PIPE JACKING CASE STUDY

Greenlaw Park II Project

PIPE JACKING ASSOCIATION

www.pipejacking.org

PROJECT	Greenlaw Park II Project
CLIENT	Sir Robert McAlpine Management
CONTRACTOR	A E Yates Trenchless Solutions Ltd
TUNNELLING MACHINE	Herrenknecht 1500 AVN & 1800 MH3
VALUE	£2,032,865

PROJECT OVERVIEW

A new foul and surface water sewerage network was required to facilitate a residential development at Greenlaw Park, near Glasgow. Wide-ranging enabling works and infrastructure improvement was also required to include the roads network and re-routing high voltage overhead cables to run underground.

DESCRIPTION OF WORKS

Three 6500mm diameter shafts ranging from 8 to 12 metres deep were constructed to provide the drive and reception pits for two pipe jacks.

The first pipe jack, 1500mm diameter and 240 metres long was installed using a 1500 Herrenknecht AVN fitted with a rock head to drive through extremely strong basalt along its entire length. The shafts were constructed in rock and pre-split using explosives. This required very low vibration levels to be achieved to prevent any damage to existing domestic properties and Network Rail infrastructure.

The second tunnel was constructed using a Herrenknecht MH3 backacter to install 160m of 1800mm diameter steel banded concrete jacking pipes. This drive passed through a predominantly clay soil with some rock outcrops encountered in isolated sections.

On completion of the drives the shafts were converted to become the permanent manholes and dry weather flow channels and secondary foul pipes were installed in all tunnels.