

## Tunnelling

The River Torrens to Darlington (T2D) Project involves constructing two separate tunnels – the Southern Tunnels and the Northern Tunnels. The tunnels will be connected by an open motorway. The motorway and the tunnels will have three lanes operating in each direction, with a combined total distance of 10.5km.

When complete, more than 50 per cent of the T2D Project will be tunnels.



### Preparing to tunnel

Three purpose-built Tunnel Boring Machines (TBMs) will construct the two sets of twin tunnels as part of the T2D Project. TBMs are very large and complex pieces of machinery that excavate tunnels and can bore through a variety of ground conditions. This allows communities and businesses to continue undisturbed above ground while construction happens below ground.

The TBMs will be launched and retrieved from the end of the tunnels at purpose-built facilities, called launch boxes.

Launch boxes are large open trenches where the TBMs will be assembled and then begin excavating the tunnels. They are currently being constructed in preparation for the arrival of the TBMs.

Launch boxes have a reinforced concrete base slab, retaining walls and massive props at ground level to ensure stability. They must be cut deep enough to allow the TBMs to start tunnelling at the right depth and gradient.

Two TBMs will launch from the Clovelly Park site to construct the twin 4.5km Southern Tunnels. The twin 2.2km Northern Tunnels will utilise a third TBM, launched from the Richmond site.

### Transporting the TBMs



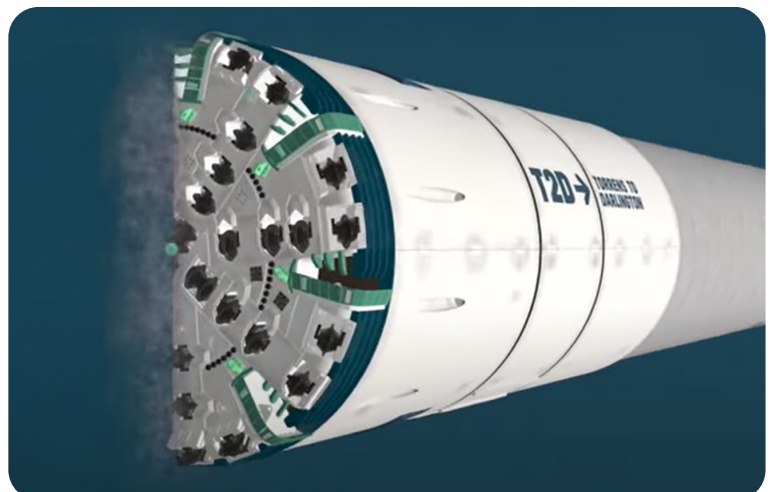
The contract for the three TBMs was signed in September 2024, with world-leading manufacturer Herrenknecht.

The TBM components are manufactured in Germany and China. Each TBM is then assembled and goes through factory assurance testing in China. Once ready, the TBMs are disassembled and shipped to Adelaide by sea.

The first of three TBMs is expected to arrive in late 2025.

After arriving in Port Adelaide, the TBMs will be transported to site where they will be assembled in the launch boxes.

Each TBM will take approximately five months to assemble.





## How do you power a TBM?

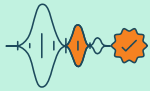
The Tonsley East Substation, which will supply electricity to the TBMs was built at the Southern Precinct in 2023.

As part of construction, two transformers were installed at the Tonsley East Substation.

A similar substation will be established in the Richmond area to power the TBM that will build the Northern Tunnels.

The substations are being set up to ensure TBM operations have a dedicated source of electricity.

The substations will then provide reliable power to operate the tunnels when open to traffic.



## Noise and vibration

TBMs produce minimal noise and vibration, so people living and working above the tunnel may not notice construction happening underground.

To keep noise and vibration to a minimum, we will:

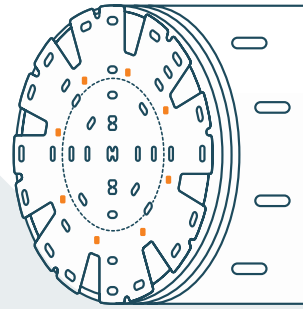
- inspect properties before construction
- monitor ground movement and vibration levels at all times
- meet strict targets set to manage vibration and minimise disruption.



## Where does the excavated material go?

A large part of tunnelling involves removing ground material from the newly excavated tunnel. The ground material is called 'spoil'. Based on modelling and calculations, tunnelling and general excavation will generate about 7.5 million tonnes of spoil.

Once excavated, trucks move the spoil from the back of the TBM conveyor to a spoil shed within the site compound. Trucks then move the spoil from the shed to an approved re-use site at Gillman.



## How big are the TBMs?



The TBMs being used to construct the T2D tunnels will be approximately 100m in length and 15m in diameter - roughly the height of the Thebarton Theatre.

## How many people will be operating the TBM?



There will be up to 20 specialised people working inside each TBM at any one time.

## How fast do the TBMs travel?




The TBMs will operate continuously 24 hours a day, seven days a week, progressing about 8-10 metres per day.

## Visit us at the Community Information Centre

Our opening hours are on the T2D website.

 **Community Information Centre**  
290 South Road, Hilton

## Email or call


 1300 951 145

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