

Third Avenue Bridge

Perth, WA

Innovative 1200mm diameter CFA secant piles successfully constructed to accommodate significant retained height



The project

The Third Avenue Bridge replaced a 106 year-old timber bridge with a new concrete bridge that had a single span of approximately 22 metres and included a second lane. Keller were contracted to construct the new secant pile wall solution using 600mm and 1200mm soft/hard CFA piles.

The challenge

The new structure needed to be installed whilst maintaining pedestrian traffic along the existing shared path underpass and without impact on the busy Midland rail line. Furthermore, Client design requirements called for piles to be constructed from several different working platform levels, adjacent to a steep batter which sloped into the rail corridor.

The solution

A strict concrete performance specification would require several concrete trucks to be parked and tested on a highly congested site. Sizeable cages, weighing up to 2.5 tonne were lifted in using a crawler crane and stored on site. Specialised large diameter drill tools were utilised to construct the 1200mm diameter piles up to 15m depth.

Project facts

Owner(s)

Main Roads WA

Keller business unit(s)

Keller Australia

Main contractor(s)

BMD Constructions

Solutions

Excavation support

Markets

Infrastructure

Techniques

CFA piles
Secant piled walls