



TBM Mum Shirl arrives at Barangaroo to mark the completion of the southern section of tunnelling

Sydney Metro tunnelling in the north and south complete

After completing the northern section of tunnelling from Chatswood to Blues Point late last year, both tunnel boring machines (TBMs) Wendy and Mabel have now been retrieved from the Blues Point temporary retrieval shaft and transported to Barangaroo by barge. They will then be sent back to the manufacturer.

A large gantry crane inside the acoustic shed was used to lift the tunnel borer's cutterhead - which weighs around 100 tonnes - and two front shields about 30 metres up to the surface.

Each cutterhead consists of 38 cutters, which were changed regularly during periods of maintenance while the machine was boring. The cutters wear down significantly during tunnelling, and if not changed regularly, can impact the diameter of the tunnel being built. TBMs Mabel and Wendy each required approximately 200 cutter changes during their 6.1 kilometre bore.

Meanwhile, retrieval of the southern TBMs is also underway at Barangaroo after Nancy and Mum Shirl completed

tunnelling in December and January respectively. A 330-tonne tower crane will lift both tunnel borers out in pieces.

Under Sydney Harbour, specialised TBM Kathleen is a few hundred metres into her second crossing. The mega borer will make history when she completes tunnelling on the Sydney Metro City & Southwest project in the coming months.

Sydney Metro is Australia's biggest public transport project. It will transform Sydney, delivering more trains and faster services for customers across the network.

Sydney Metro City & Southwest extends the new metro network from the end of Sydney Metro Northwest at Chatswood, under Sydney Harbour, through the CBD, and west to Bankstown.

John Holland CPB Ghella (JHCPBG) is building the 15.5 kilometre long twin railway tunnels between Chatswood and Sydenham and excavating six new metro stations.

Three-month look ahead

Activity (subject to change)	February	March	April
Removal of acoustic shed and temporary hoarding around the site perimeter	●	●	
Piling to support cavern excavation	●	●	●
Excavating the south shaft	●	●	●
Installing rock anchors, bolts, mesh and spraying concrete on exposed walls	●	●	●
Excavation of the lift access shaft	●	●	●
Delivering and pouring concrete for cavern, and pedestrian and services tunnel linings	●	●	●
Delivery and removal of plant, equipment and excavated material	●●	●●	●●

Victoria Cross South ● Victoria Cross North ●

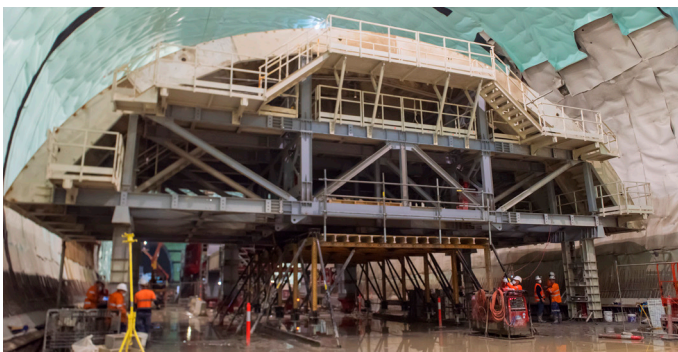
Shed comes down as excavation restarts at Victoria Cross

Removal of the acoustic shed at the Victoria Cross Station South site will be completed in February. This is to make way for further excavation for the station entry, which will continue through to late 2020. Work at the Victoria Cross south site will also include some piling and the installation of rock anchors and bolts. Respite from high impact activities at the south site will be taken between 11.30am and 2pm on weekdays and after 3 hours of working on Saturdays.



The acoustic shed at Victoria Cross is being demolished

At the Victoria Cross north site, excavation to complete the future lift access shaft continues within the acoustic shed. Installation of the final concrete lining for the station cavern and pedestrian and services tunnels is also being completed from the north site.



Inside the Victoria Cross cavern



Formwork inside the cavern

Another award for the Sydney Metro tunnelling team

The Sydney Metro City & Southwest tunnelling team was acknowledged on a global platform in December, with contractor John Holland CPB Ghella winning the award for the Environment and Sustainability Initiative of the Year at the New Civil Engineer 2019 Tunnelling Festival in London.



JHCPBG won the Environment and Sustainability Initiative of the Year award at the 2019 NCE Tunnelling Festival

The award recognised the successful collaboration of the project team with external stakeholders to adopt sustainable spoil management solutions such as beneficially reusing 100% of clean tunnelling spoil and using barges on Sydney Harbour to reduce traffic congestion in CBD and residential areas.

The win follows the project receiving a 'Leading' Infrastructure Sustainability Rating of 100.05 by the Infrastructure and Sustainability Council of Australia (ISCA) earlier in the year. This was the highest rating to be awarded to an infrastructure project in Australia and New Zealand.








The New Civil Engineer Tunnelling Awards recognise and reward projects, teams and companies doing the most to drive the tunnelling sector forwards internationally.

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-  www.sydneymetro.info/tunnelling to follow the progress of TBM Kathleen
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