

## Ellwood Water Treatment Plant Wampum, PA



### PROJECT OVERVIEW AND CHALLENGES

Bradshaw completed two 75" OD microtunnels with a length of 480' and 523' and one 60" OD microtunnel with a length of 530'. Two of the tunnels were microtunneled from a 150' deep shaft and passed under Norfolk Southern railroad right of ways while the third tunnel passed under the CSX railway right of way. The jacked tunnels used Permalok steel casing, except within the railroad right of ways, where welded steel casing was used. We were able to perform the work within the specified duration despite numerous obstacles such as mining through a pile of railroad timbers that had been buried in the past. In order to facilitate the overall project schedule, we proceeded with two of the tunnels before the recovery cofferdams were completed. This Bradshaw microtunnel project was nominated for the NUCA project of the year award.



### PROJECT INFORMATION - 569

**OWNER:**

Pennsylvania American Water  
Company  
Scott Thomas  
717-691-2120  
scott.thomas@amwater.com

**ENGINEER:**

Buchard Horn & Gannett Flemming  
Brent Bakner & Matt Carnish  
717-852-1434 & 717-763-7211  
bbakner@bucharthorn.com &  
mcarnish@gfnet.com

**CONTRACTOR:**

Reynolds Construction, LLC

**COMPLETION DATE:**

11/15/2018

**GEOLOGY:**

Sandstone

**EXCAVATION METHOD:**

Herrenknecht AVN-1500 MTBM

**MINING DIMENSIONS:**

523', 478' x 75" Ø & 530' x 60" Ø

**FINAL LINING:**

24" Ductile Iron Pipe (bundled)  
2" Polyvinyl Chloride Pipe & 2"-4"  
Stainless Steel (bundled)

**FOR MORE INFORMATION:**

Mike Wanhatalo, Project Manager  
410-970-8300  
mwanhatalo@bradshawcc.com  
Refer to Project 569