



AMCO



Slope Stabilisation



July 2019



16 weeks

**Universal Piling were contracted by AMCO to stabilise 21,000 m2 of cutting, either side of a running line at Studley Grange, Swindon.**

The final design required the installation of 1169no 9m deep soil nails on the North facing cutting and 1428no 9m soil nails on the South facing cutting. To compliment the nails, a mesh system comprising of Deltax mesh, steel rope and tension anchors were employed across the full surface of both cuttings.

Due to access restrictions and weight limitations at the crest, conventional soilnailing plant was not an option. The only feasible alternative was to use traditional rope access rock drilling equipment, but at 9m long self drilling soilnails into stiff clay and mudstone this would have been a slow and expensive solution, especially when considering the number of nails to be installed.

The challenge was to develop a rig with the capability to safely manoeuvre up and down the cutting, but had the power and speed of conventional excavator mounted rigs. Our design and fabrication team rose to this challenge and developed a steel tracked slope climbing rig with a powerful mounted drilling head, clamps and a telescopic mast - which is capable of installing 2.5m bars. A powerful winch and ancillary lines would make the rigs safe and secure on embankments and cuttings upto an angle of 45 degrees.

3nr 'Slopeys' were specially designed, built, tested and approved for this project. The modified steel tracks glided up and down the cutting and the fixed mast and powerful head installed the 9m soilnails with great efficiency. With an installation rate averaging 250lm of soilnail per rig per shift, the job was completed 3 weeks ahead of programme, with zero incidents or accidents.



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