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During the spring of 2021 an ABI TM22 Mobilram and a Delmag RH34 drilling rig worked together to install sheet piling on a site close Network Rail's Chiltern Line in West Ruislip as part of the ground works for the High Speed Two Railways Line.

High Speed Two (HS2) is a major rail infrastructure project that will see the building of a new high speed railway line linking London, Birmingham, Leeds and Manchester, with connections to the existing rail network.

Construction of phase one from London to the West Midlands has begun. This involves the construction of a dedicated 140mile new high speed railway line, along with four new stations and two new train depots. This stretch of the HS2 network will have more miles of tunnels than Crossrail and a bridge longer than the Forth Rail Bridge. More than 70 cuttings will be excavated measuring over 44miles (72km) in total.

The construction of HS2 will bring with it three major benefits. Increased capacity will take intercity trains off the existing rail network freeing up more space for commuter and freight services. Improved transport links between cities will bring more inward investment to the Midlands and North of England. HS2 will become the low carbon option for long distance travel within England, emitting 17 times less carbon than the equivalent domestic flight and 7 times less carbon than the equivalent car journey.

High Speed Two Railway Project

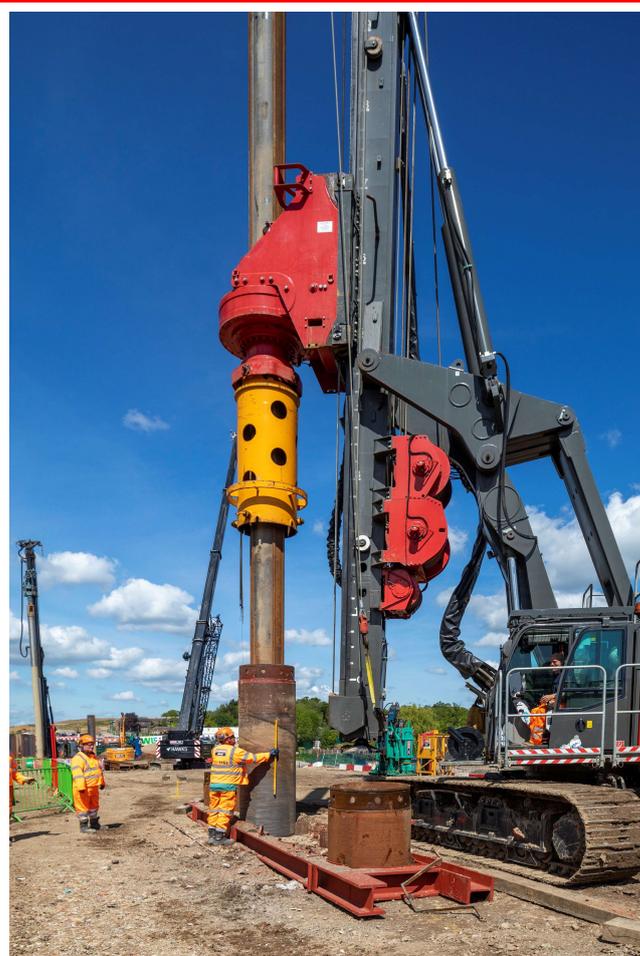
Client – Dawson-WAM Ltd

Equipment Used

Delmag RH34 drilling rig

Application

Rotary boring to facilitate the installation of steel sheet piles



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Dawson-WAM utilised their ABI TM22 Mobilram to install over 620 linear metres of steel sheet piling to retain Network Rail's Chiltern Line in West Ruislip to facilitate the construction of new high speed rail lines exiting the London Tunnels section. These sheet piles were installed using ABI's vibration free 'HydroPress' pile pressing system to avoid any potential damage to the adjacent railway lines. This technique is also low noise which helped lessen the impact of the construction works on the local community.

On one particular section the site team had found historic embankment stabilisation works where Ø1000mm limestone boulders were installed to a depth of 3m. The works required the installation of the sheet piles through these boulders and removal by excavation was not permitted. To do this Dawson-WAM engaged our Delmag RH34 drilling rig, utilising rotary bore piling techniques, to remove the obstructions. The hole positions were then backfilled and compacted with piling friendly material in advance of sheet pile installation.



Rotary bore positions were controlled by an innovative reusable guide wall facilitating Ø880mm bores at 650mm centres ensuring a clear line for sheet piling. The Delmag rig was supplied with an acoustic Kelly bar which significantly reduced the noise generated during this element of the work – approx.. 5dBA sound reduction at source. This proved to be a very worthy addition given the proximity of the job site to the local community.

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ABI
EQUIPMENT
LIMITED

Paul Kelly Contracts Director at Dawson WAM Ltd says:-

“We have used ABI Mobilrams and Delmag piling rigs on projects for many years and always found them to be excellent. It is not often though that we’re working on a job site where we need to use them together.

The challenging ground conditions on site at West Ruislip and the close proximity to several railway lines meant that we needed to use both our ABI TM22 Mobilram and a Delmag rig. Each machine brought their own capabilities to the project, the Mobilram enabled the vibration free installation of the sheet piling, whilst the Delmag RH34 drilling rig coupled with its rotary tools were more than a match for the boulders that were found on site.”

