



CASE STUDY

AIRPORT LINK

Brisbane, QLD, Australia

TerraTilt® and TerraPlus® walls

Owner: BrisConnections

Consultants: Thiess John Holland Joint Venture

Contractor: Reinforced Earth Pty Limited

Construction: 2010 & 2011

Background:

Airport Link is a 6.7km toll road, mainly underground, providing a vital link between Brisbane's northern suburbs and two of South-East Queensland's most important economic centres – the airport and the city.

Airport Link connects the North-South Bypass Tunnel, Inner City Bypass and local road network at Bowen Hills, to the northern arterials of Gympie Road and Stafford Road at Kedron and Sandgate Road and the East West Arterial at Clayfield leading to the airport.

The free-flow toll road ensures the journey to and from the city is safer, less congested and faster with less stopping and starting, thus improving the living environment in adjacent suburbs.

The Reinforced Earth Company designed and supplied 1,010sqm of TerraTilt® full height pattern panels for the Kedron connection site for Thiess John Holland, who conducted the construction work for the Brisbane Airport Link project. RECO also designed and supplied the TechSpan® arch.

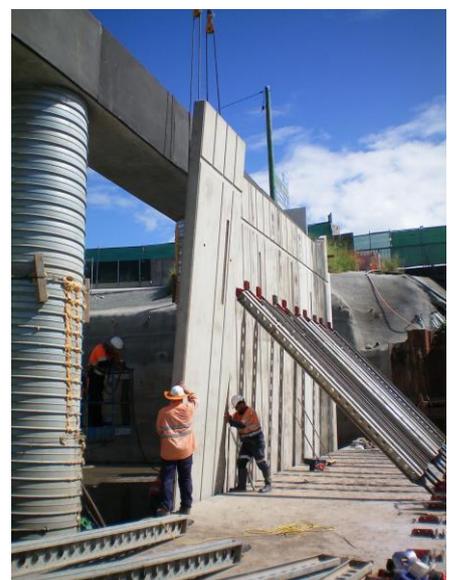
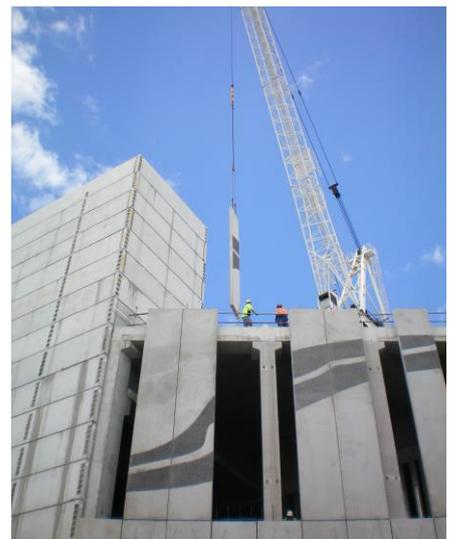
In addition, Reinforced Earth® TerraPlus® walls can be seen at the Airport Drive Roundabout where approximately 3,000sqm were supplied to the Joint Venture.

Challenges and solutions for Thiess John Holland and Reinforced Earth®:

The architect required an internal pattern to the panels consisting of vertical and horizontal rebates in a number of different positions as well as incorporating blockout's for the placing of internal light fittings.

The project soon turned into quite a challenge when it was discovered that the ground foundation conditions in certain sections were not suitable for the TerraTilt® full height panels to be built on. Geotechnical reports indicated that the poor foundation had to be dug out and replaced with a suitable material. TerraTilt® full height panel requirements include building on a stable foundation to prevent potential rotation of the panels.

Rather than ingest the huge costs in doing this, Reinforced Earth® were able to respond quickly to redesign some walls in TerraPlus® segmental panels, which is a more flexible system and can withstand much greater foundation movement.



Main picture: Reinforced Earth's® TerraPlus® wall for Airport Link, Roundabout.
Above: Constructing the TerraTilt® wall for Airport Link, Kedron Connection.



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Left: RECO's completed TerraPlus® wall for Airport Link, Roundabout.
Above: RECO's temporary wire wall used for construction stages for Airport Link.

In addition, Reinforced Earth® was able to deliver the first lot of required panels in a short amount of time.

Furthermore, Reinforced Earth® was able to maintain the continuity of the architect's original design as the wall changes from one style of panel to the other.

This can now be seen as a remarkable example of how TerraTilt® and TerraPlus® can be incorporated in a single wall.

The client is very happy with the result and along with a continuation in delivering other concrete walls for this project, Reinforced Earth® have also delivered their temporary wire frame wall system, which enables Reinforced Earth® walls to be built in a number of stages if required.

For example, this system is suitable for working on sites such as the Kedron Connection, where it is very tight for space and a lot of activity is taking place

or where roads and bridges can be built and opened to traffic earlier rather than having to wait for the total completion of the Reinforced Earth® wall.

While the Brisbane Airport Link project was quite a challenge for the team at Reinforced Earth®, the engineers described it as an enjoyable one and are very proud of their part in the success of this high profile project.

Special Features/Benefits:

- RECO designed and supplied 1,010sqm of TerraTilt® full height pattern panels for Airport Link - Kedron Connection
- RECO designed and supplied 3000sqm of TerraPlus® walls for Airport Drive Roundabout
- RECO delivered their temporary wire frame wall system, enabling Reinforced Earth® walls to be built in a number of stages.

Project specifications

System	TerraPlus® and TerraTilt®
Panel Type	Concrete
Structure	Abutment walls (two)
Area	1,010sqm of TerraTilt® and 3000sqm of TerraPlus®
Max. Height	8.7M High for Airport Link, Roundabout
Length	625sqm for Airport Link, Roundabout
Design load	
Design life	100 years



Reinforced Earth Pty Limited
 Level 4, 20 George Street
 Hornsby NSW 2077 Australia
 Ph +61 2 9910 9910
 Fax +61 2 9910 9999
 www.reinforcedearth.com.au

Reinforced Earth Limited
 PO Box 72 734
 Papakura Auckland New Zealand
 Ph +64 9 236 3385
 Fax +64 9 236 3385
 www.reinforcedearth.co.nz

