

## Hillen/Ashburton Plant Bypass Pipeline Baltimore, MD



### PROJECT OVERVIEW AND CHALLENGES

Bradshaw hand mined 50 feet of 108 inch liner plate for a 66 inch PCCP sewer and an 8 inch DIP water main under the CSX Railroad. Ground conditions were residual soils of silts, sands and boulders and required hand mining techniques of face breasting and crown fore poling. Bradshaw also installed a 12' x 24' mining shaft. The key challenges were the boulder ground conditions, proximity to the railroad right of way and steep access road to the shafts.



### PROJECT INFORMATION - 412

**OWNER:**

Baltimore City  
Department of Public Works  
(410) 396-3310

**ENGINEER:**

Whitman, Requardt & Associates  
Chris Thompson  
(443) 224-1735

**CONTRACTOR:**

Metra Industries

**COMPLETION DATE:**

2/23/2004

**GEOLOGY:**

Residual soils - Micaceous silt, sand  
and boulders

**EXCAVATION METHOD:**

Hand Tunneling

**MINING DIMENSIONS:**

50' x 108" Ø

**FINAL LINING:**

66" Prestressed Concrete Cylinder  
Pipe  
8" Ductile Iron Pipe

**FOR MORE INFORMATION:**

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Refer to Project 412