

SESSION 9 | WATER AND WASTEWATER

BERKS COUNTY WATER AND SEWER ASSOCIATION  
VIRTUAL CONFERENCE | JULY 29, 2020

CASE STUDY OF CONSTRUCTION DURING COVID-19  
RALPH JOHNSON, PE



SPOTTS | STEVENS | MCCOY  
Engineering, Surveying and Environmental Services  
[ssmgroup.com](http://ssmgroup.com)

# WBWA Raw Water Line Project

- In the 1970s, WBWA was created in conjunction with the construction of the Blue Marsh Dam on the Tulpehocken Creek by the U.S. Army Corps of Engineers.
- The dam outlet structure includes a 48" pipeline which terminates approximately 120 feet downstream from the toe of the dam itself.
- The pipeline was originally intended to be extended to the WBWA Water Treatment Plant (WTP) on WBWA property, approximately 4,000 feet downstream from the pipe terminus.
- However, the extension of the raw water pipeline did not occur during construction of the Blue Marsh Project due to financial constraints.





Area to be cleared

Army Corps notice of restricted area



# WBWA Raw Water Line Project

- Since 2011, WBWA has been planning a project to achieve the original concept of delivery of raw water from Blue Marsh to its treatment facility, by piping water from the pre-existing 48" pipe downstream of the dam breast, across USACE property, to the WBWA water treatment plant.
- After an engineering study and analysis, WBWA proposed a pipeline route along the west side of the Tulpehocken Creek. The pipeline would run approximately 4,000 feet generally parallel to the Creek, to the WBWA property.
- This decision was made to avoid two stream crossings and to avoid installing pipe in known wetland areas along the eastern side of the Creek. The original route was the first proposed route leading from the dam to the treatment plant.



# Permitting Challenges

- Because the pipeline will run through Federal U.S. Army Corps of Engineers property (the Blue Marsh Recreation Area), many permits, permissions, and environmental assessments were required by the National Environmental Policy Act (NEPA).
- A PaDEP/USACE Joint Permit had to be obtained to allow the pipeline to be constructed partly in the floodway of the Tulpehocken Creek.
- Other reviews and approvals from the Delaware River Basin Commission, PaDEP, soil conservation, Fish & Boat, and Fish & Wildlife were also required for the project.
- WBWA also had to obtain easements from the USACE Real Estate office in Baltimore for access, construction, and future maintenance.





Clearing and grubbing right-of-way



Access Road



## Permitting Challenges

- Due to the length of time it took to obtain the easements and resolve other concerns from the Army Corps, Western Berks needed to update the Joint Permit, which required an updated Environmental Assessment, including wetlands delineations.
- Additional wetlands were found along the proposed route, because of flooding from major rain events in the recent past.
- These new “wetlands” required some re-design of the route and updating of environmental permits. In order to continue the project, PaDEP issued an Emergency Permit for construction to remain on course while the Joint Permit major modification was compiled and reviewed.





Installing 30-inch pipe



Installation of 30" gate valve





# Construction Challenges

- The construction sequence first entailed clearing and grubbing, where special procedures had to be developed to reduce the spread of Tree-of-Heaven and spotted lanternfly.
- Since the pipeline is gravity-fed from the dam to the plant, any changes to the design must be carefully considered for impacts to the required water pressure.
- Requests for design changes from the contractor have also lengthened the original construction timeframe.
- Some of the construction areas have also required the closing of portions of Blue Marsh's recreation areas.





Checking grade level



Uncovering the 48" blind flange



## COVID Complications

- The original “shutdown” in Pennsylvania also prevented construction from inclusion as “life-sustaining operation”. Western Berks Water Authority was required to apply to the governor for an exemption to continue the project.
- Communication with all the involved organizations was much more difficult with remote working, which included the Army Corps, Contractor, Western Berks staff, and the SSM Project Team.
- Because many operations were shut down or had reduced labor, ordering equipment and materials substantially increased fabrication and delivery times.





**Thanks for joining us!**  
Download the slides at [ssmgroup.com](https://ssmgroup.com)

**RALPH JOHNSON, PE**

Vice President, Water and Wastewater  
Engineering and Operations  
Direct: 610-898-3048

[Ralph.Johnson@ssmgroup.com](mailto:Ralph.Johnson@ssmgroup.com)

**CONNECT WITH US.**



@ssmgroup