

Entertainment Venue, London

Driving of piles for the expansion of entertainment venue.



AARSLEFF

McLaren Construction awarded Aarsleff Ground Engineering the £352,000.00 design and build contract for the construction of a new cinema and retail development within The O2 Arena, a large entertainment venue on the Greenwich peninsula in South East London. The O2 Arena comprises 1.2 million sq ft of mixed leisure, containing a 22,000-person capacity music arena, 11-screen cinema and the UK's first Brooklyn Bowl.

The new development will enable a larger variety of cinematic experiences including new auditoriums with 4D, an IMAX-style screen, as well as a more independent-style auditorium. The new space will also be home to a designer outlet targeting premium and high street retailers and 24 national restaurant brands, in unused space within the area. The development will be one of the most significant at The O2 since 2007, when the former Millennium Dome was converted into one of the world's most recognisable concert venues.

Aarsleff's piling works commenced on the 5th October 2017 with a target duration of 4.5 weeks.

Scope of Works

384 No Driven Precast Piles
37 No Steel Tube Piles
21 No Access Restricted Piles

Location

Greenwich Peninsula,
London

Contractor

McLaren Construction

Equipment

Banut 700 Rig
Besoke Banut 500

Construction period

5th October 2017- 4th
November 2017



Specifically, Aarsleff's scope of work included the design to Eurocodes and installation of 384 No. 11m long 350mm diameter precast concrete piles and 37No. 18m long 339mm diameter steel tube piles driven by Aarsleff's Banut 700 (B17) piling rig. There were also 21No. 18m 340mm diameter 'access restricted piles' situated beneath 2No. Quadro-pods which had to be pitched in 4m segments and welded by Aarsleff on-site during installation. Due to the height restriction Aarsleff utilised their bespoke Banut 500 limited headroom piling rig to solve this issue. Prior to construction, Aarsleff carried out 4No. Static load tests to prove the piles could sustain the required loads on the project. Dynamic proof load tests were carried out on 8no piles, together with 2no CAPWAP analysis across the full extent of the site to prove the piles capacity to carry and/or resist loads.

Syed Ali, Aarsleff's Project Manager on the project said "Utilising piling rigs within The O2 Arena involved co-ordination between Aarsleff, McLaren's and management at The O2 Arena. Planning for deliveries to site and plant movement had been executed efficiently to minimise disruption and works required to enable access to specific parts of the site."

Contact

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Syed added "The project involved a high level of communication and organisation from management to site level throughout our works to ensure the success of the project. Our team remained focussed on maintaining safety precautions and quality of work in a difficult working environment. Overall this was a well-orchestrated performance by all parties involved".

Kevin Hague, Director said "Working on such an iconic London landmark is a huge badge of honour for Aarsleff Ground Engineering. Having worked with McLaren before on The Range (15,000 no piles for a 1.2 million sq ft warehouse), we are pleased to see their continued commitment and high degree of trust placed with us yet again."

Aarsleff Ground Engineering Ltd, is the UK trading arm of Danish contracting giant Per Aarsleff A/S, and is one of the UK's leading piling and geotechnical design and installation specialist contractors; actively promoting early consultation to ensure each scheme can be Value Engineered to give clients the best service, quality design, safety and value. Aarsleff's strategy and philosophy of investment into the future has resulted in its wholly owned subsidiary Centrum Pile Ltd having the most advanced precast pile production facilities in the UK, producing segmentally jointed precast concrete piles to BS En12794 to Class 1A.