

## Firm Profile

Hassan Water Resources, PLC, (HWR) is a Virginia, West Virginia, North Carolina, and Washington, DC, certified DBE and SWaM professional limited liability company specializing in Water Resources engineering consulting services. HWR was established in 2007 and is located in Maidens, Virginia, in Goochland County.

We are committed to performing our services with integrity, ingenuity, innovation, quality, and environmental sensitivity.

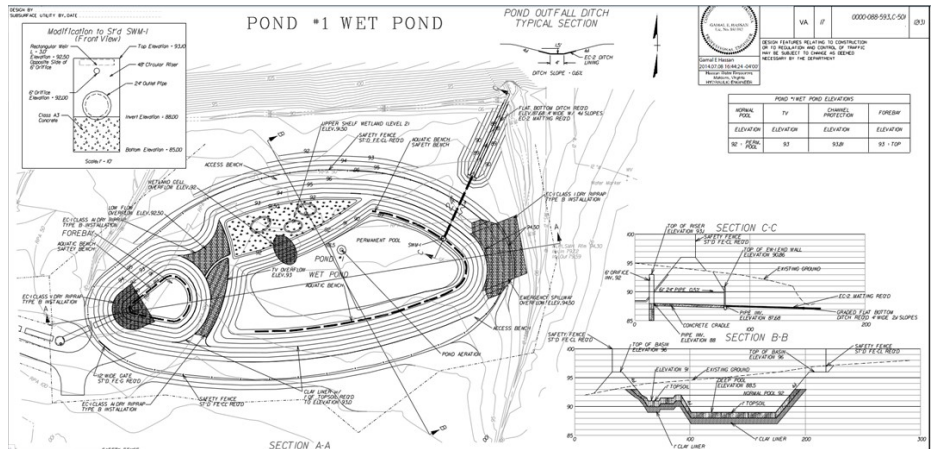
HWR's technical expertise is in the fields of Hydrology and Hydraulic Analysis including Watershed Modeling, River Hydraulics and Floodplain numerical modeling, Scour Depth Analysis and Scour Countermeasure Designs. In addition to Roadway Drainage system designs, Stormwater Management and Water Quality designs. Furthermore, HWR utilizes state-of-the-art complex waterway and sediment transport numerical modeling simulations to provide innovative practical solutions to infrastructure and transportation projects.



Western Wilson Bridge Project over Pamunkey River  
 WATER, Bridge Mechanics, Hydraulic Models, and Bridge Scour

## Technical Capabilities

HWR is specialized in GIS integrated hydrologic and hydraulic analyses to expedite the development and delivery of watershed and floodplain modeling and studies, flood hazard and FEMA flood studies, and river mechanics hydraulic modeling and scour depth analysis. Particular expertise are in riverine and inner-costal numerical modeling including complex 2- dimension hydrodynamic simulations, fluvial and tidal geomorphology, bridge and culvert hydraulics, scour depth analysis, and scour countermeasure and river training designs.



HWR utilizes several stand-alone and GIS-integrated software computer programs to maximize efficiency and optimize project time schedule. Examples of computer program applications include TR55, HEC-HMS, HEC-RAS 5.0.7, WMS 10.1 (Watershed Modeling System, FHWA), SMS 12.1 (Surface Water Modeling System, FHWA), SRH-2D, and TUFLOW.