

RIVER ROACH, LITTLEBOROUGH

Client: The Environment Agency
Engineers: Geological Engineering Ltd
Contractor: C T Construction Ltd

Requirements:

The project consisted of removing a 100m section of failed existing retaining wall, along a stretch of the River Roach, re-grading the slope and using a Duckbill® ground anchor system to stabilize the embankment.

To determine the appropriate anchor size and depth of installation for design load requirement, on-site testing was carried out by Anchor Systems (Europe) Ltd to determine the actual holding capacity within the substrate.

The final solution called for a life expectancy on the components of 20 years, therefore a fully galvanised system was selected.



The Solution:

The tests determined that the Duckbill® MR3 anchor, driven to 6m best suited the requirement with sufficient safety on both the system and substrates.

Three rows of anchors at 1.2m spacing were used on the slope which varied between 45 and 60 degrees. Due to site constraints both machine mounted breakers and held held hammers were used for installation.

The anchors used, stabilized the embankment as well as secured a geotextile membrane and Reno mattress, which was used to prevent the topsoil from being wash out in high water. A seeded membrane was then embedded into the Reno mattress to allow for a vegetation covering.