Project Profile: HAND TUNNELING

BRADSHAW CONSTRUCTION CORPORATION
TUNNELING SPECIALISTS

Myrtle / Morehead Storm Drainage Improvements, Phase 1
Charlotte, NC



PROJECT OVERVIEW AND CHALLENGES

Bradshaw constructed a 13’ horseshoe shaped tunnel 20’ under Morehead Street in downtown Charlotte, NC. The 150’ long was tunnel part of a storm drainage improvement project. The tunnel was designed & constructed using the sequential excavation method (SEM), a hand mine technique using reinforced shotcrete for initial tunnel support. Portions of the tunnel were in mixed face conditions, soil materials deposited over rock. These reaches were advanced by excavating and extending the initial shotcrete lining over the top of the rock and then blasting the rock under the safe canopy of the shotcrete arch. The tunnel crossed safely under 20 buried utilities including a 54" PCCP water main only 2 feet above the initial lining. The maximum surface settlement was 0.5". Bradshaw finished the tunnel by installing a 90" diameter RCP pipe in the tunnel and grouting it in place.





PROJECT INFORMATION - 546

OWNER:
City of Charlotte
Tim Canup
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ENGINEER:
Woolpert
Chip Smith
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CONTRACTOR:
Sanders Utility

COMPLETION DATE:
5/19/2015

GEOLOGY:
Residual Soils, PWR, & Granite Rock

EXCAVATION METHOD:
Hand Mine

MINING DIMENSIONS:
150' x 13" Ø

FINAL LINING:
90" Reinforced Concrete Pipe

FOR MORE INFORMATION:
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Refer to Project 546