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What is NorthConnex?

NorthConnex is a nine kilometre tunnel that will link the M1 Pacific Motorway at Wahroonga to the Hills M2 Motorway at West Pennant Hills, removing around 5,000 trucks daily off Pennant Hills Road.

The nine kilometre tunnel motorway includes interchanges to the north and south to accommodate connections at either end of the project. When complete in 2019, it will link Sydney's north to the Orbital road network and enable travel from Newcastle (M1) to Melbourne without a single set of traffic lights.

NorthConnex will also boost the state and national economies by providing more reliable journeys and shorter travel times for the movement of freight.

Tunnelling update

This month the Project will reach a major milestone when the first of the roadheaders start operating at the Southern Compound. This roadheader will excavate the mainline tunnel at a speed of approximately five metres a day in a northbound direction towards the Wilson Road Compound.

In total, 19 roadheaders will be used to excavate the nine kilometres of twin tunnels and cross passages.

A roadheader is an excavation machine with a rotating cutter head mounted on a boom and a loading device that transfers cut rock to a belt conveyor and onto trucks. The machine travels on bulldozer style tracks and has an average weight of about 100 tonnes.

Roadheaders are the preferred method of excavation for the tunnel as they efficiently remove spoil, operate on electricity and are made from almost 100% recyclable materials.

A second roadheader will be launched at the Southern Compound at the end of May 2016. This will be followed, every three to four weeks by the launch of the remainder of the machines, until December 2016, from the four main compounds at the Southern Interchange, Wilson Road, Trelawney Street and the Northern Interchange. The roadheaders tunnel approximately 20 metres a week and will continue until this major phase of the project reaches the anticipated completion date in mid 2018.

The first roadheader delivered to the Southern compound is supplied by Sandvik, a world leader in excavation equipment. The machine is a veteran of tunnel building in Australia having been used previously on Eastlink in

Melbourne and Airportlink in Brisbane.

Sandvik are supplying 13 out of the 19 roadheaders for the project. Nine of the machines are new, one is being rebuilt in Spain and Austria after coming off a Spanish road construction project and two are being rebuilt at the Sandvik factory in Heatherbrae (near Newcastle).

The remainder of the roadheaders will come from Mitsui in Japan. The roadheaders will be delivered progressively throughout the year before being lowered into the ground to start tunnelling.



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Controlled blasting update

Excavation of the shafts is progressing at the main compound sites, with Wilson Road at a depth of 15m, Trelawney Street at 7m and the Northern Interchange at 20m. The shafts will enable access to the underground tunnel excavation locations from the surface.

Controlled blasting will be used to excavate the shafts at the Northern Interchange, Trelawney Street and Wilson Road compounds. Controlled blasting, using very small charges, is the preferred excavation method for the shafts. It is preferred because it will limit the amount of vibration generated, compared to other excavation methods like rock breaking, reducing the potential for disturbance of the nearby community.

Trial controlled blasts first took place in December 2015 at the Wilson Road and Northern Interchange compounds. Information from those blasts was used to complete secondary trial blasts in April/May 2016 at the Northern Interchange, Trelawney Street and Wilson Road compounds.



The trial blasts provide valuable information and data to assess and manage the likely vibration from blasting and help the team to design the best, safest and most efficient way to conduct controlled blasting in future.

The first controlled blast will take place at the Northern Compound by mid May 2016.

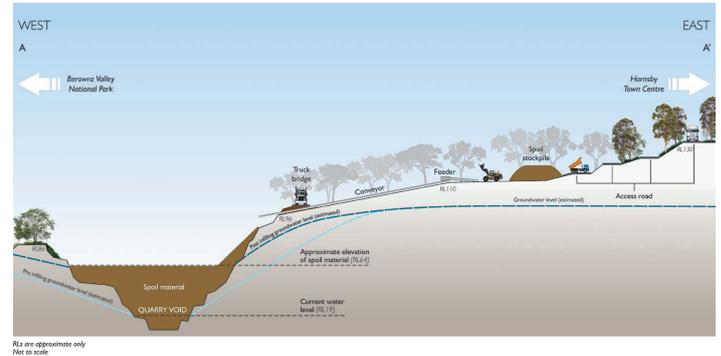
Further information on the controlled blasting program can be found on the NorthConnex website <http://shaftbuilding.northconnex.com.au/>

During the controlled blasting process, information will be provided to nearby residents of the dates and times. These details will also be included on the dedicated website <http://shaftbuilding.northconnex.com.au/>

Hornsby Quarry approval

The Minister for Planning approved The Hornsby Quarry Road Construction Spoil Management project on 18 January 2016.

NorthConnex plans to move up to one and a half million cubic metres of excavated spoil from tunnel construction to partially fill the quarry and assist Hornsby Shire Council to be able to start rehabilitating the site to become a public recreational area benefitting the local community.



Key features include:

- Hauling spoil to the quarry using the existing main road network
- Widening Bridge Road and the access track into the quarry
- Creating a stockpile area within the quarry
- Constructing and operating a conveyor up to 50 metres in length to move spoil from the spoil stockpile into the quarry void.

For further information on the Quarry project, please contact the Quarry Project information line 1800 093 090.

Premier visits NorthConnex

On Thursday 24 March the NSW Premier Mike Baird, Minister for Roads, Maritime and Freight Duncan Gay and Federal Minister for Major Projects, Paul Fletcher visited the Southern Interchange compound to inspect final preparation work before tunnelling started for



NorthConnex. The Premier took the opportunity to meet and talk to crew members working on the site.

Also attending were Federal Member for Berowra Phillip Ruddock, Member for Baulkham Hills David Elliot, Member for Hornsby Matt Kean and Member for Epping Damien Tudehope.



What's happening across the project

Compound Site	Construction Activities	What's Coming Up
Wilson Road	<p>Excavation of the shaft is now being carried out 24 hours a day Monday to Sunday inside the acoustic shed.</p> <p>The slip lane from Pennant Hills Road into the compound is now complete.</p>	<p>Excavation of tunnel shaft using rock breaking and controlled blasting:</p> <ul style="list-style-type: none"> • Rock breaking carried out at a rate of around 600m³ of spoil per week • Controlled blasting will allow for the excavation of 800m³ of spoil per week • Tunnel shaft excavation generating approx. 16,000m³ of spoil per week • Truck movements will be around ten trucks in and out per hour during shaft spoil removal.
Northern Interchange	<p>Site establishment will be complete in June 2016.</p> <p>Work includes:</p> <ul style="list-style-type: none"> • Construction of site entrance on M1 Pacific Motorway • Delivery of machinery and materials to site via Eastbourne Avenue • Completion of noise hoardings • Completion of site facilities. <p>Excavation of the shaft is now being carried out 24 hours a day from 6am Monday to 1pm Saturday inside the acoustic shed.</p>	<p>Excavation of tunnel shafts using rock breaking and controlled blasting:</p> <ul style="list-style-type: none"> • Rock breaking carried out at a rate of around 600m³ of spoil per week • Controlled blasting will allow for the excavation of 800m³ of spoil per week • Tunnel shaft excavation generating approx. 9,000m³ of spoil per week • Shaft excavation will occur from 7am Mondays to 1pm Saturdays • Truck movements will be around ten trucks in and out per hour during spoil removal.
M1 Pacific Motorway widening	<p>The sewer relocation at Burns Road to Bareena Avenue is expected to be complete in September 2016</p> <p>Realignment of Cockle Creek.</p> <p>Relocation of Ausgrid low voltage cable.</p>	<p>Establishment of the Junction Road compound.</p>
Southern Interchange	<p>Excavation of a shaft and a dive structure is continuing and an acoustic shed at the southern end is now complete.</p> <p>The first two road headers for the project have been delivered to site.</p> <p>New traffic signals have been installed on Pennant Hills Road providing access into and out of the compound.</p>	<p>Completion of roads around the site including sealing and noise walls.</p> <p>Excavation of tunnel shafts:</p> <ul style="list-style-type: none"> • Rock breaking carried out at a rate of around 600m³ of spoil per week • Tunnel shaft excavation generating approx. 9,000m³ of spoil per week • Truck movements will be around eight trucks in and out per hour during spoil removal.
M2 Integration	<ul style="list-style-type: none"> • Westbound bus lane and cycle lanes are now closed between Pennant Hills Road and Windsor Road • A detour route for cyclists is in place • Construction site set up is continuing along the Hills M2 Motorway • Construction work to complete the establishment of the Barclay Road compound is complete 	<ul style="list-style-type: none"> • Ongoing activities on the Hills M2 Motorway to construct an additional westbound lane between Pennant Hills Road and Windsor Road • Modifications to the Hills M2 Motorway eastbound off-ramp at Pennant Hills Road to build the tunnel entrance and the new cycleway • Barclay Road bridge widening • Darling Mills Creek bridge widening and closure of the Murri-yanna bushwalking track • Modifications to the noise walls on the Hills M2 Motorway to provide access behind these for construction • Compound set-up at Darling Mills Creek • Compound set-up at Yale Close bridge • Intelligent Transport Systems cable relocation.
Pioneer Avenue	<p>Site established with 320 car spaces</p>	<p>Completion of temporary facilities on site including tunnel worker amenities.</p>
Trelawney Street	<p>Site establishment will continue until July 2016. Work includes:</p> <ul style="list-style-type: none"> • Establishment of site entrance and exit on Pennant Hills Road • Construction of acoustic shed. 	<ul style="list-style-type: none"> • Piling to support the excavation of tunnel shafts • Excavation of tunnel shaft using rock breaking and controlled blasting • Rock breaking carried out at a rate of about 600m³ of spoil per week • Controlled blasting will allow for the excavation of 800m³ of spoil per week • Tunnel shaft excavation generating approx. 11,000m³ of spoil per week • Truck movements will be around ten trucks in and out per hour during shaft spoil removal.

Communicating with the community

The NorthConnex project team is continually developing and improving how construction activities are communicated to the community.

New website

The NorthConnex website will soon be updated and will be relaunched. This new look website will provide the community with a more accessible source to find out about construction activities in their area and provide more detail on the progress of the project.

Visitors to the website and local residents were surveyed during December 2015 to assist the team to capture their thoughts and influence the design features for the new web site.



Fact sheets

The project team has produced a suite of new fact sheets which reflect the final site layouts and provide detailed information on construction methodology.

These fact sheets include: Dust Management, Tunnel Ventilation, Tunnelling Near Your Home, Trelawney Street Tunnel Support Facility, Wilson Road Tunnel Support Facility, Southern Interchange Compound, Pioneer Avenue Employee Transfer Facility, Northern Interchange Compound and Northern Ventilation Compound (Bareena Avenue), Junction Road Compound, Material Storage on site compounds and Property damage claims process.

The fact sheets are available from the NorthConnex Display Centre at 118 Yarrara Road, Pennant Hills which is open weekdays from 9am to 5pm. They are also available on the website www.northconnex.com.au/factsheet.

Mobile display

The project team is committed to providing accessible information on NorthConnex to the public and is rolling out a mobile display stand across shopping centres and community events. The mobile display will feature information about the tunnel alignment, construction compounds and will provide an opportunity for community members to meet project team members and to ask questions about the project.

A calendar of mobile display locations will be available on the website. The display is also available for community events. Please contact the community team on 1800 997 057 if you would like to book the display for your next event.

More questions?

Contact us

The NorthConnex project team is committed to working closely with you to inform you of upcoming work over the course of the project and to minimise impact from our construction activities.

For further information on NorthConnex please don't hesitate to contact members of the project team by:

Phone: 1800 997 057

Email: enquiries@northconnex.com.au

Website: www.northconnex.com.au

Mail: Locked Bag 1001, West Pennant Hills NSW 2125

Visit: NorthConnex community information centre, 118 Yarrara Road, Pennant Hills. Monday to Friday from 9am to 5pm.

Privacy Statement

By providing your personal information to us you consent to your personal information being collected, held, used and disclosed by us in accordance with our NorthConnex Community Engagement Database Privacy Policy available at <http://www.northconnex.com.au/privacy.php>

If you require the services of an interpreter, please contact the **Translating and Interpreting Service (TIS International)** on **131 450** and ask them to call the NorthConnex Project Team on **1800 997 057** - the interpreter will then assist you with the translation. TIS International business hours are 9am to 5pm Monday to Friday.

Translator



131 450



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