



Volker Fitzpatrick



WAML Capacity Project



August 2017



10 weeks

As part of the WAML (West Anglia Mainline) upgrade works, Volker Fitzpatrick are widening the existing two-line track between Tottenham Hale and Stratford. Universal Piling were approached to install foundations for bridge abutments, which would allow for an additional track to pass over the River Lea.

With 20nr piles on either side of the river at 900mm diameter, and to nearly 29m in depth, working adjacent to a live railway, this posed some interesting challenges, not the least of which was the requirement to install temporary casings to 8.5m depth.

Traditionally, piles of this nature would require a large rotary rig to install casings to this depth, but access constraints and railway interface precluded this option. Thinking outside convention, and drawing from our experience of driving sheet and tubular piles, single length casings were driven through the alluvium and gravels, to seal into the cohesive clay, using a Movax attachment on an attendant excavator. This allowed a restricted access rotary rig to auger out the spoil, and continue drilling to depth using an auger on a Kelly bar. Access to the north permitted a Casagrande B125 to gain access, but a smaller Tescar CF8 was required for the south abutment. Full length cages were then installed in short lengths, spliced together using Zip splice and Ziploc “safe splice” connectors. C50 grade concrete was then tremmied in, and finally, the casings removed with the Movax attachment, to complete each pile.



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