

Almost Without a Trace

Microtunneling HOBAS® CC-GRP Pipes in Rome, IT

Farnesina is one of Rome's central quarters and is situated on the right bank of the Tiber River. With La Farnesina as headquarter of the Italian Foreign Ministry the area is home to the ancient Milvio Bridge (109 a.c.), two meaningful sports facilities, namely the Olympic stadium and the Foro Italico, but also the junction of the 2 most important roads: The Cassia and the Flaminia.

For wastewater disposal, the municipality of Rome designed a sewer bypass in Farnesina, which runs between two already established concrete DN 3500 collectors. Totalling a length of 320 m, the line was planned with a nominal diameter of 1400 mm.

Disruptions through works on site were to be kept to a minimum, so that the densely populated area would be able to keep up its busy flow, especially during sports events when thousands of visitors gather in the area. The trenchless solution microtunneling was chosen for installation. Apart from being non-disruptive it also kept the construction site comparably small.

SAFAB Spa., a renowned Italian contractor specialized in hydraulic applications was assigned for the job and worked in close cooperation with the company La Falce Spa., whose no-dig know-how is based on 50 years experience.

The tunnel was prepared with a slurry pipe and a so-called MTBM, a Microtunneling Boring Machine featuring a laser guidance control systems. Driving through different layers of soil, such as clay, sand and gravel, a daily advance of 6 to 15 m could be achieved.

The planned line consists of two straights (135 and 185 m) that are connected in a 60° angle with a manhole for access and inspection. The project's main jacking station was erected at this interconnecting point. It was designed as circle with 9 m diameter enabling drives in the two required directions from one single site. Two thrust shields were built to keep the relatively light machine, which was simply rotated to the right position, in place. The first stretch of 135 m was excavated with the thrust from the main station, whereas the longest stretch of 185 m had to be driven with an intermediate jacking station.

HOBAS CC-GRP Jacking Pipes DN 1400 with an external diameter 1,499 mm and a weight of 415 kg per meter were utilized for this project and allowed thrust forces up to 3476 kN. Thanks to the products' smooth outer surface and comparably small wall thickness, it was possible to reduce the amount of slurry as well as excavation material. In fact, it limited the use of bentonite based lubricant to the final sections of both drives and sped up the installation rate considerably. Also the standard pipe length of 6 m and the light weight of HOBAS Products proved to be highly advantageous, for these contributed to reducing installation cost while once again shortening installation times.



Fmd: hobas.italy@hobas.com

Year of Construction	2008
Total Length of Pipe	320 m
Pressure Class	PN 1
Stiffness Class	SN 32000
Diameter	DN 1400
Installation Method	Microtunneling
Application	SewerLine®
Client	SAFAB Spa
Main Contractor	ACEA ATO 2
Advantages	optimal hydraulic properties, low drive costs, less slurry, high installation rate, leak tight connections, practical standard pipe length, low weight, light material