

Rail Bridge Strengthened and Re-Supported

INDUSTRY

Infrastructure

STRUCTURE

Railway

PROBLEM

Sinking bridge & track

LOCATION

NSW, Australia

DURATION / YEAR

2 days / 2005

TECHNOLOGY

Uretek Deep Injection & Uretek Slab Lifting

BUSINESS UNIT

Mainmark Australia



Summary

The two Bredalbane Rail Bridges each support two rail lines: for Northbound and Southbound trains running along Australia's Main South Railway Line linking capital cities.

The bridge piers were deflecting some 300mm on each pass of a train. The footings had cracked and the piers had begun to shear.

Objectives

The objective was to re-level the rail lines and re-support the bridge pier quickly and efficiently so that both goods trains and passenger trains could use the rail line, without causing disruption to important transport infrastructure.

Solution

Uretek's Deep-Injection method was used to re-support the pier footings and consolidate the ground. Then Uretek Slab-Lifting raised them (and the rail) up 40mm, back up to the original levels.

The images show a stationary 129-tonne-locomotive acting as a superimposed load to provide overburden resistance and enable maximum compaction of

the sub-grade whilst the crew were supporting, strengthening and raising the rail bridge. When the work was completed, the brick piers were strengthened with steel bands and the cracks were epoxy-grouted.

Movement after treatment was reduced to less than 1mm. Trains were able to use the line within hours of the work being completed. Consequently the Australian Rail Track Corporation has asked us to work on other similar rail track repair projects.