

Epping Forest Retail Park

Loughton, London

This was a project where two Keller UK divisions worked together to provide a value solution for the client. Keller foundations provided vibro treatment while Phi Group built the retaining walls on site.



The project

The scheme comprised a large retail park. Retaining structures were required to provide retention to the service yard access road, where the original levels fell by some 6.5m at the rear of the site.

The challenge

The rear of the site was underlain by a wedge of fill materials up to 7.5m thick towards. In turn this is underlain similarly with a wedge of alluvial deposits as the site lay within the Roding Valley, a tributary of the Thames. The alluvium increased in thickness along the back of the retail buildings. Our challenge was to support the proposed development in these variable and difficult ground conditions.

The solution

A combination of the Top Feed and Bottom Feed Vibro processes using Keller depth vibrators were deployed to suit the varying ground conditions across the site. This approach was used to support both the retaining walls, as well as the foundations and floor slabs of the retail buildings with treatment depths ranging from 3.1 to 7.7m. The reformed profile to the rear of the site was achieved efficiently using a Phi Textomur green faced reinforced soil slope, and a Titan modular block faced reinforced soil structure, retaining up to some 6.5m height. The treatment was designed to enhance the settlement and bearing capacity characteristics of the ground to give control of future settlement to less than 25mm and allowable bearing capacities in the range of 30 to 150kN/m², all designed to Euro Code EC7.

Project facts

Owner(s)

Polofind Ltd

Keller business unit(s)

Keller UK/Phi Group

Main contractor(s)

McLaughlin & Harvey

Solutions

Bearing capacity / settlement control
Slope stabilisation

Markets

Commercial

Techniques

Vibro stone columns

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