed development will not introduce a new or different characteristic into this landscape.                                                              |
| Landscape impact - Minor to Moderate                                                                                                                                                                                                                                                                                              |

LCT2 - Township

| Landscape sensitivity - Medium                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| While small in context of the broader landscape the township of Waubra has a relatively cohesive character in part due to the increased presence and density of mature trees and the concentration of buildings. There is an acceptable level of variation in activity that does not detract from the dominant characteristics of this LCT.               |
| Magnitude of Change - Insignificant                                                                                                                                                                                                                                                                                                                       |
| The proposed BESS is separated from the Waubra township by a hill and associated north to south ridge line that rise some 60 to 70 metres above the proposed site and some 140 metres above the township.<br>The distinct separation of the proposed development from the township justifies the magnitude of change for this LCT as being insignificant. |
| Landscape impact - Minor                                                                                                                                                                                                                                                                                                                                  |

8. Visual Impact Assessment

Visual Impact Assessment (VIA), is conducted by comparing existing views with the changed views resulting from the proposed development. The viewpoints used to carry out the assessment are determined with consideration of visual receptor sensitivity. The changed views associated with the proposed development are created using a 3D model of the proposed development, placing that model in a virtual landscape and then developing a photomontage for each of the selected viewpoints. The level of impact is then assessed by comparing the existing and proposed views and rating the impact in accordance with the established criteria

8.1 Visual receptors

Visual receptor refers to people, either individual or groups, who have views of the proposed development site when going about their activity. The level of sensitivity varies according to the context and purpose of the visual receptor, for example a local resident with direct views of the proposed development site will have high sensitivity whereas a worker or passer by will have a moderate to low sensitivity for the same view.

A number of factors need to be considered when determining the sensitivity of a receptor including 1) the type of the receptor, 2) the number of receptors, (at a specific location), 3) the frequency of exposure to the view and 4) the duration or length of time of exposure to the view.

1) Type of receptor

Receptor type depends on the activity that an individual or group of people are carrying out and may include resident, worker, visitor and commuter. It is generally accepted that changes in view and visual amenity will have a higher magnitude of impact for residents with a lower magnitude for other receptor types.

2) Number of receptors

The magnitude of sensitivity is considered to be greater for locations where people gather such as a residence or place of work.

3) Frequency

The frequency at which the receptor is exposed to the view influences the magnitude of sensitivity. Nearby residents or some workers will likely have a high frequency of exposure to the view, while visitors and commuters will only have a moderate to low frequency of exposure.

4) Duration

Residents are likely to be exposed to the view for longer periods relative to workers, visitors and commuters.

8.2 Representative viewpoints

As a result of the desktop analysis and field assessment six representative viewpoints have been selected for comparing the existing and proposed views for the visual impact assessment. The location of the representative viewpoints are shown on Figure 13 Representative viewpoints.

Two residential properties have been identified as high sensitive visual receptors, with the property owner of the proposed BESS site being the closest at 375 metres, and the other sensitive receptor being located at the intersection of Loaders Road and Troys Road approximately 1.5 kilometres west of the site. Viewpoints 1 and 5 have been selected to represent the views from the respective dwellings of these sensitive receptors.

The location of the proposed BESS facility on top of a plateau and the hilly nature of the surrounding topography limit the potential visibility of the development, as shown in the ZTV analysis, (Figure 10, Study area). However the proposed facility would be theoretically visible to viewers within the Vertical Field of View of the proposed new transmission poles, 320.85m from the facility, in a virtual scenario with no obstructing elements such as vegetation or buildings (Figure 11, Study area). Viewpoints 2,3 and 4 have been selected to assess the potential visual impact from publicly accessible locations within the BESS VFOV, 321 metres offset from the proposed site.

8.3 Visual sensitivity

Visual sensitivity is concerned with viewers and viewpoints and is dependent on the importance of the view to the viewer or visual receptor, such as locals, visitors or passers by, the volume or frequency or duration of exposure to the changed elements. The following criteria has been used for categorising the visual sensitivity of the viewpoints selected for this assessment.

| Viewpoint sensitivity | Description                                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High                  | High frequency or duration or number of viewers, local viewers, established viewpoint, e.g., lookout or signed viewpoint. Location with high visitor numbers, e.g., National Park, tourist township, park or tourist landscape. |
| Medium                | Moderate frequency or duration or number of viewers, local or regional viewers. Location with a moderate level of visitation, e.g., regionally significant destination, township, park or tourist landscape.                    |
| Low                   | Low frequency or duration or number of viewers. Location with low or no tourist attraction. Viewers not concerned about landscape value.                                                                                        |
| Negligible            | Infrequent to very few viewers who are not interested in the immediate landscape, e.g., passers by or local workers.                                                                                                            |

Table 5. Viewpoint sensitivity

8.4 Magnitude of change

The magnitude of change is dependent on the size and scale of the potential change, the geographical extent and the duration and the potential reversibility of the change. For this assessment the following definitions and criteria have been used for measuring the potential magnitude of change associated with the proposed development for the Visual Impact Assessment. The criteria is a guide only and is not definitive as the magnitude must be considered in the context of the specific development proposal and the specific location.

| Magnitude   | Description                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Predominant | An obvious and constant change in the landscape character affecting the entire area                                                                                |
| Significant | An obvious change in the landscape character affecting a significant portion of the area.                                                                          |
| Noticeable  | A noticeable change in the landscape character for a portion of the area only, not impacting on the wider area                                                     |
| Low         | Only slight change in the landscape character, only noticeable from specific locations, no impact on the overall character or the character in specific locations. |

Table 6. Magnitude of change

8.5 Impact rating

Impacts are rated as being major, moderate, minor and negligible and are applied according to the following matrices.

|                             |            | Magnitude of change |                   |                     |                     |
|-----------------------------|------------|---------------------|-------------------|---------------------|---------------------|
| Visual receptor sensitivity |            | Predominant         | Significant       | Noticeable          | Insignificant       |
|                             | High       | Major               | Moderate to major | Moderate            | Minor to moderate   |
|                             | Medium     | Moderate to major   | Moderate          | Minor to Moderate   | Minor               |
|                             | Low        | Moderate            | Minor to Moderate | Minor               | Negligible to Minor |
|                             | Negligible | Minor to moderate   | Minor             | Negligible to Minor | Negligible          |

Table 7. Visual impact rating

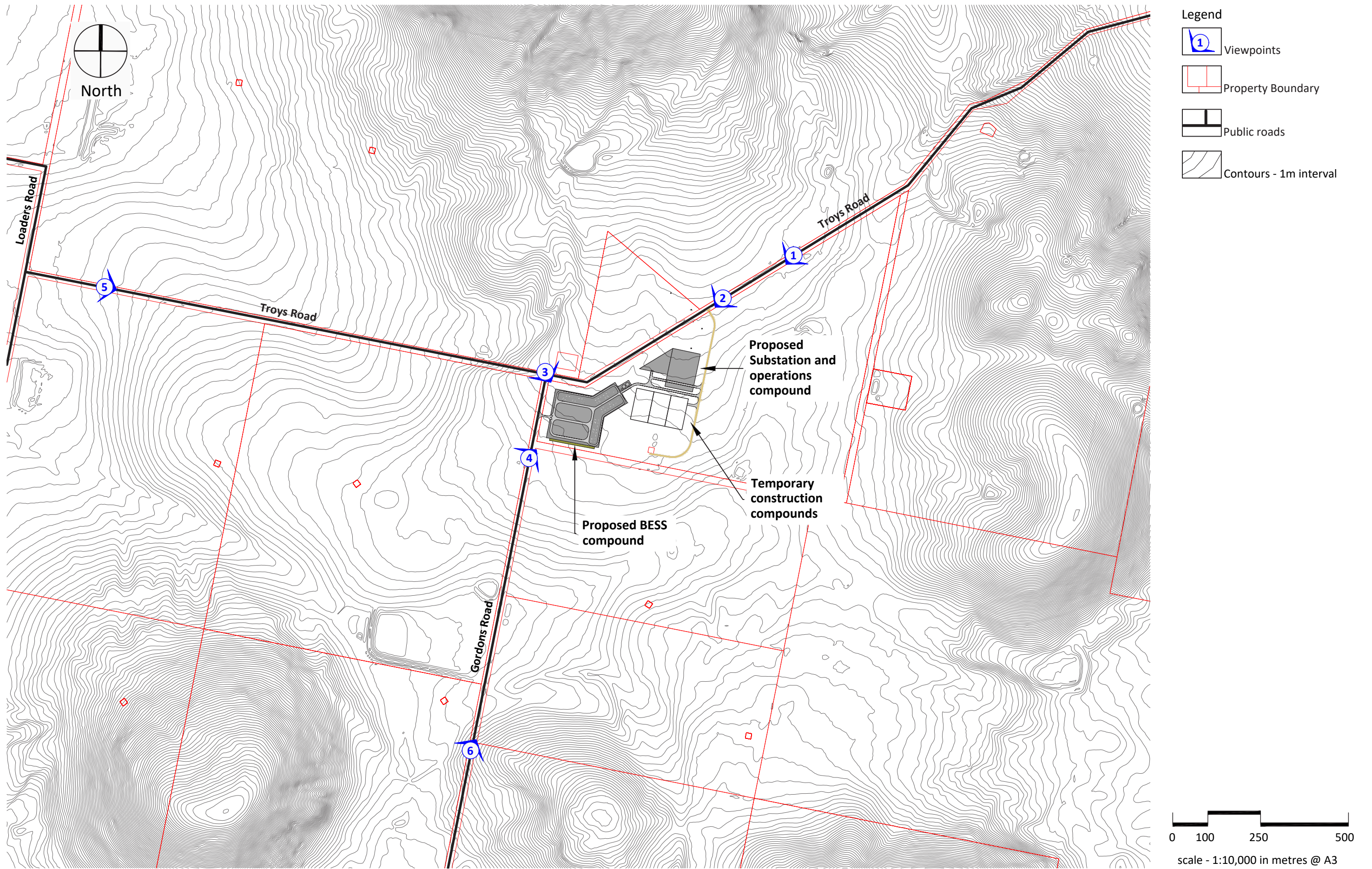


Figure 13. Representative viewpoints

8.6 Visual Impact Summary

The impact rating and recommended mitigation measures have been determined following a comparison of the existing views and the proposed views of the proposed BESS from the representative viewpoints.

The existing views and photomontages of the proposed views are provided in Appendix 1.

| Viewpoint | Magnitude of change | Visual Receptors          | Sensitivity | Impact              | Mitigation                                                                                                   |
|-----------|---------------------|---------------------------|-------------|---------------------|--------------------------------------------------------------------------------------------------------------|
| 1         | Noticeable          | Property owner / occupant | Medium      | Minor to Moderate   | Infill the existing row of Pine trees up to the existing transmission line corridor.                         |
|           |                     | Workers / commuters       | Low         | Minor               |                                                                                                              |
|           |                     | Visitors                  | Low         | Minor               |                                                                                                              |
| 2         | Noticeable          | Workers / commuters       | Low         | Minor               | Replace damaged or poor pines with same species.                                                             |
|           |                     | Visitors                  | Low         | Minor               |                                                                                                              |
| 3         | Noticeable          | Workers / commuters       | Low         | Minor               | Replace damaged or poor pines with same species.<br>Infill gaps with same species.                           |
|           |                     | Visitors                  | Low         | Minor               |                                                                                                              |
| 4         | Noticeable          | Workers / commuters       | Low         | Minor               | Replace damaged or poor pines with same species.<br>Plant native shrubs under the existing Eucalyptus trees. |
|           |                     | Visitors                  | Low         | Minor               |                                                                                                              |
| 5         | Insignificant       | Property owner / occupant | High        | Minor to Moderate   | Existing pine rows on site to be maintained                                                                  |
|           |                     | Workers / commuters       | Low         | Negligible to Minor |                                                                                                              |
|           |                     | Visitors                  | Low         | Negligible to Minor |                                                                                                              |
| 6         | Insignificant       | Workers / commuters       | Low         | Negligible to Minor | Existing pine rows on site to be maintained                                                                  |
|           |                     | Visitors                  | Low         | Negligible to Minor |                                                                                                              |

Table 8. Summary of Visual impact rating

9. Cumulative impacts

Cumulative impacts can result in ‘sequential viewing’, where developments such as renewable energy installations including battery energy storage systems, although not contiguous, become repetitive features in the landscape or ‘simultaneous viewing’, can occur where the developments can be seen from one viewpoint at the same time.

At present there are no operating BESS in the Waubra region however a 250 MW facility has been approved on Forest Road, Glenbrae, 5 kilometres northwest and a planning application has been lodged for another 250 MW facility in Learmonth on the Sunraysia Highway, 11 kilometres south east of the proposed Waubra BESS site.

The proposed locations of the Waubra BESS and Glenbrae BESS on secondary rural roads and not major roads means these developments will not contribute greatly to cumulative impacts. Additionally the distances at which these facilities are separated will not create opportunity for either repetitive or sequential viewing.

The proximity of the proposed BESS facility to the existing Terminal station located on Troys road will provide a situation of ‘simultaneous viewing’ of energy infrastructure. However the existing pine wind breaks will obstruct much of the proposed BESS facility..

10. Mitigation

10.1 Summary

Of the six viewpoints assessed only two were rated as having potential Minor to Moderate impacts for the sensitivity of the property owner / occupants, with the impact rating for all other viewpoints being rated as Minor. Additional screening for the proposed BESS facility is not considered essential due to the effectiveness of the existing mature Pine wind breaks on three sides of the site, and the limitation of views due to the hilly undulating terrain. Consultation with the property owner, (of the proposed BESS site), should include a discussion regarding the impact of the view from their dwelling and the value of planting additional pine trees between the existing pine trees on the eastern property boundary not including the transmission line corridor. This would also be beneficial in screening the proposed BESS for views from Troys Road in the vicinity of the dwelling.

The proposed new access to the site from Gordons Road will require the removal of one, potentially two trees, will be a noticeable change however the visual impact will be Minor due to the low frequency and duration of exposure to receptors, and the distance and lower elevation of sensitive receptors from this change, (Viewpoint 5, 1.4kms west).

It will be important to maintain the existing pine wind breaks on the proposed site, and to replace any damaged, diseased or declining trees, so an effective vegetative screen is retained.

Recommended mitigation measures

- All buildings and structures to have muted colour, non reflective cladding and finishes.
- Any lighting must be designed and installed in accordance with all relevant standards including AS 4282-1997. Control of the effects of outdoor lighting.
- Assess the health and longevity of the existing pines along all boundaries and implement measures to improve their condition where required.
- Remove any dead or poor condition pines and replace with same species filling in any gaps to maintain a consistent screen along all boundaries.
- Infill gaps on eastern property boundary that do not impinge on the transmission line corridor, to reduce the visual impact on the nearby dwelling.
- Infill the existing row of pines along the eastern property boundary up to the transmission line corridor to reduce the visual impact on the neighbouring dwelling and to receptors using Troys Road.
- Plant native shrubs under the existing Eucalyptus trees in the south west corner of the site property boundary.

Refer to Appendix 2 - Landscape strategy, for species and detail of the recommended mitigation measures.

11. Conclusion

The proposed development of a BESS, substation and associated transmission infrastructure on Troys Road will only have a minor impact on the immediate landscape character and only some views from the roads immediately adjacent to the site. The proposal will create a minor to moderate visual impact for the closest dwelling 375 metre to the east of the site and this impact can be reduced with some additional screen planting along the site property boundary, complementing the existing mature pine trees.

The hilly terrain of the area and the existing pine rows along the north, south and west site property boundaries limit the potential visibility of the proposed development. Maintaining the health and longevity of these trees will be paramount to ensuring the potential for more significant visual impacts or degradation of landscape character does not occur in the future.

Troy and Gordon roads are primarily used by local residents and workers, and are not classified as major roads. The frequency and duration of exposure of the site to viewers is low. Consequently the visual impact associated with the proposed development is rated as Negligible to Minor.

Appendix 1    Views and montages

VP-1 Existing view



| | | 214° | | |

|                       |                                                                            |                                   |
|-----------------------|----------------------------------------------------------------------------|-----------------------------------|
| Location              | Troys Road - 280m east of site                                             | View direction - South south west |
| Landscape character   | <b>Agricultural plains</b><br>Open and fragmented views in all directions. |                                   |
| Landscape sensitivity | Low                                                                        |                                   |
| Magnitude of change   | Noticeable                                                                 |                                   |

|             |                    |                         |                                                       |
|-------------|--------------------|-------------------------|-------------------------------------------------------|
| Photo date: | 14.04.25. 9.43am   | Photographer eye height | 1.65m                                                 |
|             |                    | Viewpoint location:     | E: 731244.649<br>N: 5862590.919<br>Elevation: 525.75m |
| Camera:     | Panasonic DMZ-FZ40 |                         |                                                       |



VP-1 Potential view



| | | 214° | | |

| Visual Receptors          | Frequency                                                                                                                         | Duration | Sensitivity | Impact            |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------|-------------|-------------------|
| Property owner / occupant | High                                                                                                                              | High     | Medium      | Minor to Moderate |
| Workers / commuters       | Low                                                                                                                               | Low      | Low         | Minor             |
| Visitors                  | Low                                                                                                                               | Low      | Low         | Minor             |
| Overall visual impact     | Minor to Moderate                                                                                                                 |          |             |                   |
| Mitigation options        | Additional pine planting in between existing pines along the eastern property boundary, excluding the transmission line corridor. |          |             |                   |



VP-1 Potential view with screening



| | | 214° | | |

Note:  
Vegetation shown at maturity - 10 to 15 years

| Visual Receptors          | Frequency                                                                                                                         | Duration | Sensitivity | Impact            |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------|-------------|-------------------|
| Property owner / occupant | High                                                                                                                              | High     | Medium      | Minor to Moderate |
| Workers / commuters       | Low                                                                                                                               | Low      | Low         | Minor             |
| Visitors                  | Low                                                                                                                               | Low      | Low         | Minor             |
| Overall visual impact     | Minor to Moderate                                                                                                                 |          |             |                   |
| Mitigation options        | Additional pine planting in between existing pines along the eastern property boundary, excluding the transmission line corridor. |          |             |                   |



VP-1 Existing view



VP-1 Potential view

| | | 214° | | |



VP-2 Existing view



250°

|                       |                                                                                                      |                                  |
|-----------------------|------------------------------------------------------------------------------------------------------|----------------------------------|
| Location              | Troys Road - at site entry                                                                           | View direction - West south west |
| Landscape character   | <b>Agricultural plains</b><br>Limited views to the south due to the existing mature pine wind break. |                                  |
| Landscape sensitivity | Low                                                                                                  |                                  |
| Magnitude of change   | Noticeable                                                                                           |                                  |

|             |                    |                         |                                                       |
|-------------|--------------------|-------------------------|-------------------------------------------------------|
| Photo date: | 14.04.25. 10.03am  | Photographer eye height | 1.65m                                                 |
|             |                    | Viewpoint location:     | E: 731019.347<br>N: 5862462.540<br>Elevation: 525.60m |
| Camera:     | Panasonic DMZ-FZ40 |                         |                                                       |



VP-2 Potential view



250°

| Visual Receptors      | Frequency                                                                                                                                                 | Duration | Sensitivity | Impact |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------|
| Workers / commuters   | Low                                                                                                                                                       | Low      | Low         | Minor  |
| Visitors              | Low                                                                                                                                                       | Low      | Low         | Minor  |
| Overall visual impact | Minor                                                                                                                                                     |          |             |        |
| Mitigation options    | Replace damaged or poor pines, maintain existing pine windbreak.<br>Extending the pine row not possible at site entry due to existing transmission lines. |          |             |        |



VP-2 Existing view



VP-2 Potential view

| | | 250° | | |



VP-3 Existing view



138°

|                       |                                                                                                       |                             |
|-----------------------|-------------------------------------------------------------------------------------------------------|-----------------------------|
| Location              | Troys Road - Gordons Road intersection                                                                | View direction - South east |
| Landscape character   | <b>Agricultural plains</b><br>Limited views to the south due to the existing mature pine wind breaks. |                             |
| Landscape sensitivity | Low                                                                                                   |                             |
| Magnitude of change   | Noticeable                                                                                            |                             |

|             |                    |                         |                                                       |
|-------------|--------------------|-------------------------|-------------------------------------------------------|
| Photo date: | 14.04.25. 10.13am  | Photographer eye height | 1.65m                                                 |
|             |                    | Viewpoint location:     | E: 730535.786<br>N: 5862261.396<br>Elevation: 519.17m |
| Camera:     | Panasonic DMZ-FZ40 |                         |                                                       |



VP-3 Potential view



138°

| Visual Receptors      | Frequency                                                                                   | Duration | Sensitivity | Impact |
|-----------------------|---------------------------------------------------------------------------------------------|----------|-------------|--------|
| Workers / commuters   | Low                                                                                         | Low      | Low         | Minor  |
| Visitors              | Low                                                                                         | Low      | Low         | Minor  |
| Overall visual impact | Minor                                                                                       |          |             |        |
| Mitigation options    | Maintain existing pine windbreak / screen.<br>Replace damaged or poor pines and infill gaps |          |             |        |



VP-3 Potential view with screening



138°

Note:  
Vegetation shown at maturity - 10 to 15 years

| Visual Receptors      | Frequency                                                                                   | Duration | Sensitivity | Impact |
|-----------------------|---------------------------------------------------------------------------------------------|----------|-------------|--------|
| Workers / commuters   | Low                                                                                         | Low      | Low         | Minor  |
| Visitors              | Low                                                                                         | Low      | Low         | Minor  |
| Overall visual impact | Minor                                                                                       |          |             |        |
| Mitigation options    | Maintain existing pine windbreak / screen.<br>Replace damaged or poor pines and infill gaps |          |             |        |



VP-3 Existing view



VP-3 Potential view

| | | 138° | | |



VP-4 Existing view



|                       |                                                                                                       |                            |
|-----------------------|-------------------------------------------------------------------------------------------------------|----------------------------|
| Location              | Gordons Road - south west corner of site                                                              | View direction - Northerly |
| Landscape character   | <b>Agricultural plains</b><br>Limited views to the south due to the existing mature pine wind breaks. |                            |
| Landscape sensitivity | Low                                                                                                   |                            |
| Magnitude of change   | Noticeable                                                                                            |                            |

|             |                    |                         |                                                       |
|-------------|--------------------|-------------------------|-------------------------------------------------------|
| Photo date: | 14.04.25. 10.28am  | Photographer eye height | 1.65m                                                 |
|             |                    | Viewpoint location:     | E: 730488.734<br>N: 5862018.201<br>Elevation: 515.00m |
| Camera:     | Panasonic DMZ-FZ40 |                         |                                                       |



VP-4 Potential view



| Visual Receptors      | Frequency                                                                                                                | Duration | Sensitivity | Impact |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------|
| Workers / commuters   | Low                                                                                                                      | Low      | Low         | Minor  |
| Visitors              | Low                                                                                                                      | Low      | Low         | Minor  |
| Overall visual impact | Minor                                                                                                                    |          |             |        |
| Mitigation options    | Replace damaged or poor pines, maintain existing pine windbreak.<br>Plant native shrubs under existing Eucalyptus trees. |          |             |        |



VP-4 Potential view with screening



Note:  
Screen vegetation shown at maturity - 5 to 6 years

| Visual Receptors      | Frequency                                                                                                                | Duration | Sensitivity | Impact |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------|
| Workers / commuters   | Low                                                                                                                      | Low      | Low         | Minor  |
| Visitors              | Low                                                                                                                      | Low      | Low         | Minor  |
| Overall visual impact | Minor                                                                                                                    |          |             |        |
| Mitigation options    | Replace damaged or poor pines, maintain existing pine windbreak.<br>Plant native shrubs under existing Eucalyptus trees. |          |             |        |



VP-4 Existing view



VP-4 Potential view



VP-5 Existing view



14°

|                           |                                                           |          |                           |        |
|---------------------------|-----------------------------------------------------------|----------|---------------------------|--------|
| Location                  | Troys Road - 1.3kms due west of site                      |          | View direction - Westerly |        |
| Landscape character       | Agricultural plains<br>Expansive views in all directions. |          |                           |        |
| Landscape sensitivity     | Low                                                       |          |                           |        |
| Magnitude of change       | Insignificant                                             |          |                           |        |
| Visual Receptors          | Frequency                                                 | Duration | Sensitivity               | Impact |
| Property owner / occupant | High                                                      | Medium   | Medium                    | Minor  |
| Workers / commuters       | Low                                                       | Low      | Low                       | Minor  |
| Visitors                  | Low                                                       | Low      | Low                       | Minor  |
| Overall visual impact     | Negligible to Minor                                       |          |                           |        |
| Mitigation options        | None required.                                            |          |                           |        |

|             |                    |                         |                                                       |
|-------------|--------------------|-------------------------|-------------------------------------------------------|
| Photo date: | 14.04.25. 10.19am  | Photographer eye height | 1.65m                                                 |
|             |                    | Viewpoint location:     | E: 729283.593<br>N: 5862504.106<br>Elevation: 487.25m |
| Camera:     | Panasonic DMZ-FZ40 |                         |                                                       |



VP-5 Potential view



| Visual Receptors      | Frequency | Duration | Sensitivity | Impact |
|-----------------------|-----------|----------|-------------|--------|
| Workers / commuters   | Moderate  | Moderate | Low         | Minor  |
| Visitors              | Low       | Low      | Low         | Minor  |
| Overall visual impact | Minor     |          |             |        |
| Mitigation options    | None      |          |             |        |



VP-5 Existing view



VP-5 Potential view

| | | 14° | | |

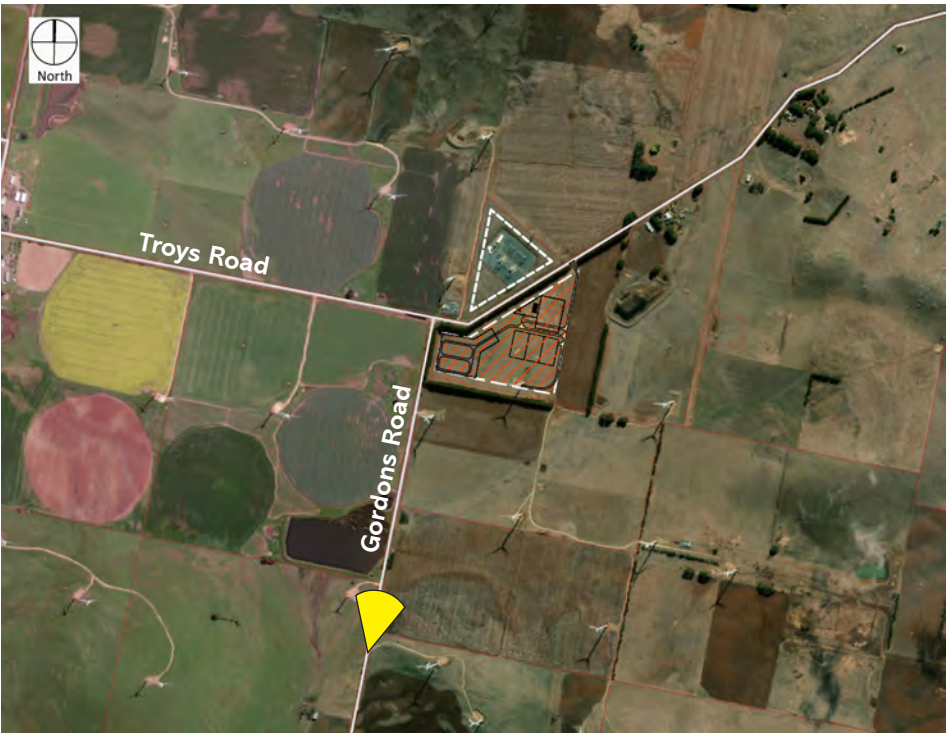


VP-6 Existing view



20°

|                       |                                                           |          |                        |        |
|-----------------------|-----------------------------------------------------------|----------|------------------------|--------|
| Location              | Gordons Road - 0.88kms due south of site                  |          | View direction - North |        |
| Landscape character   | Agricultural plains<br>Expansive views in all directions. |          |                        |        |
| Landscape sensitivity | Low                                                       |          |                        |        |
| Magnitude of change   | Insignificant                                             |          |                        |        |
| Visual Receptors      | Frequency                                                 | Duration | Sensitivity            | Impact |
| Workers / commuters   | Low                                                       | Low      | Low                    | Minor  |
| Visitors              | Low                                                       | Low      | Low                    | Minor  |
| Overall visual impact | Negligible to Minor                                       |          |                        |        |
| Mitigation options    | None required                                             |          |                        |        |



|             |                    |                         |                                                       |
|-------------|--------------------|-------------------------|-------------------------------------------------------|
| Photo date: | 14.04.25. 10.36am  | Photographer eye height | 1.65m                                                 |
|             |                    | Viewpoint location:     | E: 730321.498<br>N: 5861188.719<br>Elevation: 510.10m |
| Camera:     | Panasonic DMZ-FZ40 |                         |                                                       |

**Appendix 2    Landscape strategy**

Landscape design rationale

The key objective of the landscape treatment is to mitigate impacts on landscape character and views associated with the proposed BESS and new infrastructure. The hilly terrain of the surrounding area and the existing pine rows along the north, south and west property boundaries of the site limit the potential visibility of the proposed development.

Maintaining the health and longevity of these trees will be paramount to minimising the potential for visual impacts or future impacts on landscape character. Gaps should be planted with the same species to ensure a consistent effective vegetative screen along the property boundary of the site, recognising the clearance requirements for the existing transmission lines that transect the site.

Improved screening can be achieved in the south west corner of the site property boundary by planting small to medium native shrubs under the existing Eucalyptus. Woolly Tea Tree is recommended as there are some existing at the site entry that are also within the existing transmission line corridor.

Planting size

It is recommended to use tubestock, (typically 50x50mm wide x 100mm deep) the advantage being the young plants will be able to adapt to the local conditions more quickly than larger more advanced plant stock. Additionally tubestock is easier to plant than potted stock, particularly where required in large numbers, and can be prepared by local suppliers.

Site preparation

- Prior to the commencement of any works the site must be cleared of any debris, stockpiles and any detritus including dead vegetation, e.g., logs or branches.
- Areas to be planted shall be eradicated of weeds and any existing vegetative growth (excluding native vegetation to be retained), shall be slashed to a height of 150 mm.
- Trash build-up and cut material shall be removed from the area prior to spraying with an approved knockdown herbicide incorporating a herbicide marker. Bi-active herbicide shall be used around wetlands and waterways. The herbicide shall be used according to the manufacturer’s recommended rates and any off-target damage shall be rectified by the contractor.
- All areas for planting must be clearly delineated so that no vehicles can unintentionally enter.

Planting

- All plants are to be in good health, not bound in their containers and with adequate moisture in the planting medium. If stored the plants must be sufficiently watered to prevent drying out. Roots must be moist and contained in a moist medium at the time of planting.
- Plant spacing in accordance with Table 9, Plant Schedule
- Each plant is to be watered thoroughly after planting, ensuring that the moisture has penetrated to the full depth of the roots.
- Each plant must be planted with a slow-release fertilizer.
- Each plant must be mulched with an approved organic mulch, which must be placed in accordance with the Typical Planting detail.

Plant protection

Each plant must be protected from vermin and or unfavorable weather using a plant guard as per Figure 14. Typical planting detail, or other approved protection measure.

Plant management

The following tasks are recommended to ensure the ongoing success of existing and proposed screen planting:

- All planted areas are to be regularly monitored to ensure the soil around the plants remains moist for a nominal period of twelve weeks. The period of ‘watering in’ may vary according to the final site conditions and the time of planting.
- Planted areas are to be regularly monitored for weeds with spot spraying or hand removal being the preferred methods of control.
- Any plants which do not take and survive must be replaced.

Plant schedule

| Botanical name                | Common name     | Typical H x S at maturity | Planting size | Quantity | Planting spacing |
|-------------------------------|-----------------|---------------------------|---------------|----------|------------------|
| Trees                         |                 |                           |               |          |                  |
| <i>Pinus radiata</i>          | Pine            | 50x20m                    | Tube          | 9        | 15m              |
| Shrubs                        |                 |                           |               |          |                  |
| <i>Leptospermum lanigerum</i> | Woolly Tea Tree | 3x3m                      | Tube          | 6        | 3m               |

Table 9.Plant schedule

Note:

- Tubestock to be planted slightly below surrounding ground level, 20- 30 mm.
- Ensure no soil containing roots is exposed to air after planting.
- Pull mulch away from stem and plant base to create a well.
- Ensure the plant foliage is free from the tree not guard, (not stuck underneath).
- Plant guard must be adequately secured by stakes or pins.

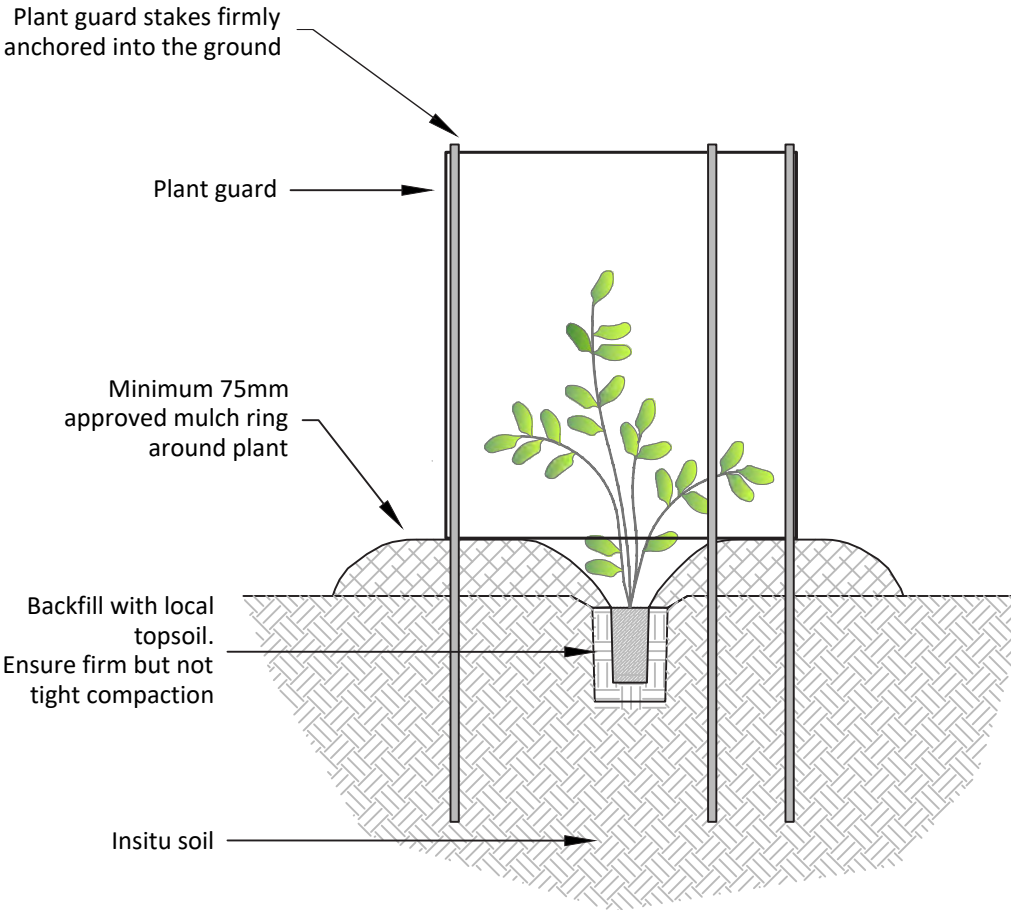


Figure 14. Typical planting detail



- Legend**
- Existing planting
  - + Existing tree removed
  - + New planting
  - Property boundary

Refer to previous page for plant species and planting notes.



scale - 1:3,000 in metres @ A3