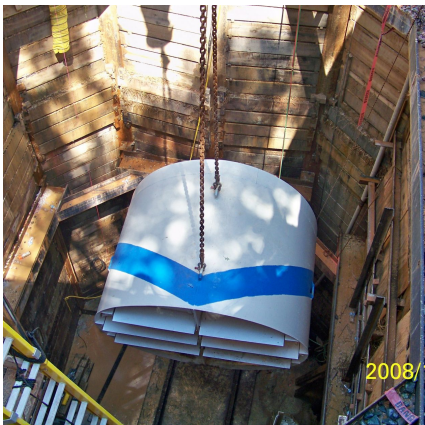


## Abingdon WTP Expansion Abingdon, MD



### PROJECT OVERVIEW AND CHALLENGES

Bradshaw Construction successfully completed a TBM Tunnel using an Akkerman Digger Shield and 114"Ø Rib & Board Supports under Interstate 95 for the Abingdon Waste Water Treatment Plant. With the key goal of minimizing potential settlement of I-95, the tunnel size was reduced from a plan diameter of 144" to 114". However, the size reduction increased the challenge of installing the Ductile Iron Pipe and PVC Conduits in the smaller area. Bradshaw was able to meet the goals and challenges of the project resulting in essentially no settlement of the highway, and the pipe and conduit installation was completed on schedule. This tunnel was part of the project that was awarded the Engineering News-Record Civil Works/Infrastructure Award of Merit. See ENR Issue 12/10/12 for more information on the Award.



### PROJECT INFORMATION - 477

#### OWNER:

Arcadis US Inc.  
Construction Manager  
Oscar Toledo  
(410) 381-1990  
otoledo@arcadis-us.com

#### ENGINEER:

Hazen & Sawyer  
Aaron Duke  
(410) 539-7681  
aduke@hazenandsawyer.com

#### CONTRACTOR:

Pizzagalli Construction Company

#### COMPLETION DATE:

9/24/2009

#### GEOLOGY:

Soft Ground

#### EXCAVATION METHOD:

Akkerman Digger Shield BS96C

#### MINING DIMENSIONS:

372' x 114" Ø

#### FINAL LINING:

48", 36", 12" Ductile Iron Pipe  
6" PVC Pipe

#### FOR MORE INFORMATION:

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410-970-8300  
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Refer to Project 477