

## Virginia General Assembly Building Pedestrian Tunnel Richmond, VA



### PROJECT OVERVIEW AND CHALLENGES

Construction for the new Virginia General Assembly Building in Richmond, included a pedestrian tunnel under 9th Street to connect a new parking garage. Bradshaw proposed a SEM tunnel for the passage that was accepted by the Owner. The tunnel excavation was 21.08' wide x 15.10 high and excavated by header & bench under 12' of cover. Groundwater was about 22' below the pavement. 4 dewatering wells were used to lower the groundwater near invert. Reinforced shotcrete was used for initial & final lining with a water barrier of PVC below springline & spray-on waterproofing above springline sandwiched between shotcrete applications. The alignment crossed under 16 existing utilities including a 16" clay pipe sewer running through the shotcrete roof initial lining. Settlement in 9th Street ranged from 0.04 to 0.09 feet with no damage to existing utilities.



### PROJECT INFORMATION - 592

#### OWNER:

State of Virginia  
Department of General Services

#### ENGINEER:

Aldea Services  
Robert Goodfellow  
301-355-9703  
rgoodfellow@aldeaservices.com

#### CONTRACTOR:

Gilbane Construction Co.

#### COMPLETION DATE:

9/1/2019

#### GEOLOGY:

Alluvial sand & gravel below  
groundwater

#### EXCAVATION METHOD:

SEM

#### MINING DIMENSIONS:

21.08' W x 15.10' H

#### FINAL LINING:

Reinforced shotcrete

#### FOR MORE INFORMATION:

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Refer to Project 592