

Mega Shed, Dartford

Driven pile foundations for a major online retailer's new warehouse



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Aarsleff Ground Engineering delivered the piling contract for a major online retailer's four-storey mega shed in Dartford, London. The warehouse will stand on a 45-acre plot at the 119-acre site of the old Littlebrook Power Station. Littlebrook Power Station was a series of four oil and coal-fired power stations situated on the south bank of the River Thames, next to the Queen Elizabeth 2 Bridge and the Dartford Tunnel in Dartford, Kent. The final power station, Littlebrook D, ceased operating in March 2015, and has now been demolished.

The project, awarded by ISG Retail, on behalf of developer Bericote Properties, commenced in May 2020, and saw Aarsleff install 2100 driven precast concrete piles and 750m steel tube piles to support the circa 2.3 million sq ft warehouse. Aarsleff utilised 3 Junttan piling rigs to assist with execution & a challenging programme.

Following the pre-boring works on site, Aarsleff identified over 900 obstructions in the ground. A significant number of these were excavated and were found to be old foundations. Also identified were heavily reinforced large diameter piles along with thick heavily reinforced slabs exposed at 2-4m depths across the entire site. Aarsleff worked alongside Pinnacle and ISG to orientate the new pile caps so they missed the obstructive areas on site. The groundworkers were able to

break out certain key locations which enabled Aarsleff to pile. Aarsleff had to review the piling strategy following the discovery of the obstructions. The working sequence had to consider obstructive areas and the working areas of the CMC rigs. Working collaboratively with Gallagher's, Pinnacle, Vibro-menard & ISG, Aarsleff Ground Engineering managed to effectively devise a construction sequence showing working areas of all trades on site.

Aarsleff's Senior Contracts Engineer Parth Patel said: "Due to the history of the site and extent of the multidiscipline foundation requirements, this was a job which we had to adapt to everyday on site in order to succeed in delivering an efficient project for the client."

The mega shed will be the online retailer's largest distribution centre in Europe to date, with the developer also committing to achieving a net-zero carbon building.

The overall scheme will transform this disused brownfield site into a new premium logistics park, bringing enhanced local infrastructure and significant employment opportunities to Dartford and strengthening its economic growth. Aarsleff's foundation works finished in the middle of July 2020 with overall completion expected in summer 2021.

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Data

- Preboring works down to 4m depth (2300No.)
- 2100No. driven precast concrete piles (300mm)
- 750lm steel tube piles (339mm)
- 7No. Static Load Tests
- 3% Dynamic Proof Load Testing

Developer

Bericote Properties

Principle Contractor

ISG Retail

Contractor

Aarsleff Ground Engineering

Construction period

May 2020 - July 2020

Equipment

X2 Junttan PMx22
Junttan PM20 HLC

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,

Contact

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