

SLIP ROAD IMPROVEMENTS

M3 MOTORWAY, JUNCTION 3 NORTHBOUND (2009)



Bam Nuttall Ltd awarded Dawson Contract Piling the contract to install 2 sheet pile walls parallel to the M3 motorway at junction 3.

This was for the modifications & improvements of the northbound slip road where a LNMS scheme involved bulk earthworks for provision of a new auxiliary lane leading to the existing slip road. In order for these works to be carried out DCP was to construct a 352m long retaining wall.

During the construction of the retaining wall DCP were required to comply with the access restrictions for plant

imposed by the client.

At the location of an existing footbridge over the motorway, DCP utilised the Push-Pull system 'Quiet & Vibrationless' as a solution for installing sheet piles that would not be detrimental to the stability of the bridge. Using the DCP specialised method of pile installation the safety of the public and the bridge were insured.

All works were carried out on time and to the satisfaction of the client.

Technical Specifications

The proposed method for installation of the sheet piles was using a fixed mast leader rig fitted with auger and vibro front end attachments to accommodate the ground conditions. The final part of the installation being carried out with the DCP Push-Pull system if required.

Stage 1 required the leader rig to be fitted with an auger and the pre-augering work to follow a proposed sheet pile line set out by BAM Nuttall.

The purpose of the pre-augering is to agitate and loosen the granular materials to the cohesive material and eliminate any requirement for water jetting.

Stage 2 replaced the auger drive on the leader rig with a resonance free vibrator. The piling

rig then positioned and partially install the piles through the previously agitated granular material and onto the cohesive material in preparation for the final push pull operation.

339off PU18-1 - 8m long

44off PU12 - 8m long

The final stage of the installation was carried out with the Push-Pull system 'Quiet & Vibrationless'. The front end attachment is changed from the resonance free vibrator to the DCP Push-Pull system, working in a sweeping motion from one end off the pile to the other until the piles are driven to level or refusal.



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