

Cintec Rail—Pontypridd Retaining Wall Stabilisation.



PATIENTS AT Pontypridd's Dewi at Hospital had the perfect vantage point for monitoring work to stabilise a 6m high railway retaining wall.

Masonry had fallen from the wall and some of the retained garden earth had slipped from the slope above it, forcing Network Rail to take action. Main contractor Richards Construction and structural engineer Bradley Associates proposed a combination of a crib wall and rock anchors. Roger Bullivant Limited was hired to install 250 Cintec anchors to improve cohesion.

Forty Cintec rock anchors provide support for the wall and the upper slope. Severely damaged sections of wall have been drilled using a handheld diamond coring machine, with grids of holes created at 600mm centres for the Cintec anchors.

Each anchor is formed from a 900mm length of steel tube, 12mm in diameter, and is wrapped in a fabric sleeve that expands to grip the wall when grout is injected under pressure through a small hole in the anchor's centre.

Completion of the shorter anchors was followed by installation of two rows of Cintec rock anchors at a rake of 30 below horizontal to hold the wall in place. They extend to depths of between 5m and 7m through fill, dense gravels, sandstone and limestone. In areas of loose fill, steel casings were used to keep the bore holes open while anchors were installed.

Unstable rows of masonry at the top of the retaining wall were dismantled and a reinforced concrete beam cast in their place. The new concrete beam has been designed to accommodate a 2.7m high crib wall to prevent further erosion from the hospital garden.