

CONCRETE PILE EXTRACTION

CARPENTERS ROAD, STRATFORD, EAST LONDON (2007)



Main contractor Edmund Nuttall awarded Dawson Contract Piling the contract to remove 14 single 5 metre long concrete piles, with a diameter of no greater than 450mm.

The concrete pile location was in the direct line of a new high mod wall being constructed for the London Olympic site. The site was situated on old industrial land.

Dawsons proposed to install an inner steel tube over the concrete pile with a special fabricated shoe - driven by means of a vibro and impact hammer to a level approx 1.5m below the existing toe level of the concrete pile. Once this has been completed a second outer steel tube is driven by means of a vibro / impact hammer over the inner steel tube to an acceptable level to allow access to the inner steel tube for extraction.

At this stage the skin friction is release from the outer

side of the inner tube and the inner tube is pulled out. The special fabricated shoe will assist in a plugging effect within the clay material resulting in the inner tube extracting the concrete pile in the process.

Extraction was successful and the piles once extracted had no value and needed to be broken up. The material, being dirty at best, was crushed and re-inserted in the hole left by the pile.

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Technical Specifications

The work was carried out using a SM 12/16 Piling rig with a resonance free vibro attachment to gently vibrate the inner and outer tubes into the initial position over the concrete pile. The final driving of the Ø578 O.D. 11m inner tube, and the Ø679 O.D. 11m outer tube to the required level to achieve the design plug strength, was achieved using a DCP HPH2400 hydraulic hammer suspended from a 70 ton crawler crane.

For the extraction the piling rig with vibro attachment is attached to the inner steel tube via a widow previously cut into the outer tube, with the outer steel tube remaining in situ.

The anticipated duration for the concrete pile extraction was 7/9 days and was achieved.

