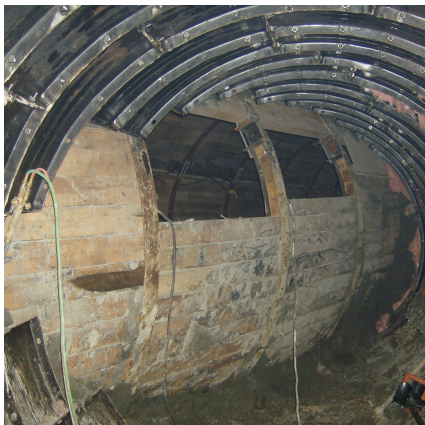


Battery Park Trunk Sewer Tunnel Richmond, VA



PROJECT OVERVIEW AND CHALLENGES

As part of a new 3,400' by-pass sewer tunnel, Bradshaw also hand tunneled a total of 200' of 96" liner plate for a 72" fiberglass storm sewer pipe. Each hand tunnel intersected the 144" rib and board tunnel for underground Y connections or was combined in three way manholes at the shafts. Just as for the primary by-pass tunnel, other major challenges were the extremely accelerated schedule, solid waste from the City dump that crossed the tunnel, and constant risk of flooding during operations until the new pipeline was put into service. Bradshaw's value engineering saved the owner \$1.8 million.



PROJECT INFORMATION - 457

OWNER:

City of Richmond
Department of Public Utilities
Robert Stone, Project Manager
804.646.8557
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ENGINEER:

Greeley and Hansen Engineers
Kurt Stykemain
804.355.9993
kstykemain@greeley-hansen.com

CONTRACTOR:

Bradshaw Construction Corporation

CONTRACT VALUE:

\$23,698,300

COMPLETION DATE:

4/16/2008

GEOLOGY:

Miocene Clay, Solid Waste

EXCAVATION METHOD:

Liner Plate by Hand Tunneling

MINING DIMENSIONS:

200' x 96" Ø

FINAL LINING:

72" FRP

FOR MORE INFORMATION:

Todd Brown, Project Manager
410-970-8300
TBrown@Bradshawcc.com
Refer to Project 457