

Tower construction

How transmission towers are built

July 2026
Amendment Report



Introduction

What to expect from tower construction

Thank you to everyone who has taken the time to share feedback, ask questions and participate in the VNI West (NSW) consultation process so far. As planning progresses, we've continued to refine how transmission towers would be built to deliver VNI West. This fact sheet explains what tower construction involves and what you can expect during these works (if approved).

VNI West is a proposed new 500 kV double-circuit overhead transmission line connecting the electricity networks in New South Wales (NSW) and Victoria.

Where planning has progressed to

Since the public exhibition of the Environmental Impact Statement (EIS) in August 2025, Transgrid has further refined the project based on community and stakeholder feedback, as well as ongoing design and technical requirements.

These proposed amendments and refinements have been assessed in an Amendment Report, which has been submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI), alongside a Submissions Report responding to issues raised during the EIS exhibition period.

Where towers will be installed

The proposed VNI West (NSW) project includes two types of tower construction designed to connect regional substations for long-distance transmission and interstate connectivity at the NSW/Victoria border:

- A new double circuit 500 kV transmission line from the NSW/Victorian border to the future Dinawan substation. This would involve the construction of around 240 kilometres of new transmission line.



Figure 1:
Example of a free-standing 500 kV transmission line structure.

- Replacement of a section of Transmission Line 51, upgrading from an existing single circuit 330 kV line to a new double circuit 330 kV line, between Ivydale Road (south of the existing Wagga 330 kV substation) and the future Gugaa 500 kV substation. This would involve the replacement of around nine kilometres of transmission line.



Figure 2:
Example of a free-standing 330 kV transmission line structure.

New 500 kV Double Circuit Transmission Lines Structures

The new 500 kV transmission line would be supported by a series of free-standing steel lattice transmission line structures.

- Typical height: up to 76 metres
- Typical spacing: 400 to 600 metres apart
- Shorter spacing may be required in some locations, including at waterways or where obstacles are present.
- Maximum base footprint: approximately 22 metres by 22 metres (around 484 m²).

The transmission line towers would consist of the following free standing, self-supporting steel lattice structure types:

Suspension structures

- Typically around 18 metres by 18 metres base footprint
- Used along straight sections of the transmission line and between strain structures.

Strain structures

- Typically around 22 metres by 22 metres base footprint
- Used at the start and end of the line, at major road or river crossings, and where the alignment changes direction.

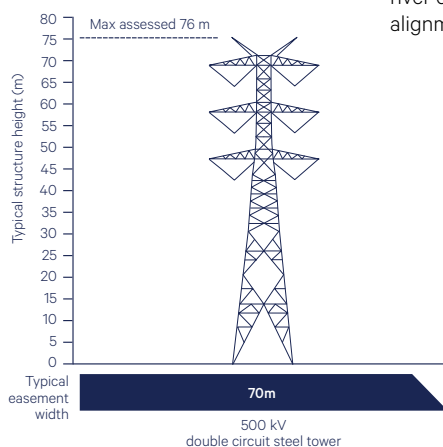


Figure 3: Indicative concept transmission line 500 kV structure designs.

Upgrade of Transmission Line 51 (330 kV)

Upgraded transmission line structures for the 330 kV double circuit line would:

- Typically be spaced between 300 and 450 metres apart
- Be up to around 56 metres in height (approximately 15 metres taller than the existing 41 metre structures)
- Have a maximum footprint of approximately 16 metres by 16 metres (around 256 m²).

The transmission line towers would consist of the following free standing, self-supporting steel lattice structure types:

Suspension structures

- Typically around 14 metres by 14 metres base footprint
- Used on straight sections and between strain structures.

Strain structures

- Typically around 16 metres by 16 metres base footprint
- Used at the start and end of the line, at either side of major road and river crossings and where the alignment changes direction.

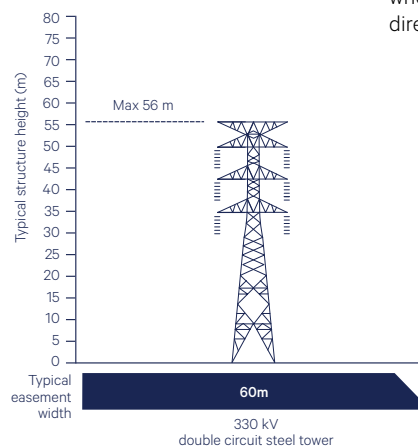


Figure 4: Indicative concept transmission line 330 kV structure designs.

How transmission towers are constructed

Key aspects of construction activity include:

- **Multiple work fronts**

For example, activities such as foundation works, or tower erection may occur at several locations along the transmission line easement simultaneously.

- **Short duration at each tower site**

Construction at each individual structure is typically short in duration, meaning any associated noise impacts would be temporary and move along the alignment as work progresses.

- **Staged works**

Construction is not continuous at a single tower location. Different stages of work may be separated by weeks, or in some cases months.

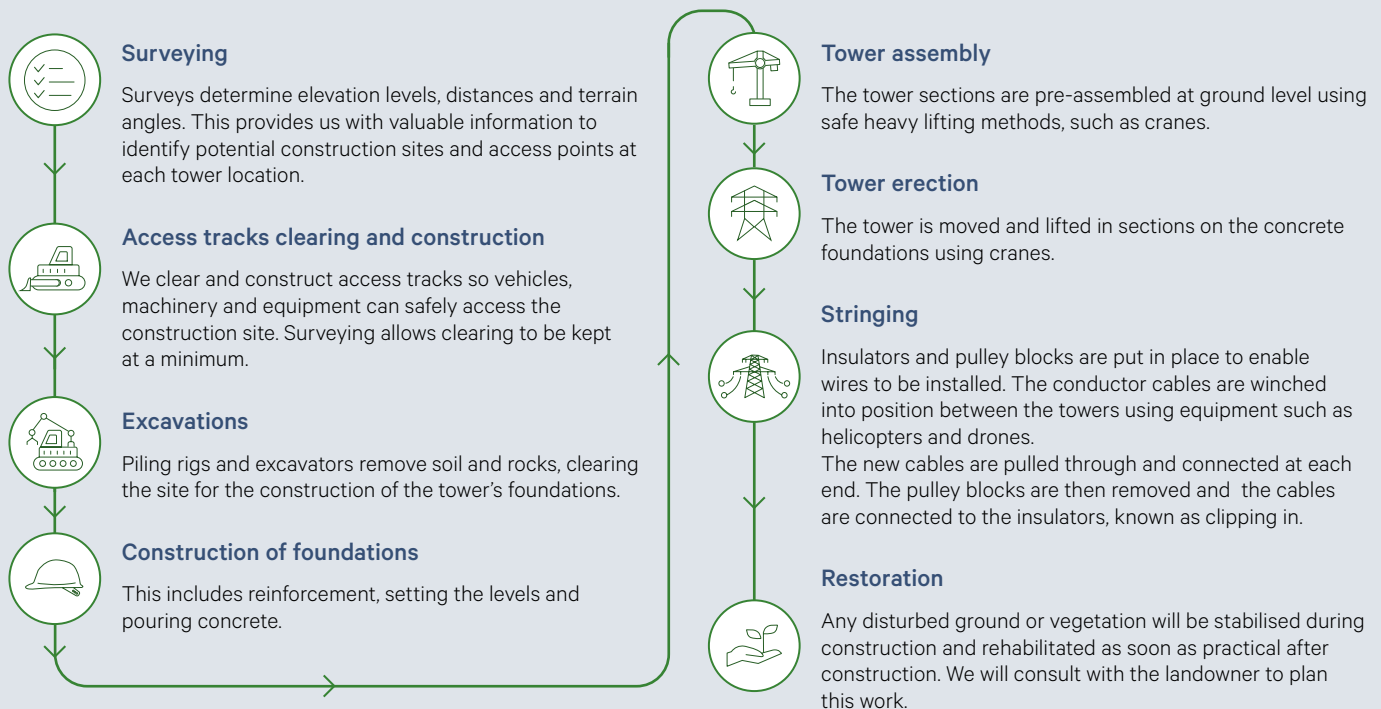
- **Temporary and moving impacts**

Any construction noise or activity is temporary and moves along the corridor as work progresses.

We'll continue working with landholders to coordinate access and activities on properties during construction.

Following construction, the transmission lines and associated substation equipment will be tested to ensure they meet design and statutory requirements before becoming operational.

Construction process



Tower construction timeframe

Construction would progress along the transmission line alignment, with work occurring at multiple locations simultaneously.

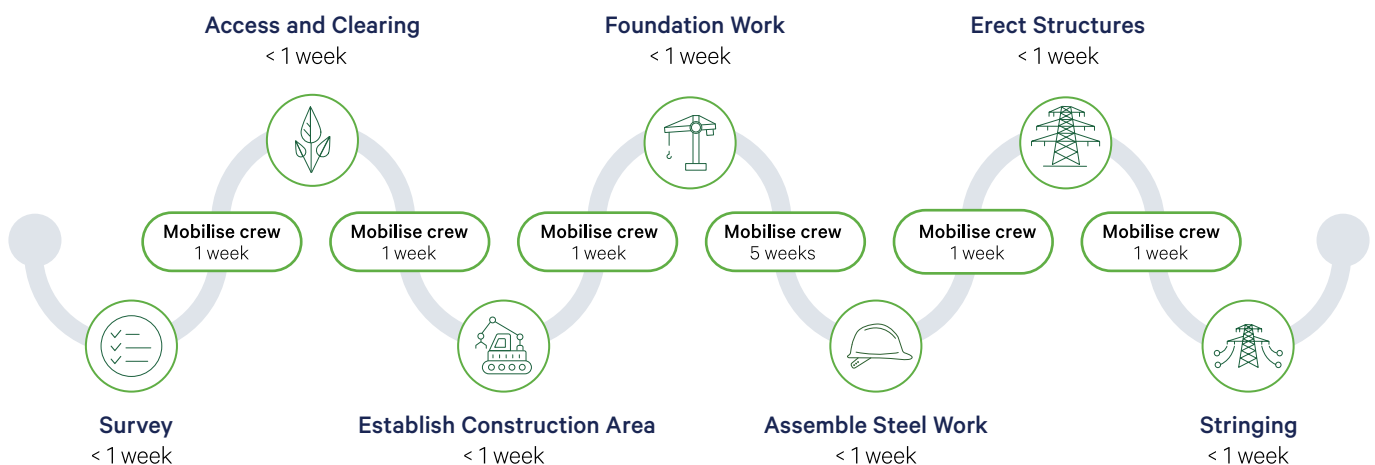


Figure 5: Indicative duration and sequence of construction activities for transmission line structures.

Changes to access tracks

Since the EIS, access tracks for both the 500 kV transmission line component (NSW/ Victorian border to Dinawan substation) and the 330 kV network upgrade have been refined and rationalised within private properties.

The amended project refinements include:

- Maximising use of the transmission line easement for access, thereby removing some access tracks proposed on properties during early site investigations
- Prioritising existing access tracks over the construction of new access tracks.

These refinements reduce the need for additional access tracks on private property where possible.

What happens next

The VNI West (NSW) EIS, Amendment Report and Submissions Report have been submitted to the NSW DPHI for review before a determination is made.

If approved, the NSW Minister for Planning and Public Spaces will issue the Conditions of Approval for construction following the approach detailed above.

The Commonwealth Department of Climate Change, Energy, the Environment and Water and the Commonwealth Minister for the Environment and Water will also review the determination and decide whether to grant approval, including any additional Conditions.



Get in touch

If you have questions or would like more information, please get in touch.

We're committed to keeping you informed and are available if you have questions.

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Figure 6: An access track example from HumeLink West project (Browns Road).

Want to stay updated?

To learn more about upcoming consultations and explore more information on VNI West in NSW, please visit transgrid.com.au/vniw or scan the QR code.

