



THOMAS ROAD OVER RAIL BRIDGE

Transport - Road

Bridges - Mixed/False bridge abutments - Retaining walls

AUSTRALIA, Byford



Reinforced Earth TerraTilt Abutment

Owner/Client
Main Roads Western Australia

Engineer
BG&E

Main contractor
Laing O'Rourke

Terre Armée entity
Reinforced Earth Pty Ltd (Australia -
Headquarter)

Date
2022

Activity :
Reinforced Earth

System :
Retained Earth
TerraTrel

Reinforcement :
HA / HAR steel strips

Key figures :
Area : 9850 m²
Rise : 13.5 m



Screen wall extension - viewed from behind the walls



Reinforced Earth TerraTilt walls Stacked one on top of the other - with screen wall extension

The Project

The Thomas Road Bridge Over Rail project works involved elevating Thomas Road so it can pass over the rail corridor with two lanes in each direction. The works also extend to include a new road bridge connecting Butcher Rd to Vlasich Rd, passing underneath Thomas Rd.

Reinforced Earth were tasked with the design, manufacture and supply of the MSE retaining walls for the ramps leading up to the bridges. This included design, manufacture and supply of two temporary wire walls (TerraTrel®) to facilitate the staging of the project and enable the client to maintain traffic flow along Thomas Road during construction.





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The Solution

The walls were able to be split in two panels for the tallest sections. In some areas, this means that there is now a 5.5m tall Reinforced Earth Wall panel (including 2.4m of screen wall) stacked on top of an 8m tall Reinforced Earth Wall panel, creating a 13.5m facing.

The resulting horizontal joints in the wall facing was able to be integrated into the overall urban design so that from the casual observer's perspective, it looks like a single panel.

The Advantages

Reinforced Earth proposed early in the design stage to provide an integrated retaining wall/screen wall solution whereby the retaining wall has a cantilevered extension to 2.4m above ground that acts as the screen wall along the ramps of the bridge structure.

The main challenge to be overcome during the design stage was how to deal with the overall height of some sections of the walls. Some walls were up to 13.5m tall. In normal circumstances, the maximum panel height that can be achieved by Reinforced Earth full height (TerraTilt®) walls is roughly 10m.

