

Client:

Birse Metro on behalf of
Transport for London

Sector:

Rail

Services Provided:

SFA Piling

Location:

London

Value:

£550,000

Year:

2010



The Dalston Western Curve was an important part of the upgrade work for the East and North London lines in preparation for the Olympics. The new Dalston Junction station, which opened earlier in 2010, forms part of the East London Line extension, and the curve links it with Highbury and Islington station on the London Underground Victoria Line. Dalston Junction and the existing Kingsland station will now link to Stratford and the 2012 site.

The logistics of this scheme were very complex, on the site of an old railway with existing bridges supporting roads and buildings constructed above. The piling, required to support new walls that divide the north and south sections of the bridge, was one of the trickier aspects of the job and working in less than 5m of headroom, Van Elle piled to a depth of 19.25m.

Sectional flight auger piles were used with temporary casings in the top to retain gravel and water. The casings were removed once the concrete had been pumped into the pile bore. Due to the restricted access nature and the depth that Van Elle were drilling, we opted to use short masted Klemm rigs.

All of the single to three storey buildings in the vicinity were compulsorily purchased by TFL so these could be demolished as part of the scheme and the A10 (Kingsland High Street), supported by the bridge, was closed one lane at a time so as not to impact more than necessary upon commuters. This is why it was key that the piling went ahead, and was completed, within planned programme scales. Unfortunately, as Crossrail will eventually run beneath and there is a 10m deep intrusive limit in certain areas, the entire site could not be piled. Dave Warner said "In an ideal world, the platform would be the same as the finished pile level, but in this case, to allow Van Elle to physically get the rigs in, the platform was formed lower requiring each pile to be built up slightly."

Result

Understanding the timescales and restricted access, rail-specific issues involved on this project allowed Van Elle to utilise the best rigs for the job, maximising the effectiveness and efficiency of the piling despite the difficult working conditions. Birse Metro were very happy with Van Elle's proposed solution and the specialist advice we gave. The piling was a major part of this scheme which went on to be completed months ahead of schedule. Through careful planning, safe working and the relationship Van Elle built with the client/project team we were able to improve on the proposed time frame allowed for the piling and testing. The project value to Van Elle was £550k.

