

Water Beyond 2000

Upground Reservoir Project

Raw Water Pipeline

Pipeline Function

The raw water pump station, the three proposed reservoirs and the Scioto River must be linked together by a network of pipelines and control valves. Several alignment options were evaluated during preliminary design. The overall pipeline size, length and alignment were dependent upon several factors, including, but not limited to, the following:

- topography
- subsurface conditions
- right-of-way availability
- roadway reconstruction requirements/constraints
- impact to general public and local traffic.

Pipeline Alternatives associated with Pump Station at Site 1, Hoskins Road Area.

The northern portion of this pipeline alignment would function to fill the reservoirs, as well as to release water for water supply purposes and provide an emergency release from the reservoirs. The pipeline would ultimately terminate at the city's riparian rights corridor near the Fry Road intersection. Two alignment options were evaluated.

Eastern Alignment Alternative, Option 1B

- This option is the most direct alignment between the reservoirs and the desired discharge location
- Total length of this alignment has been approximated at 54,200 linear feet
- In the vicinity of the reservoirs, the majority of the pipeline would be constructed on city-owned land
- South of Smokey Road, the pipeline would have to be constructed within ODOT right-of-way or permanent easements along State Route 257
- A 4000 foot segment of deep tunnel would be required in the vicinity of White Sulphur
- A 72-inch diameter pipeline is needed for the northern segment of the pipeline
- A 66-inch pipeline is needed for the pipeline segment south of the Del-Co property
- A release and outlet structure would be constructed adjacent to the Scioto River near Fry Road.

Western Alignment Alternative, Option 1F

This option has a western alignment between the reservoirs and the Del-Co Site. South of the Del-Co Site, the pipeline alignment sections remained as above.

- Total length for this alignment has been approximated at 56,500 linear feet
- Approximately 22,500 linear feet of pipeline length could be removed from the ODOT right-of-way along SR 257.
- The same tunneling requirements, pipeline sizes and release structure location as Option 1B

Pipeline Alternatives associated with Raw Water Pump Station at Site 2, Mill Creek Area.

With this alternative pump station location, the pipeline would have capability to "fill" the proposed reservoirs at the desired pumping rate as well as "release" the water to meet the supply requirement for the city.

- The pipeline routings for this alternative are consistent with those proposed for the Hoskins Road Area Pump Station site, with variations to the southern segment to provide access to the pump station location.
- Total length for this alignment would be over 80,000 linear feet
- A 72-inch pipeline is needed for the entire length for all options with this pump station location.
- The release and outlet structure would be constructed adjacent to the Scioto River near Fry Road.

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Preferred Pipeline Alignment

Siting of the Pump Station near Hoskins Road and Pipeline Option 1B was found to be the preferred system arrangement.

Construction Timelines, Routes and Cost Estimates

A phased construction plan for the raw water pipeline has been developed to allow the City to develop the reservoir water supply and have it available for use within the next three years. This plan also provides a means for Columbus to use this needed water supply during the time period required to secure the needed easements and occupancy permits from the Ohio Department of Transportation for construction of the remaining portions of the pipeline.

Phase 1 Raw Water Pipeline, (*Construction Anticipated July 2007 to April 2009*)

This segment of pipeline will be constructed on City owned property and in easements along Hoskins Road between SR 257 and Mooney Road, and along Mooney Road between Hoskins Road and Smokey Road.

This project has an estimated construction cost of \$11.8 million, and includes 21,500 feet of 72-inch raw water pipeline, which links the Hoskins Road Area Raw Water Pump Station and all three reservoir sites. The pipeline will serve to fill any of the three reservoirs, and provide an initial point to release the stored supply back to the Scioto River at the pump station site as needed to meet City of Columbus water customers demand.

Phase 2 Raw Water Pipeline, (*Construction milestones yet to be established*)

This segment of pipeline will be routed along SR 257 between Hoskins Road and the site of a future Del-Co Water Company plant, located off SR 257 south of Donovan Road.

This project has an estimated construction cost of \$11.6 million, and includes 22,500 feet of 72-inch raw water pipeline to convey 8 MGD of the stored supply from any of the three reservoirs to the Del-Co water plant site. The pipeline will be constructed on properties owned by the City of Columbus and Del-Co Water Company, as well as in easement along the roadway corridor of SR 257.

A release facility structure will be constructed on Del-Co Water Company property to provide a point of release of the stored supply back to the Scioto River to meet City of Columbus water customers demand.

Phase 3 Raw Water Pipeline, (*Design activities and Construction milestone not yet established*)

When constructed, this segment of pipeline will run in permanent easements and along SR 257 between the Phase 2 Raw Water Pipeline project terminus south of Donovan Road and the desired location for the release facility structure at the O'Shaughnessy Reservoir near Fry Road.

This project has an estimated construction cost of \$22.6 million and includes 39,000 feet of 66-inch of raw water pipeline, with a 4000 foot segment of this pipeline in the vicinity of White Sulphur that must be constructed using deep tunnel installation methods. Construction of this segment will require extensive right-of-way acquisition and coordination with ODOT to secure occupancy permits for its project length.



City of Columbus
Michael B. Coleman, Mayor

Contact Information:

City of Columbus, Department of Public Utilities
910 Dublin Road
Columbus, Ohio 43215
www.columbusupgroundreservoirs.com

Please submit your comments on the project at:
upgroundrescomments@columbus.gov