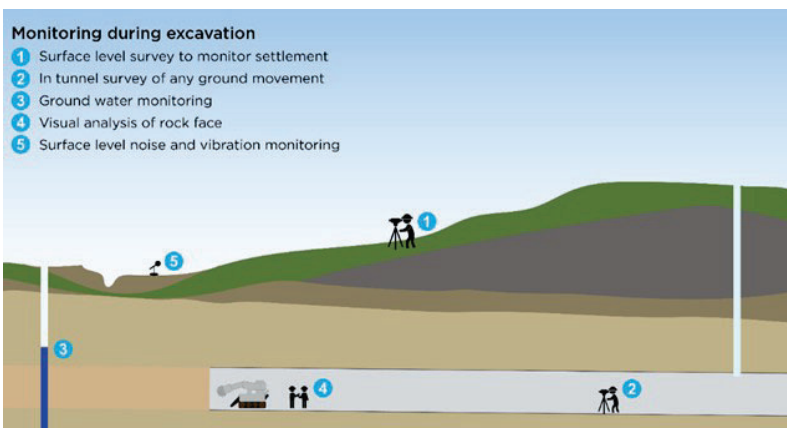


Ground monitoring for tunnelling | 2020

An important part of tunnelling involves regularly monitoring the surface for any movement during and after excavation. The project has a team dedicated to monitoring and measuring the ground inside the tunnel and on the surface as excavation progresses to ensure any movement remains within the limits outlined in the project's Infrastructure Approvals, endorsed by the Department of Planning, Industry and Environment.



The project uses various methods to monitor the ground during tunnel excavation

Data is collected from monitoring instruments at fixed points inside the tunnel and on the surface both close to, and at a distance to the tunnel alignment. Installation of monitoring equipment does not necessarily mean that tunnelling is occurring in your area for the Rozelle Interchange project.

What work is required?

Monitoring equipment is installed in roads, kerbs and parks for the duration of the project. To install the equipment, we need to visit each location twice:

- Firstly, we pothole the area to confirm the location of underground services. This work involves digging a small trench in the road, vacuuming away the soil to physically see the service, and temporarily reinstating the ground. This may take up to two days to complete
- We then return later to drill monitoring instruments into the ground. This work involves using a truck mounted drill rig to bore a hole and install the monitoring instrument. The ground is then reinstated. Generally, this activity takes up to one week to complete however in some locations where the equipment needs to be deeper in the ground, it may take up to two weeks to install.

Hours of operation

Work will occur between 7am and 6pm Monday to Friday, and 8am to 6pm on Saturday

Where

On roads, kerbs and parks in Rozelle, Lilyfield, Annandale, Leichhardt and surrounding suburbs.

The exact location of work happening week-to-week is provided in our weekly updates. To subscribe to these please email us at:

info@rozelleinterchange.com.au

1800 660 248

westconnex.com.au

**We speak
your language**



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Call the Translating and

Interpreting Service on **131 450**.

Constructed by

A temporary work site will be established for both the potholing and drilling. Some on-street parking at the location of the work (3 to 6 spaces) will need to be removed prior to potholing and drilling starting, for the duration of the work. Parking will be returned once the ground is reinstated.

Equipment used for this work includes, but is not limited to, a drill rig, truck mounted drill rig, vacuum trucks, road saw, hand tools and light vehicles.

Every effort will be made to minimise the impact of work, including using non-tonal reversing beepers and turning off equipment when not in use, where possible.



Example of a drill rig working in a local street to install ground monitoring equipment

What we're installing

On the surface there will be two types of monitoring instruments installed both close to and away from the tunnel alignment:

- Prism markers: around 1000 small markers are temporarily fixed onto kerbs and roads along the tunnel alignment for the duration of the project
- Extensometers/ inclinometers: survey instruments are drilled into roads at various locations along the tunnel alignment as well as in neighboring suburbs



Example of a prism marker installed on roads and kerbs



Example of an extensometer installed on roads, kerbs and in parks

What happens once the equipment is installed

We check monitoring equipment both inside the tunnel and on the surface regularly, increasing on approach of the roadheader (excavation machine) and reducing frequency of monitoring as the roadheader moves away. Inside the tunnel our geotechnical team checks every new tunnel advance (every 1 to 5 metres) in a process called 'face mapping' whereby the ground conditions are continually assessed and compared to the data collected from the investigation boreholes. This team meets daily with the design and construction teams to confirm the tunnel methodology for the next tunnel advance.

On the surface you'll probably notice our surveyors on your street as excavation approaches and survey checks become more frequent, up to two times a day. Monitoring equipment is checked regularly throughout construction. It takes about 20 minutes to check the monitoring equipment and will occur without notification.

If you have a question about this work, please call 1800 660 248 and ask to speak to a member of the Rozelle Interchange community relations team or email info@rozelleinterchange.com.au.