

Collins Wharf One

Southbank, VIC

Read how Keller were devising solutions to limit the impact of piling on surrounding assets



The project

The Collins Wharf One Project in Melbourne's Docklands precinct involved piling and core retention walls for a residential apartment development built on a outstretch of land along the Yarra River.

The challenge

What made this project stand out was the nature of the ground and surrounding environment, with concerns that the piling work would impact on both an existing sheet pile wall south of the site, and a timber wharf structure to the north. Precast and CFA piling are the techniques most commonly adopted for projects of this nature but there were fears that both techniques could induce lateral ground displacements, causing the sheet pile wall to deflect and damaging the existing timber wharf structure. There were also concerns with tracking heavy piling equipment close to these sensitive neighbouring assets.

The solution

Keller designed and developed a solution that involved driving CHS tubes close to the northern and southern boundaries, in the areas immediately adjacent to the sensitive existing assets. A low ground bearing pressure frame was sourced from Keller's sister company, Austral, which allowed the long CHS sections to be lifted into position, without imposing significant bearing pressures around the piling area. This equipment is most commonly used in marine environments, and shows the benefit of engaging Keller, with access to equipment for the most challenging conditions and working environments. Throughout operations, ground movements had to be continually monitored, not only to avoid damage to the assets mentioned but also to previously installed piles. Keller's detailed consideration of these complex structural problems, and innovative construction solutions, resulted in significant cost savings compared to the original client scheme.

Project facts

Owner(s)

Lend Lease Development

Keller business unit(s)

Keller Australia

Main contractor(s)

Lend Lease Building

Solutions

Heavy foundations
Excavation support

Markets

Residential

Techniques

Driven steel piles
CFA piles
Sheet piles