

Wynyard Walk

Sydney, NSW

Accurate drilling and installation of canopy tubes very close to the underside of road service trenches.



The project

Wynyard Walk provides a pedestrian link between Wynyard Station and the developing CBD western corridor and Barangaroo. The 180m long, 3.5m high and 9.5m wide subway will allow up to 20,000 pedestrians an hour to walk from the Wynyard transport hub to the Barangaroo waterfront in just six minutes, avoiding steep inclines and road crossings.

The challenge

The tunnel was excavated by road header up to 8.8m below ground level. The first 20m of the tunnel drive positioned the crown of the tunnel in uncontrolled fill and loose soil for which a roof support was required. The situation was exacerbated by the position of multiple underground services running across the site, including high voltage cables, telecommunications and gas pipes. It was crucial therefore that tunnelling did not cause excessive ground movements.

The solution

Keller supplied and installed 35, 23m long and 219mm diameter canopy tubes above the tunnel, to provide support during excavation. Keller used a dual rotary drilling system to install the horizontal tubes above the tunnel entrance. The compact equipment was ideal for the restricted site and provided the high level of accuracy required when drilling close to services. Canopy tube casing was advanced during drilling to ensure ground disturbance was minimised. Keller also installed two levels of ground anchors along the piled excavation face.

Project facts

Owner(s)

Thiess Pty Ltd

Keller business unit(s)

Keller Australia

Main contractor(s)

Transport NSW

Solutions

Tunnelling

Markets

Infrastructure

Techniques

Canopy / umbrella tubes
Anchors