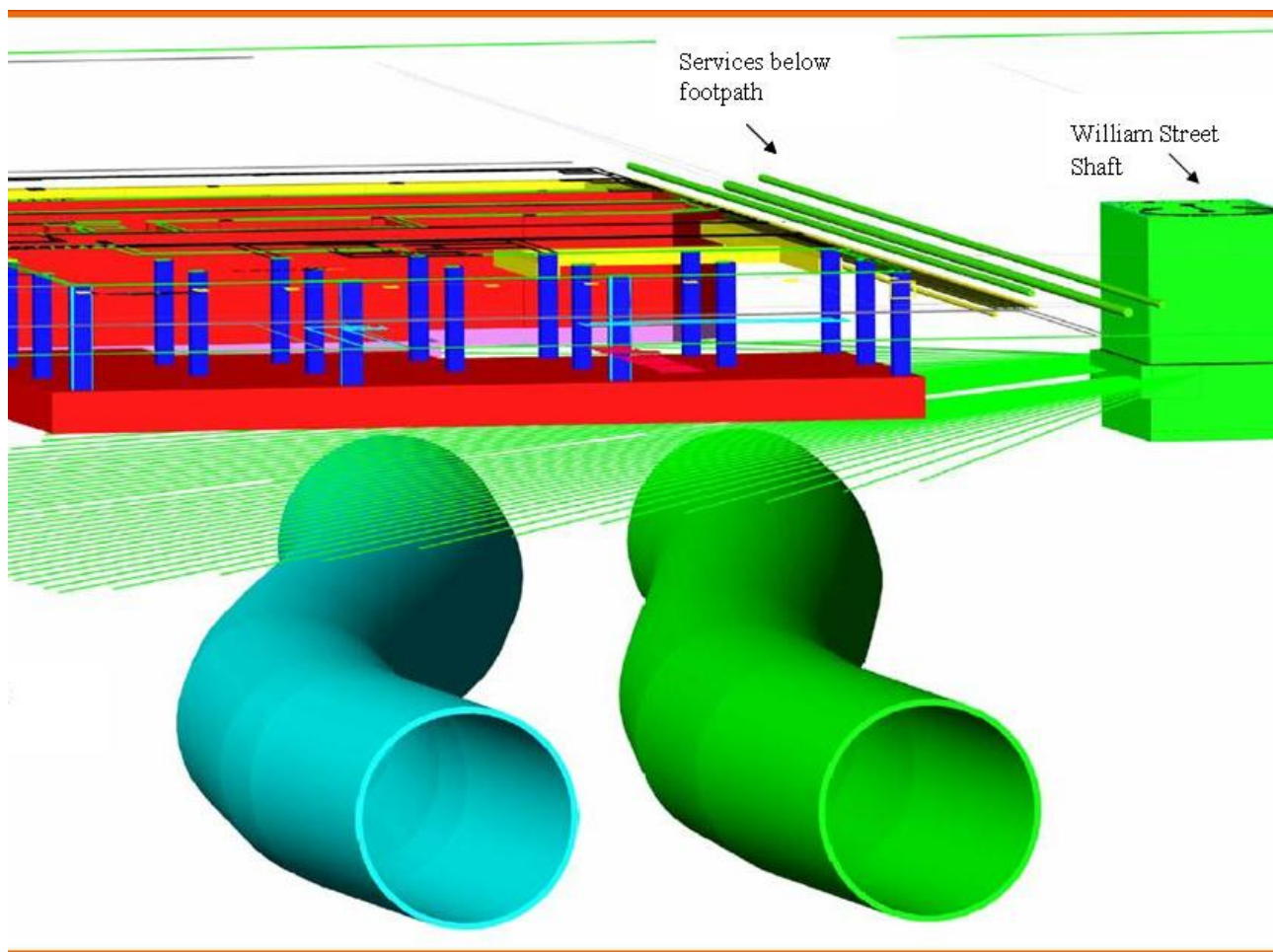


Perth New Metro Rail

Perth, WA

Keller delivered a solution that met client demands of building protection and absolute minimal disruption to building tenants. An Engineers Australia winning project.



The project

The Perth New MetroRail Project involved the construction of 1.5km of underground rail lines and two new stations within Perth CBD. Four buildings on William Street were identified as of specific risk due to their foundations being only 6m above the 6.9m diameter tunnel crown.

The challenge

The challenge was to ensure that the tenants trading in the buildings above the aligned were not inconvenienced by either the tunnelling or the building protection measures.

The solution

Keller proposed a Soilfrac Compensation Grouting solution that protected the buildings from settlement induced damage as well as satisfying key requirements that occupiers, pedestrians and road users were not unduly disrupted. The four buildings occupied approximately 2000m² and were all of a differing construction, with and without basements, some with piled foundations, strip footings and pad foundations. The soil conditions below the buildings consisted of loose to medium dense Sand with groundwater approximately 3.0m below ground level. Keller limited overall settlement to less than 10mm and differential movement to less than 1 in 500.all via remote access from a mid street access shaft and compound.

Project facts

Owner(s)

CPB Contractors

Keller business unit(s)

Keller Australia

Main contractor(s)

Perth Transport Authority

Solutions

Tunnelling

Markets

Infrastructure

Techniques

Compensation / fracture grouting