

# Leeds Logic Park

Multi-discipline ground engineering contract off the M1 in Leeds



**AARSLEFF**

Belper-based Bowmer & Kirkland and Muse Developments were awarded the contract to construct a 112,000m<sup>2</sup> state-of-the-art distribution hub for Premier Farnell - a global technology leader with over 80 years in the service distribution of technology products and solutions for electronic system design, production, maintenance and repair - and which is to be the largest ever warehouse development in the city. As the site was located to the north of the Wyke Beck and firmly within its valley, a substantial ground engineering scheme had to be put in place to facilitate the construction of the commercial development.

Aarsleff offered Bowmer's the option of a value engineered solution on several aspects of the substructure. It redesigned a large gabion wall into a slim 7.5m high soil nail retained slope - that involved the installation of 1,151 No. Soil Nails at between 6m and 13m in length. This removed 4.5m of excavation and saved six weeks on the overall construction programme.

Standard grouting works were also undertaken using Aarsleff's own Klemm KR 806-3G rig to facilitate the construction of a road - however, it added a series of consolidation grouting behind the soil nailed wall - totalling 2,000T in all. The client introduced an over dig below the toe of the wall, which was an extra 4.9m in places. Aarsleff therefore, designed the soil nail wall to continue to a greater

depth, whilst taking into account the reduction in capacity of the fill material in the long term. The grouting behind the line of the wall was therefore taken deeper to stabilise over the rig.

Aarsleff's newly purchased Klemm KR 806-3G rig is compatible for use with powerful double head drilling units, hydraulic drifters or rotary head, whilst the drive train is based on a 160kW diesel engine including SCR-only emission technology. The drill rig can be equipped with drill masts either with feed gear or cylinder feed systems with the option of fitting lattice mast extensions. The modularity of the drill mast allows the adaption of a variety of options which makes it universally applicable for anchoring, micro piling, jet grouting and of course drilling.

Aarsleff also offered a radically different approach to the original option on the actual foundations, which also saved the main contractor time. Due to the ground conditions comprising an overburden of fill overlying mudstones, Aarsleff proposed a driven piled solution as opposed to standard CFA piling and installed 1,199 No. 300mm square diameter precast piles to depths of between 6m and 14m and 210 No. 244mm diameter steel tubular piles down to between 8m and 18m in depth, using a combination of two rigs - a Junttan PMx22 and a Junttan PM20.



#### Data

- 1,151 No Soil Nails, 6-13M length
- 2,000 T Grout
- 1,199 No Driven Precast Piles, 300mm square diameter, 6-14m length
- 210 No Steel Tube Piles, 244mm diameter, 8-18m length

#### Client

Premier Farnell

#### Contractor

Bowmer and Kirkland

#### Type of contract

Subcontract

#### Construction period

26th Feb 2018 - 11th May 2018

#### Equipment:

Junttan PMx22

Junttan PMx20

Klemm KR 806-3G

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.

#### Contact

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