



20th November 2024

Kingswood BESS: Visual Impact Assessment of Transmission Connection Solutions

Moir Landscape Architecture Pty Ltd (t/a Moir Studio) prepared a Landscape and Visual Impact Assessment (LVIA) to accompany the EIS for the proposed Kingswood BESS Project which was submitted to Department of Planning, Housing and Infrastructure in June 2024.

The LVIA prepared for the EIS submission assessed transmission connection 'Solution 1'. This includes a 330kV transmission line of approximately 800 metres that extended from the BESS substation to the Tamworth substation. The transmission line was assessed as a overhead line as worst case scenario. Although a new element in the landscape, the LVIA concluded that Solution 1 would be viewed as part of the existing Tamworth Substation and Liddell to Tamworth 330kV transmission lines that run through the Project Site. The addition of the proposed transmission line would not result in a large step change when considering the existing infrastructure in the landscape.

Since the lodgement of the EIS, the proponent has consulted with TransGrid and as a result needs to explore additional transmission connection solutions into the TransGrid substation.

Two additions solutions have been proposed, these are as follows:

Solution 2: Underground Cable Northern Bay Alignment

This solution includes an underground cable requiring a trench approximately 1-2 metres wide and 1.5 m deep with cables buried approximately 1m underground, once buried the ground would be returned to its pre-construction state.

Solution 2 would result in the reduction of visual impacts when compared with Solution 1. There would be a level of visual impact during the construction period while excavation is being undertaken by machinery. The visual impacts anticipated during the construction phase would be temporary and comparable to the construction impacts documented in the EIS. Once returned to its pre-construction state the visual impact would be nil.

Solution 3: Overhead Hard T Transmission Line Cut in

This solution would be within the existing footprint with a 330kV switching station which would cut into an existing transmission line and may require 2 x 330kV poles with towers of 30 – 40 metres in height.

Solution 3 has the potential to result in a visual impact, however when compared with Solution 1, the visual impact is considered to be lower. The following provides a comparison of Solution 1 and Solution 3.

Methodology

To assist in the assessment, Moir LA have undertaken high-level Zone of Visual Influence Mapping to compare the theoretical visibility of Solution 1 and Solution 3. A comparative photomontage has also been prepared from (Viewpoint VP06) on Burgmanns Lane to compare the visual impact between Solution 1 and Solution 3. The photomontage location was selected to best represent the views from sensitive receivers from the north of the Project.

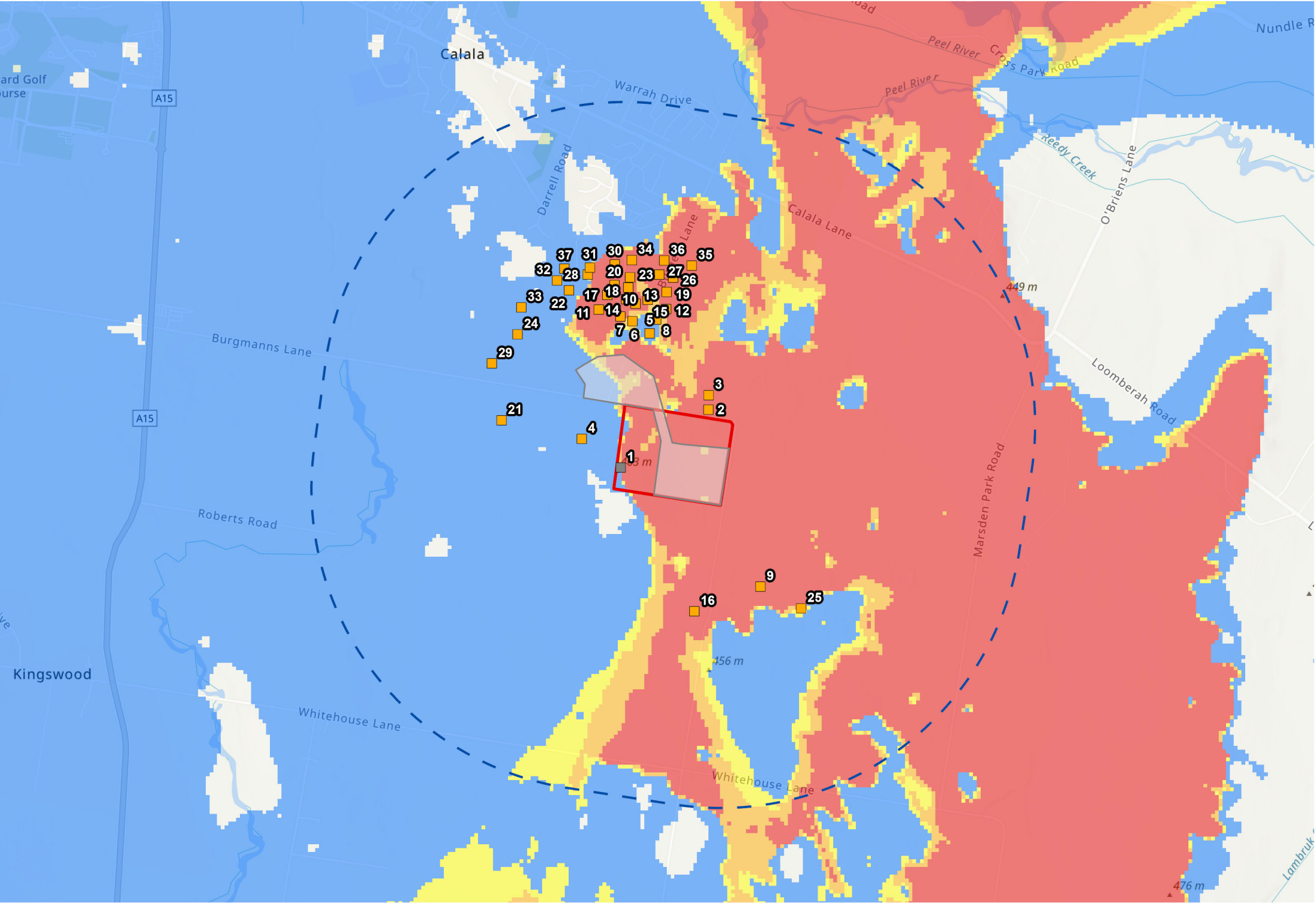
**Findings:**

The comparative ZVIs prepared for Solution 1 and Solution 3 indicate there is a similar level of theoretical visibility for each solution. Solution 3 has a slightly reduced level of visibility from Calala to the north west of the Project and an area of land to the immediate west of the Project.

The photomontages prepared for Solution 1 and Solution 3 indicate a similar level of visual impact resulting from the transmission connection solutions when viewed south from Burgmanns Lane. Solution 3 would reduce the potential visual impact on dwellings to the north of Burgmanns Lane when compared with Solution 1. The visual impact from public viewing locations would also be reduced.

Overall the visual impact resulting from Solution 3 is considered to be low. When compared with the overhead transmission line assessed for Solution 1 in the EIS, the level of visual clutter is reduced through the reduction in transmission line infrastructure. The proposed infrastructure is in keeping with the existing scale of the Liddell to Tamworth 330kV transmission lines that transverse the landscape.

Option A: Zone of Visual Influence



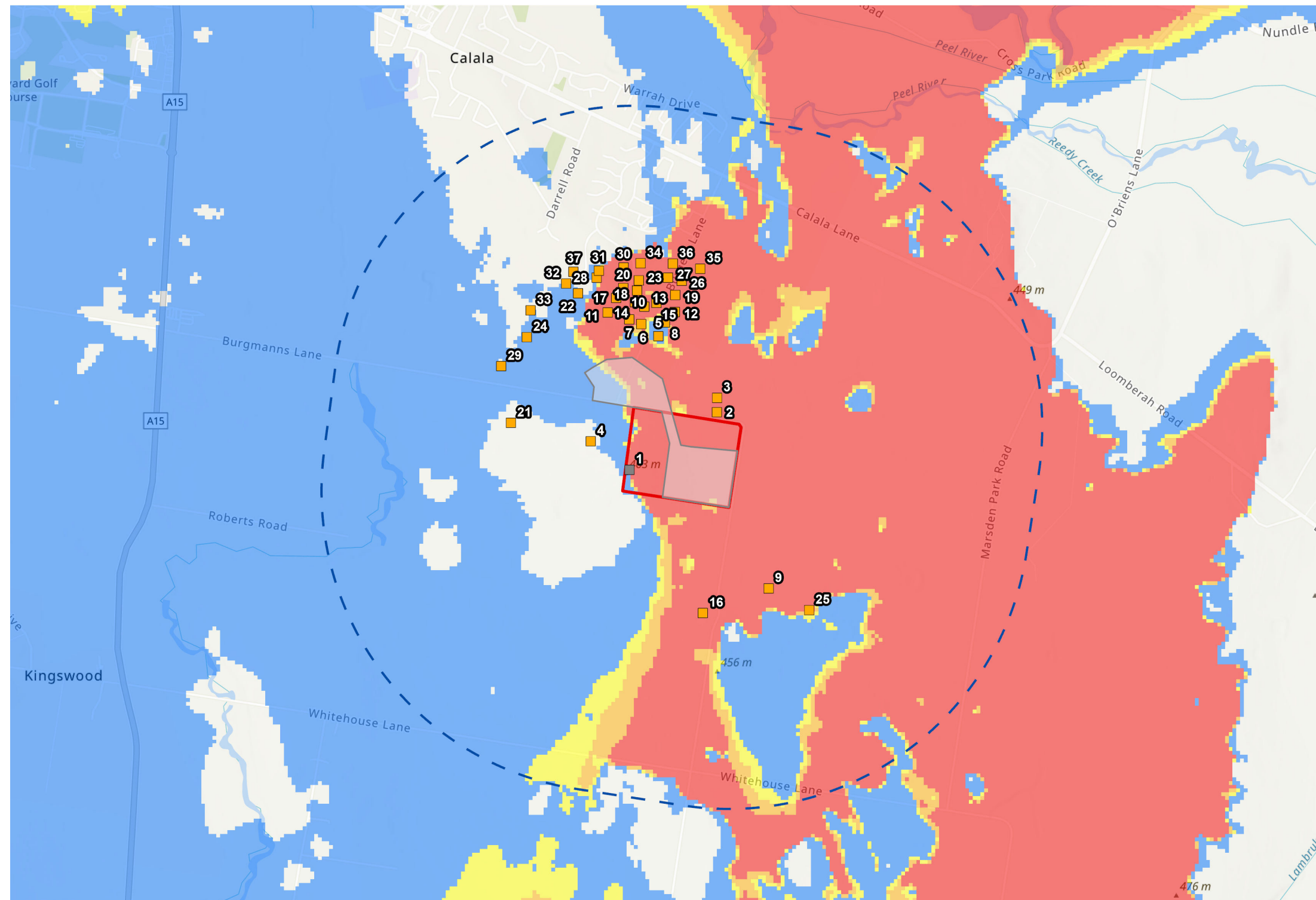
Legend

- Project Site
- 2km Study Area
- Development Site
- Associated Reciever
- Non-associated Reciever
- ZVI Percentage of Project Visible
 - 0%
 - 0 - 25%
 - 25 - 50%
 - 50 - 75%
 - 75 - 100%

Note:
The ZVI is a preliminary assessment tool that represents a bare ground scenario - ie. a landscape without screening, structures or vegetation. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note the ZVI is based solely on topographic information. Therefore this form of mapping should be acknowledged as representing the worst case scenario.



Option C: Zone of Visual Influence



Legend

-
- Legend:
- Project Site
 - 2km Study Area
 - Development Site
 - Associated Reciever
 - Non-associated Reciever
- ZVI Percentage of Project Visible
- 0%
 - 0 - 25%
 - 25 - 50%
 - 50 - 75%
 - 75 - 100%

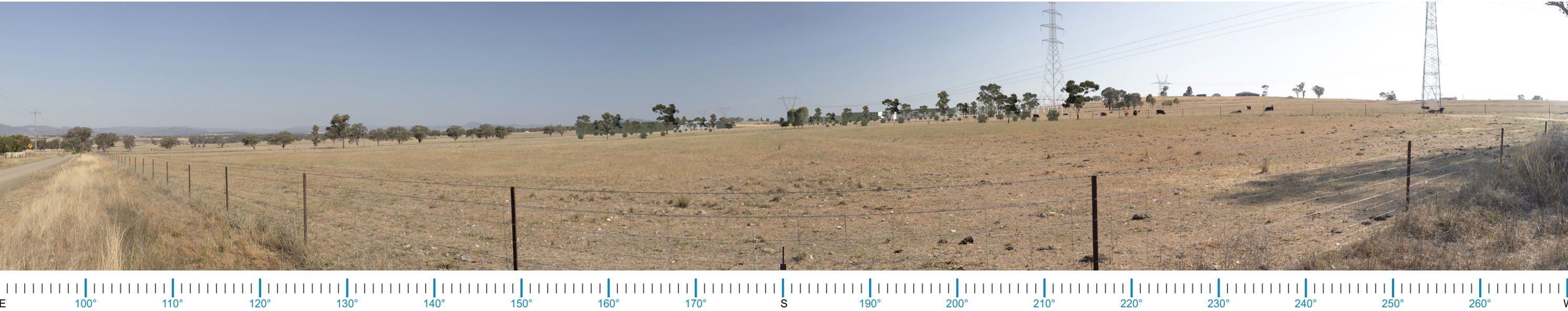
Note:

The ZVI is a preliminary assessment tool that represents a bare ground scenario - ie. a landscape without screening, structures or vegetation. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note the ZVI is based solely on topographic information. Therefore this form of mapping should be acknowledged as representing the worst case scenario.



PM01 Burgmanns Lane, Kingswood, NSW

Option A



Proposed View | 180° Photomontage

Option C



Proposed View | 180° Photomontage