Project Profile: MICROTUNNELING

BRADSHAW CONSTRUCTION CORPORATION
TUNNELING SPECIALISTS

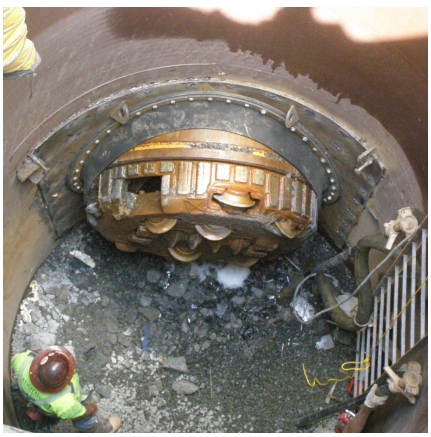
42 Inch Force Main - 6th and Canal Pump Station PS to Angelica Creek
Reading, PA



PROJECT OVERVIEW AND CHALLENGES

Bradshaw constructed (2) shafts, (1) 9 foot diameter receiving shaft and (1) 30 foot diameter launching shaft for mining 436 linear feet and installing 60 inch steel casing by microtunneling for a 42 inch ductile iron force main under Schuykill River. Due to the possibility of contaminated groundwater and the need to minimize dewatering on the shaft excavation, it was necessary to install secant piles as the support of excavation on the 30 foot launch shaft. Secant piles were selected in lieu of steel sheeting due to the presence of dolomite in the bottom of the shaft. The tunnel was mined through mixed face, mixed reach conditions, ranging from a full face of gravel to a full face of 34,000 psi dolomite. Major challenges on the project included management of the mixed face conditions under the river, the installation of the secant piles in the dolomite, and the recovery of the microtunnel machine in the drilled shaft.





PROJECT INFORMATION - 523

OWNER:
City of Reading
Purchasing
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ENGINEER:
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CONTRACTOR:
Pact Construction, Inc.

COMPLETION DATE:
6/11/2013

GEOLOGY:
Silty Sand, Rock Fragments, Dolomite

EXCAVATION METHOD:
Herrenknecht AVN-1200TC MTBM

MINING DIMENSIONS:
436' x 60" Ø

FINAL LINING:
42" Ductile Iron Pipe

FOR MORE INFORMATION:
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Refer to Project 523