

# PIPE JACKING CASE STUDY

## Belfast Sewers Project



[www.pipejacking.org](http://www.pipejacking.org)

PROJECT	Belfast Sewers Project
CLIENT	Northern Ireland Water
CONTRACTOR	Morgan Farrens JV
PIPE SUPPLIER	F P McCann
TUNNELLING MACHINE	1500 Iseki Unclemole
VALUE	£5.8 million



### PROJECT OVERVIEW

As part of a project to upgrade the Belfast sewage system, a new treatment plant was constructed towards the coast, downstream of the city. A new network of tunnels was required, running across the length of the city, to connect the existing system to the new works. This network was mainly constructed as a segmental tunnel using large diameter EPB TBMs. At the upstream end of the works, pipejacking was used to deliver a 1950mm internal diameter and minimise disruption, as the line of the tunnel crossed a golf course. One subsidiary leg was required to cross the River Lagan at a depth of 20 metres below river level and to connect with the existing sewerage system to the south of the river. This leg was only required to be at 1500mm internal diameter.

### DESCRIPTION OF WORKS

1.5km of 1950mm id pipejack was constructed across the golf course, in 5 drives, with 3 drives radiating from a single 7.5m id segmental shaft. Excavation was in clay with a large number of boulders.

A 200-metre long pipejack, at 1500mm diameter, was constructed between two segmental shafts, sunk as caissons, located on each bank of the river. The strata excavated were soft clays and running sands under 2 bar pressure

FURTHER INFORMATION: [www.construction.morgansindall.com](http://www.construction.morgansindall.com)

