

Denmark Street bridge

Middlesbrough

The reconstruction of Denmark Road bridge was a vital part of Network Rail's upgrade of the UK's Victorian railway infrastructure in the north east of England.



The project

The project aim was to remove and upgrade the ageing DSN231 (Denmark Street) bridge deck as part of the refurbishment works to Network Rail infrastructure, modernising the ageing structure allowing further growth in the area.

The challenge

Installing 34no Cast in-situ bored grouted mini piles in 2.7m limited headroom to underpin a Network Rail bridge on Denmark Street, Middlesbrough with live operational traffic on the above railway line above.

The solution

To install 18no vertical and 16no raked 280/220mm cast in-situ bored Pali Radice mini piles. The raked piles were bored through the existing railway abutment and permanently bonded to the shallow concrete foundations to enhance the load bearing capacity of the structure. The 16no vertical piles are not required to be bonded to the existing foundations as a subsequent capping beam will structurally connect the system together.

Project facts

Owner(s)

Network Rail

Keller business unit(s)

Keller UK

Main contractor(s)

AMCO GIFFEN

Solutions

Bearing capacity / settlement control

Markets

Rail

Techniques

Pali Radice

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