

Jackfield Stabilisation Project

Jackfield, Shropshire

Jackfield is a well known area of historic active landslip at one of the narrowest points on the River Severn in Shropshire. It is located 1km downstream of Ironbridge and is part of a UNESCO designated World Heritage site. It is also the site of an historic landslip which has seriously affected residents, industry, rail and road transport since the early 1700s.



The project

CFA piles were bored through tile and industrial waste and socketed into the underlying sandstone and mudstone bedrock in a series of rows extending up the valley sides. The 600mm diameter piles were reinforced with 457mm x 10mm CHS tube. Piles near to the river itself in a particularly unstable area of the slope were installed using lightweight Klemm rigs at a 350mm diameter

The challenge

The main challenge was safely installing the 18m long piles using a heavy Soilmec SR80 rig which had the ability to bore into mudstone with the piling mat being carefully monitored for signs of movement by Getec, Keller's monitoring and instrumentation company. The sequence of work was carefully planned due to the high risk of ground movement.

The solution

A number of rows of very stiff piles were installed all the way down the slope to "pin" the active landslip detritus into the competent mudstone. In the most active areas, lighter rigs were used installing a number of smaller diameter piles. At the same time movement sensors were installed by Getec to detect any early signs of movement.

Project facts

Owner(s)

Telford & Wrekin Council

Keller business unit(s)

Keller UK/Getec

Main contractor(s)

McPhillips Ltd

Solutions

Slope stabilisation

Markets

Infrastructure

Techniques

CFA piles

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