

PIPE INSTALLATION BY GUIDED AUGER BORING | CASE STUDY

PROJECT CLIENT:
YORKSHIRE WATER

PIPE DIAMETER:
DN300

MAIN CONTRACTOR:
BARHALE CONSTRUCTION LIMITED

PIPE MATERIAL:
VITRIFIED CLAY

LOCATION:
CHESTERFIELD DERBYSHIRE

PROJECT OVERVIEW

A Yorkshire Water project titled Derby Road contract No LTD065 required the installation of a foul and surface water drain to connect a new housing development to an existing Yorkshire Water network.

The design required the installation of 400 metres of Naylor Denlok DN300 NC vitrified clay jacking pipes passing through the former Avenue coking works in Chesterfield. During the remediation of the Avenue site, soil containing hydrocarbons, asbestos and other inorganic compounds had been placed at depth along the route of the proposed drains.

DESCRIPTION OF WORKS

The design split the two drains in to 100 metre sections with each drive approximately 6 m bgl. The four drives were to be installed from a 2 No 3.6 diameter caisson drive shaft with 360° thrust wall to support the expected loads which would occur during the installation process. Following the installation of a 100 metre drive the machine was rotated 180° and a second drive of 100 metres was installed from the same shaft.

Drive 1 and 3 had to pass beneath the housing development access road, through land where all the tress had protection orders and below 3 No HV cables which supplied the electricity to the commercial and domestic buildings of the Wingerworth area of Chesterfield. Drive 2 and 4 were to pass total through the remediation site soil which containing hydrocarbons, asbestos and other inorganic compounds, requiring all operatives to wear protective personal equipment which was suitable for the ground conditions.

AWL used its own GAB155v guided auger bore machine with optical electronic navigation for all the required drives. Following the installation of each drive the section was tested in accordance with EN1610. The project was classified as essential work so not only did AWL operatives have to contend with the contaminated ground but also with the corona virus issues. By all parties involved in the project working to clear H & S guidelines allowed the site to remain open through out and the construction of the two pipelines to be completed for the benefit of the local residents.



CLIENTS REMARKS

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Yorkshire Water's Project Manager, John Bond, comments: "This was an incredibly challenging scheme requiring large lengths of auger boring to be done in difficult ground conditions. We approached specialists, Allen Watson, who provided an excellent service from start to finish and look forward to working with them on similar projects in the future where trenchless technology benefits our customers".

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