

ABI Equipment Limited

Piling Equipment Specialists

Sales - Hire - Parts and Service - Project Support



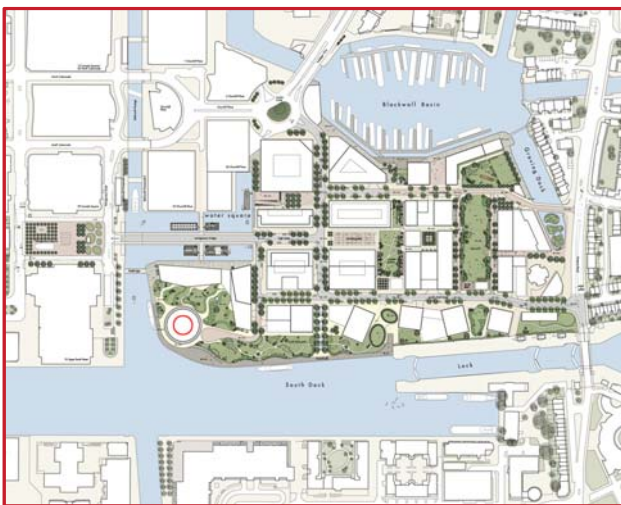
ABI Equipment Limited was asked to supply specialist piling equipment consisting of a Delmag RH28 drilling rig, complete with rotary head and Kelly bars, by piling sub-contractor Expanded Piling.

The piling works were part of the Canary Wharf Developers masterplan to extend their existing development to a site known as Wood Wharf and provide new residential and office property and other associated waterside community projects.

The piling works were carried out over a number of weeks between November 2015 and February 2016.

The project

The development will extend the Canary Wharf Estate to an adjacent site known as Wood Wharf. The project, Tower A1, will be a 57 storey cylinder building designed by Herzog and De Meuron, the Swiss designers who created the Beijing Olympics "Birds Nest" and the Tate Modern. The tower will provide 3,200 new homes and is due to be completed after the delivery of Crossrail in 2018.



Wood Wharf Building Piles

Main Contractor: Laing O'Rourke

Consultant: ARUP

Client: Canary Wharf Contractors Limited

Piling Contractor: Expanded Piling

Piling Equipment supplier: ABI Equipment Limited



Large Diameter bored piling

The piling contract comprised installing 91 rotary bored piles to form the foundations for the Tower A1. The pile diameter was 1500mm and the pile length was up to 24 metres.

The general soil conditions underlying the site were hydraulic fill, terrace gravels, Lambeth group (clays, sands and gravels) and Thanet sands.

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The piles were first drilled to the design depth. Bentonite support fluid was then pumped into the empty bore. A reinforcement cage was then inserted (with reservation tubes already attached). The pile was then concreted. In some perimeter piles, king posts (universal beams) were inserted into the concrete. This was to enable the pile to be propped to the combi-wall piles during the bulk basement dig (to ensure there was no movement in the combi-wall).

The day after pile construction the Tube a Manchettes attached to the steel cages would be opened and the pile base concrete cracked using water under pressure up to 20 bar. This left the pile ready for base grouting operations a day later. For base grouting, grout would be injected through the reservation tubes to the base of the pile in compliance with the Performance Specification requirement of minimum volume, pile uplift and residual pressure. All piles on the contract required base grouting to minimize settlement and enhance load-bearing capabilities.



The combi-wall piles were installed by ABI's Delmag RH34 piling rig on a previous contract during the summer of 2015



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