SPORT TRAIN

At the 2022 Lendlease Australian Supplier Awards A.G. Coombs was recognised with the Safety Award for the innovative solution developed for the design, manufacture, supply and installation of over track exhaust modules.

Next Station

After playing a key role in the construction of the Sydney Metro Martin Place integrated station development, A.G. Coombs is now working to deliver another part of the city's multi-billion dollar transport infrastructure project.

One of five new stations being built as part of the Sydney Metro infrastructure project, the new Victoria Cross station will connect the existing Metro North West Line running from Chatswood to the new Sydney Metro City & Southwest Line.

Located 31 metres beneath Miller Street in the heart of the North Sydney CBD, the station's concourse and platforms will be accessible to commuters via a number of street-level pedestrian plaza entry points.

Lendlease is delivering the new Victoria Cross integrated station development for the NSW Government, including the underground metro station, over-station development (OSD) and enhancements to pedestrian connections, retail and public spaces.

Drawing on the Group's experience on the soon-to-be-completed Sydney Metro Martin Place, A.G. Coombs joined the Lendlease Consortium's bid team for the Victoria Cross project in 2018.

Subsequently engaged under a construct-only contract, A.G. Coombs has been on site since early-2021 delivering the mechanical services solutions to the underground station, as well as completing OSD-enabling works.

"Our involvement on the Metro Martin Place project has given our team a first-hand understanding of the challenges and requirements associated with the construction of Sydney Metro underground stations," says Shane Durkin, Engineering Services Manager for A.G. Coombs Projects.

Metro facts

By 2030, Sydney will boast a network of four metro lines, 46 stations and 113km of new metro rail. This will allow for a metro train every two minutes in each direction under the city, with a target capacity of 40,000 commuters per hour.

Shane says this includes the company's construction experience of the over track exhaust (OTE) system – part of the station's critical safety infrastructure – and the robust method of installation required.

A significant amount of prefabrication is being used for the construction of the OTE system, as well as the project's risers.

"Through this experience, our team has been able to assist Lendlease on their journey at Metro Victoria Cross."

A.G. Coombs also identified a number of opportunities as part of its value management of the mechanical services design.

These initiatives included the rationalisation of the central chilled water plant, and the rearrangement of the two 1500kW chillers and corresponding cooling towers for improved operational efficiency, as well as the dual chilled water loops to achieve system redundancy.

The design and pipe riser layout of the cavern smoke exhaust system was also simplified under a full constructability review.

In its role as lead services coordinator on the Metro Victoria Cross project, A.G. Coombs is utilising a number of technologies including building information modelling (BIM) and the Revizto+ cloud-based coordination platform.

"BIM has been particularly useful on this project," says Shane. "It was used extensively during our constructability reviews to help identify design and layout issues early in the project."

The use of a cloud-based project management system has also been an invaluable tool given the project's intensive quality assurance (QA) documentation requirements.

Construction of the mechanical services has been ongoing since August 2021. A.G. Coombs expects that a workforce in the order of 80 personnel will have contributed to the Victoria Cross project by completion – expected in 2023.

"A.G. Coombs is a key member of our Metro Victoria Cross project team, and is bringing its expertise in constructability and coordination of services for the overall benefit of the project," says Michael Niedzwiecki at Lendlease.