Project Profile: SHAFT CONSTRUCTION

BRADSHAW CONSTRUCTION CORPORATION
TUNNELING SPECIALISTS

Improvements to Lower Gwynns Runs Interceptor, Phase II
Baltimore, MD

PROJECT OVERVIEW AND CHALLENGES

Bradshaw constructed six shafts in downtown Baltimore City for 2,553' of 36" gravity sewer installed in rock by TBM (gneiss up to 37,000 psi). In addition to providing tunnel access, the shafts were used to install new sewer manholes and connections to the existing system. The 16' & 24' diameter shafts (depths ranged from 18' to 57') were supported by steel ribs & wood lagging in the soft ground and rock bolts & shotcrete in the rock. Blasting was used to excavate the rock through this populated residential and commercial area of Baltimore, which included Amtrak and Norfolk Southern Railroads. The sixth shaft, 32' in diameter and 27' deep, was used for TBM recovery and connection to the existing 33" sewer through the construction of a cast-in-place junction chamber. It also contained multiple existing utilities that could not be removed from service and had to be supported during all operations, preventing rock blasting for excavation.

PROJECT INFORMATION - 540

OWNER:
City of Baltimore
Department of Public Works
Joseph Belardo
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ENGINEER:
Dewberry Consultants, LLC
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CONTRACTOR:
Bradshaw Construction Corporation

CONTRACT VALUE:
$11,905,600.00

COMPLETION DATE:
11/23/2015

GEOLOGY:
Baltimore Gneiss

EXCAVATION METHOD:
Drill & Blast

MINING DIMENSIONS:
4EA @ 24'x31VF, 42VF, 57VF &18VF, 16'x49VF, & 32'x27VF

FINAL LINING:
Rock Bolts / Shotcrete
Rib & Board

FOR MORE INFORMATION:
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Refer to Project 540