

CASE STUDY

RESTRICTED ACCESS PILING, NEWGATE STREET EMBANKMENT

Project: Rail embankment stabilisation
Location: Hertfordshire
Client: May Gurney Ltd Rail Services (York)

Project Overview

Railway lines ran on the top of a man made embankment, some 8m above ground level. The embankment had started to deteriorate due to soil erosion and there was a danger of slippage. Bearing piles were needed to stop any further movement and stabilise the embankment.



Working to May Gurney Rail Ltd's piling design we submitted method statements and section drawings to show the position of the rigs in relation to the track to demonstrate our understanding of all the operating health and safety issues. The track was live and wouldn't be closed for the work, so our client had to be assured of our competencies before placing their order with us.

The pile installation was made more difficult due to the underground high voltage cables; we had to execute a more involved methodology which 'dog legged' around the cables rather than tracking over them.

Result

Understanding the rail-specific issues involved on this project helped us supply the correct rigs for the job, increasing rig size on areas where we were operating further away from the 3m 'safety zone', in fact our rigs ranged from 5m mast heights to 9m. The restricted access also meant that we couldn't get concrete wagons to site in certain areas, so we had to site batch pumpable grout for the piles.



Due to the pre-works preparation, the communication with the client and our team approach to the project, we achieved better production rates than expected.

Technical information

We installed three areas of piles:

Area 1) 26 No 450mm diameter piles to 8.5m (reinforcement 8 No T25 full depth). The rig used was a Klemm 708 with a 5m mast height.

Area 2) 47 No 450mm diameter piles to 9.5m (reinforcement 8 No T25 full depth). The rig used was a Klemm 709 with a 6m mast height.

Area 3) 150 No 450mm diameter piles to 7.5m (reinforcement 6 No T25 full depth) The rig used was a Klemm 709 with a 9m mast height.