



Twin TBM breakthrough at the Five Dock Station site

Cavern lining set to start at Five Dock Station site

April 2024

The NSW Government is delivering Sydney Metro West, a new underground metro railway which will double rail capacity between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply.

Sydney Metro West stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD.

Two potential station locations are being investigated west of Sydney Olympic Park, including one at Rosehill Gardens which could support a significant increase in housing.

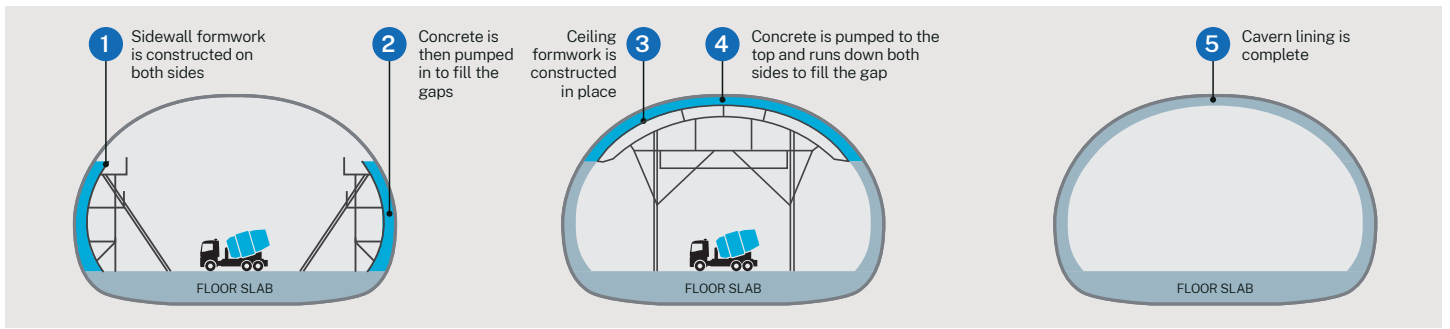
Acciona Ferrovial Joint Venture (AFJV) has been awarded the contract to deliver 11 kilometres of twin metro rail tunnels between The Bays and Sydney Olympic Park and excavate five new metro stations including one at Five Dock.

Five Dock construction update

Following a twin breakthrough into the Five Dock Station site in late 2023, two 1300 tonne tunnel boring machines (TBMs) named Daphne and Beatrice crossed the cavern and resumed tunnelling west from the Five Dock Station site in early 2024. They are headed for their final destination at Sydney Olympic Park via the Burwood North and North Strathfield station sites.

At Five Dock, work continues to prepare the site for concrete lining of the underground station cavern. Once the last of the TBM traverse structures are removed, the edges of the cavern floor will undergo final trimming excavation. Waterproof membranes will then be laid across the ground, with concrete slabs poured over them in sections to completely seal the floor.

Once the walls and ceilings are lined with waterproof material, specialist scaffolding for the sidewalls and the ceiling will then be assembled and moved into place. This will allow concrete lining of the sidewalls and ceilings. The cavern lining process is the last major activity to prepare the Five Dock Station site for the start of the station construction.



How do you concrete a ceiling?

To complete site work in readiness for the station construction, the floors, walls and ceilings of the excavated station cavern must be waterproofed and sealed with concrete. Once the floor has been lined with heavy duty waterproof membranes, concrete slabs will be poured covering the entire site.

Waterproof membranes will then be attached to the walls and ceilings of the cavern before concreting can be completed. Sidewall formwork is assembled on site and wheeled into place close to the cavern wall. The narrow 60 centimetre gap left between the wall and the formwork is then filled with concrete. Thousands of small steel fibres are mixed through the concrete before use to provide additional strength. This work is completed progressively in 10 metre wide sections.

Once the sidewalls are complete, a ceiling formwork structure (pictured) is built and moved into place. Concrete is pumped into an opening at the top of the structure and runs down both sides to form the ceiling.

Around one Olympic swimming pool (2500 cubic metres) of concrete will be used to line the walls and ceilings of the eastern (31m), central (70m) and western (16m) caverns at the Five Dock Station site.



Cavern lining work at Burwood North Station site

Construction look ahead

Activity	May	Jun	Jul	Aug	Sep	Oct
Cavern floor trimming	●	●	●			
Tunnelling support activities	●	●	●	●	●	●
Station cavern lining	●	●	●	●	●	●

Construction activity ●

Construction timeline

Early to mid-2022	April to late 2022	Late 2022 to late 2023	Mid 2023 to early 2024	Late 2023	We are here	Late 2023 to late 2024	2025 onwards
Demolition	Site establishment	Shaft excavation	Cavern excavation	TBM arrival		Station lining, tunnelling support and site demobilisation	Site handover for station construction

Contact us

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Translating and interpreting service

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Download **Sydney Metro Connect** from the App store or get it on Google Play.

The Central Tunnelling Package virtual engagement room for Sydney Metro West is now live.

To learn more about important aspects of the project visit caportal.com.au/afjv/ctp/virtual or scan the QR code.

