

ONE40WILLIAM

Diaphragm Walls, CFA Piles, Sheet Piles & Anchors



Developer: CBus Property
Main Contractor: Probuild

Architect: Hassell
Specialist Contractor: GFWA

THE PROJECT

One40william is one of Perth CBD's landmark buildings located above the Perth Underground station, at the corner of William Street and Murray Street Mall.

This development comprises three office towers above two levels of retail, dining and entertainment. The building comprises two levels of prime retail space occupying the ground and first floors, across 6,500 m². The three office towers of one40william range in height from six to 19 storeys, and provide over 38,000 m² of central office space, with two levels of basement car-parking.

The construction of underground parking required implementation of specific geotechnical measures to ensure that adjacent property and railway tunnel would not be effected by bulk excavation.

The upper 7 m of ground was composed of sandy soil followed by a layer of sandy clay, approximately 2 m thick. These layers were underlain by dense clayey sands and sandy clays. Although groundwater level was lower, perched groundwater was at the depth of about 1.5m below working platform level.

THE ROLE OF GFWA

GFWA was awarded the design and construct contract for the retaining structure and deep foundations. This contract included diaphragm walls (D-Wall), barrettes, CFA piling, sheet piles, anchors and micro fine cement grouting.

2,167 m² of D-Walls (33 panels) with a thickness of 500 mm and maximum depth of 10.5m to achieve water cut-off were constructed.

Also, a total of 60 barrettes, each with a width of 800mm were installed to a maximum depth of 36m. Barrettes were predominately 2.8 m long; however barrettes supporting the main lift core were 6 m long. 33 CFA piles of 600 and 750mm diameter to 19.5 m depth were also constructed.

Approximately 850 m² of sheet piling was carried out on the project. 36 ground anchors were also installed including 17 anchors that were installed in an existing reinforced concrete wall.

GFWA's contract was completed in line with the client's tight schedule for foundation construction, with practical completion achieved in 90 days, with concrete placement per day in excess of 100 m³ on average.