

Water Beyond 2000

Upground Reservoir Project

Raw Water Pump Station

Pump Station Function

A raw water pumping station will pump raw water from the Scioto River into the reservoirs to fill them and to maintain their water levels. The pumping station located adjacent to the Scioto River will be used during those periods of the year when flow in the Scioto River is elevated.

The pump station will be designed to:

- Fill the reservoirs following construction
- Replace water lost from seepage & evaporation
- Re-fill the reservoirs after the stored water is released for use by City of Columbus and Del-Co Water Company.

Pump Station Design

- The pump station building will have an exterior designed to fit into the local rural setting.
- The building will house four vertical turbine style pumps, protected by traveling water screens. Each pump would be rated at 40 MGD providing a total pump capacity of approximately 160 MGD.
- The pump station operations will be monitored at the City of Columbus Dublin Road Water Plant, linked through a radio communications system.

Pump Station Locations

Three alternative locations for the pump station were evaluated during the preliminary design phase: one location being in close proximity to the proposed reservoir sites; and the other two downstream near the O'Shaughnessy Reservoir. The primary criteria used in the evaluation of pump station sites included:

- Availability of surplus water during high water flows
- Adequate stream pool depth for the pumps
- Environmental constraints and permitting
- Availability of adequate electrical power source
- Long term operational and maintenance considerations.

Site 1: Hoskins Road Area

- The general location for this pumping station would be between SR 257 and the Scioto River, north of Hoskins Road and south of Grigsby Road.
- This site is closest to the proposed reservoirs, thus minimizing the length of pipeline required.
- An inflatable weir would be required to create the diversion pool for pumping from this location. Whenever the diversion pump station is not being used the inflatable weir will be completely deflated allowing the river to flow as normal.
- When fully inflated, the 125-foot weir would span the Scioto River and create an impoundment pool of approximately six feet deep.
- Sufficient stream flow will continue to flow around the weir at all times when inflated to protect the aquatic habitat.
- The weir will be equipped with an auto-deflate feature so that it will gradually deflate when the water levels exceed two feet over the top of the weir. This ensures that during significant rain events, water levels behind the weir do not rise too quickly.

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- A shore intake structure, beginning with an open concrete channel section, transitioning to a buried pipeline is recommended at this location.

Site 2: Mill Creek Area

- The general location for this alternative site is immediately north of the confluence of Mill Creek with the Scioto River.
- The proposed raw water intake would be situated at the riverbank adjacent to the pumping station.
- No inflatable weir is needed, as the supply pool is created by the water level of the O'Shaughnessy Reservoir.
- This alternative would require construction of a much longer pipeline from Bellpoint to fill the reservoirs.

Site 3: Owls Point Area

- This alternative pump station location was sited on City of Columbus owned land known as Owls Point, located on the east bank of the O'Shaughnessy Reservoir, approximately 6,000 feet south of US Route 42.
- The site was eliminated from detailed consideration for the following reasons:
 - lack of available and accessible energy supply
 - presence of wetlands and 100-year floodplain
 - Construction of an even longer pipeline that would also need to cross the Scioto River to fill the reservoirs.

Preferred Raw Water Pump Station Location

- The recommended location is Pump Station Site 1 located in the Hoskins Road Area.

Construction Costs and Construction Timeline

- Estimated construction cost of \$16.6 million
- Construction of Raw Water Intake and Pump Station, July 2007 to April 2009.



City of Columbus
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Please submit your comments on the project at:

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