Transport for NSW

Fact sheet – tunnel widening under Rozelle

Western Harbour Tunnel

August 2025

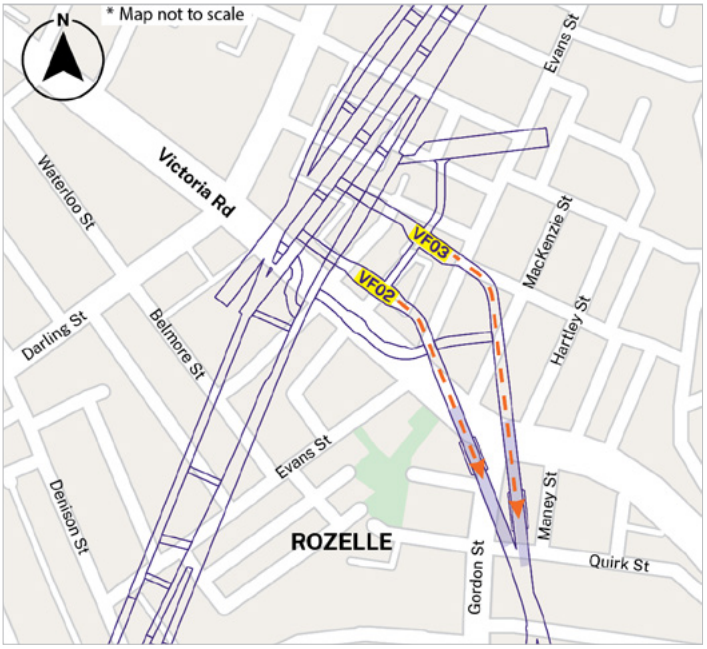
We acknowledge the Traditional Custodians of the Country on which Western Harbour Tunnel is being constructed, including the Gadigal, Cammeraygal, and Wangal peoples, as well as the Aboriginal peoples of Emu Plains, and we pay respect to Elders past and present.

Western Harbour Tunnel (WHT) will make it easier, faster and safer to get around Sydney

WHT Stage 2 contractor, ACCIONA, is continuing tunnelling work in the Inner West following the completion of WHT Stage 1 by John Holland and CPB Contractors Joint Venture (JHCPB) in February 2025.

In the tunnels under Rozelle, we are now preparing to move the two current ventilation facilities to a new location. To do this, we will need to widen the tunnels so we can move the facilities across.

Location of the tunnels



Proposed ventilation facility locations

Why we need to move the ventilation facilities

During WHT Stage 1, two ventilation caverns were excavated to accommodate two permanent tunnel ventilation facilities.

With the change in the project method to use tunnel boring machines (TBMs) under the harbour, each of the two TBMs will require a slurry treatment plant.

Two slurry treatment plants (STPs) are now being installed in these ventilation caverns. They are needed to process and drain spoil excavated by our TBMs as these machines tunnel under Sydney Harbour from Birchgrove to Waverton.

Having the STPs underground minimises the operational impact on the surface for residents.

By widening the existing ventilation tunnels and moving the ventilation facilities, we will be able to fit-out the ventilation facilities while the STPs are operating in 2026 and 2027.

How long the work will take

Early work is scheduled to begin in late **September 2025**, ahead of the main excavation starting in **November 2025**. The excavation work will take up to six months to complete, with three months of work in each tunnel.

Tunnel excavation is approved to be carried out **24 hours a day, seven days a week**.

What will the work involve?

Our activities will include:

- benching of the existing tunnel floors to deepen the tunnel by around eight (8) metres
- widening the existing tunnels by around two metres on either side of the existing tunnels
- excavation using a roadheader and rockhammer where required
- fit-out of the tunnels with civil, mechanical and electrical facilities
- testing and commissioning of the tunnel ventilation system to ensure it can progress safely while the STPs are still operating.

What are tunnel ventilation facilities?

Tunnel ventilation facilities are installed in large caverns underground and use vehicle movement and large fans to draw fresh air in and circulate it through the tunnels.

The tunnel ventilation system also extracts air and vehicle exhaust and ejects it into the atmosphere, where it disperses over a wide area.

For more information on tunnel ventilation systems, please visit our tunnel air quality portal at **Tunnels and ventilation | Air Quality | Transport for NSW**

You can also view a recording of our recent online tunnel ventilation and air quality information session on our WHT website linked here - **Road Tunnel Ventilation Systems Information Session**

Ventilation tunnel

Roadheader tunnelling under Birchgrove launch caverns

Excavation using roadheaders

Roadheader excavation is a safe and commonly used tunnel construction technique.

It enables major infrastructure to be delivered in built-up residential areas with a relatively low impact on the community.

Roadheader excavation is being used to construct the majority of Western Harbour Tunnel and similar infrastructure in Sydney and around the world.

We follow strict safety and environmental requirements for the project and will aim to minimise the impact of our work on the community.

About roadheaders

Roadheaders are specialised machines designed to excavate tunnels by cutting through hard rock. They have large rotating cutting heads fitted with metal picks designed to break and excavate rock. They also have bulldozer-style tracks that allow them to move across different ground surfaces as they excavate.

Roadheaders offer several benefits including:

Precision and control – roadheaders are highly manoeuvrable and are fitted out with advanced technology which allows for precise excavation

Enhanced safety – creating safe underground working environments

Efficiency – roadheaders can work continuously, reducing the time required to excavate

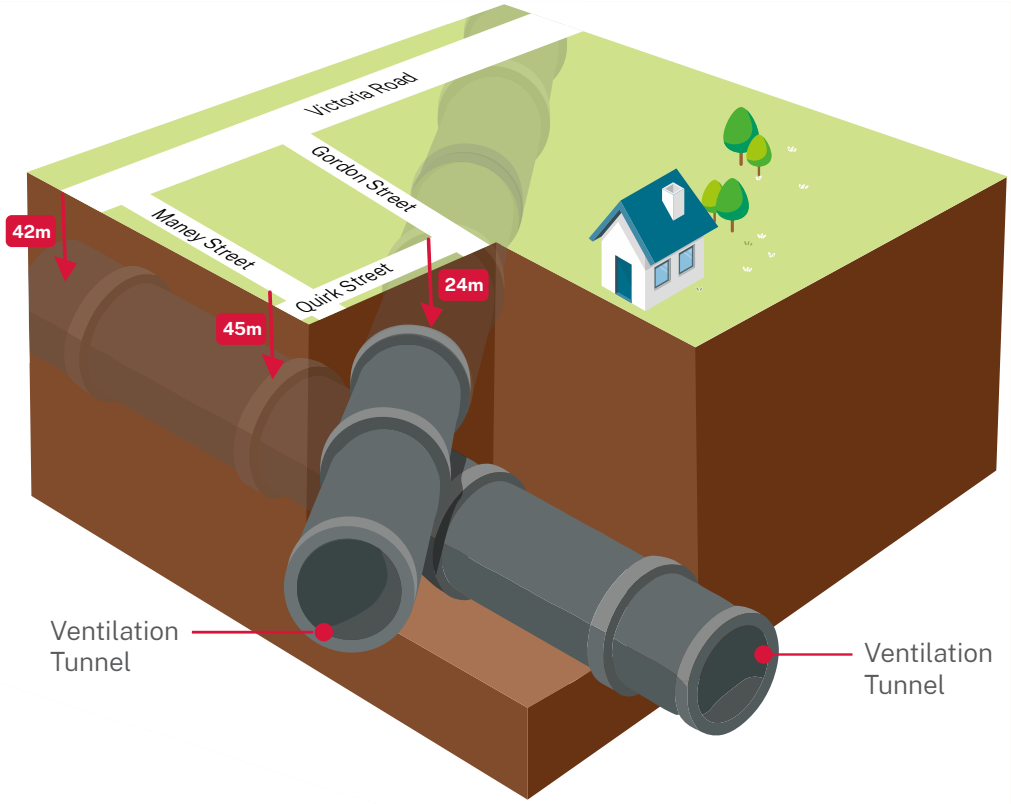
Excavating in the ventilation tunnels

We will be working within the existing ventilation tunnels under Rozelle to make room for the tunnel's permanent ventilation facilities. This excavation will be carried out in three phases:

Phase 1 – widening excavation which involves excavating the side walls of the existing tunnels and stabilising the tunnel by installing large steel rods (rock bolts) into the rock, and spraying concrete (shotcreting).

Phase 2 – benching excavation which involves excavating the floor of the tunnel.

Phase 3 – once excavation using a roadheader is complete, a small amount of drainage excavation will start and involves excavating channels in the floor of the tunnels using a trenching machine and rockhammers.



Graphic representation of the ventilation tunnels beneath Gordon Street, Maney Street, and Quirk Street. Illustration not to scale.

Your property during tunnelling

Buildings naturally experience ground movement due to environmental changes. This includes seasonal climate variations, growth of vegetation such as tree roots, structural effects (different building types or age of construction) or ground effects (reactivity to soil).

We understand there may be concern about the potential impact on buildings of vibration and settlement from tunnelling, however ground movement typically does not lead to property damage, in fact it is highly unlikely.

Residents within 50 metres of the Western Harbour Tunnel alignment and ventilation caverns are eligible for a free property condition survey (PCS). This will be offered at least two months before our work starts.

We appreciate some properties have been offered a PCS by other contractors previously, including by the contractor for Western Harbour Tunnel Stage 1 (JHCPB). However, a new PCS will be required for this excavation work.

We will send a letter to the owners of eligible properties about how to accept a PCS offer before we start tunnelling nearby.

No additional substratum acquisition is required for this excavation. All activities will take place within the previously acquired substratum.

Find out more about the depth and distance of the ventilation caverns on our website: **nswroads.work/whtportal**

How we're managing construction noise and vibration

Noise from underground excavation transfers through the ground into a built structure, on the surface resulting in audible noise levels. This is referred to as ground-borne noise.

Noise and vibration are most noticeable when we are tunnelling close to a property, increasing on approach and reducing as we move away.

While we are tunnelling, we will monitor noise and vibration to make sure we are not exceeding our allowable limits.

Our Infrastructure Approvals and Environmental Protection Licence requires us to manage noise levels the best we can while we're working, and within our approved limits.

Our work may be noisy at times so we will work in ways to reduce the impact of noise when we are working close to your area.

Our Construction Noise and Vibration Management Plan identifies the potential impact of our work. The CNVMP can be found on the portal linked here **Approvals Documents - Western Harbour Tunnel - Transport for NSW under Appendix D**. It also provides solutions which the project will follow to reduce this impact throughout excavation work within the ventilation tunnels.

Some of these include:

- limiting higher noise activities as much as we can
- stopping higher noise activities earlier in the night, where we can
- limiting the use of multiple equipment at the same time and location
- using squawker reversing alarms on equipment
- installing temporary noise blankets with fencing around our work areas and machinery, if we can
- using two-way radios to avoid shouting
- training staff to be noise conscious.

We'll carry out noise and vibration monitoring during our work to ensure we're working within our predicted noise levels.

How we measure noise

We measure noise in decibels. Our ears generally do not notice changes of one to two decibels. We also do not hear changes in noise incrementally. Many of us can hear an increase of 10 decibels as about double the previous noise.

For example, a lawnmower is about 90 decibels, and a motorcycle is about 100 decibels. To the ear a motorcycle sounds almost twice as loud as a lawnmower.

Frequently asked questions

Why do you need to carry out tunnelling 24/7?

We have approval from the Department of Planning, Housing and Infrastructure to tunnel **24 hours a day, seven days a week**. This is to ensure we complete the work within the project timeframe.

How will I be notified of upcoming work?

We will always let you know ahead of time about work near you. We will normally notify you five days in advance with a notification in your letterbox, an email and update on our website.

What if I have any other questions?

We have fact sheets with more information about noise and vibration, property condition surveys and tunnelling activities on our website, please visit **nswroads.work/whtportal**

If you have a specific question, please contact the project team using the details below.

Scan the QR code to sign up for email updates from Western Harbour Tunnel.

Contact us

Project Infoline **1800 931 189**

whtbl@transport.nsw.gov.au

Visit our website at **nswroads.work/whtportal**

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