

To ensure the safety of maintenance crews working on the west coast mainline at Stoke Hammond, the walkway required complete reconstruction using mechanical ground anchors to provide efficient shoulder retention during the construction of a new low-level wall.

Anchor Systems worked closely with Atkins Rail from the inception of the project to establish the most efficient cost-effective design and avoiding any major civil engineering works. A rigid testing regime was also conducted in line with BS8081 to ensure the general safety of the system as this project was viewed as a pilot scheme for future locations.

**CLIENT**

Network Rail

**CONTRACTOR**

Birse Rail Engineers: Atkins Rail

**INSTALLER**

WT Civils

**ANCHOR SYSTEM USED**

Number of anchors: 280  
AS-90 Stainless steel anchors  
20kN Working load

## SOLUTION

A row of mini-piles was installed vertically into the made ground embankments, comprising granular clays with rubble fill. Shuttering was then erected and back-filled to produce the cess.

To hold back the mini-piles and shuttering, ensuring they remained in position, 280 stainless steel AS-90 Vulcan Earth Anchors were driven, at an angle, through metal retaining plates and into the embankment. They were then proof loaded to 40kN and set to a working load of 20kN, with isolating gaskets being used to separate the stainless steel from the Galvanised 'U' channels of the mini-piles.

The speed of installation of the well proven Vulcan Anchors provided an efficient, cost-effective method of retaining the shoulder and, as they require no grouts, Vulcan Anchors have the additional benefit of being environmentally friendly.

The successful completion of the project for Network Rail will hopefully lead to this method of application being used in other locations requiring the establishment of safe walkways for maintenance crews.



# Embankment Stabilisation

## STOKE HAMMOND, WEST COAST MAIN LINE

