



Public Utilities

Citizens Academy

Blake Jordan

What Are City Utilities?

Drinking Water

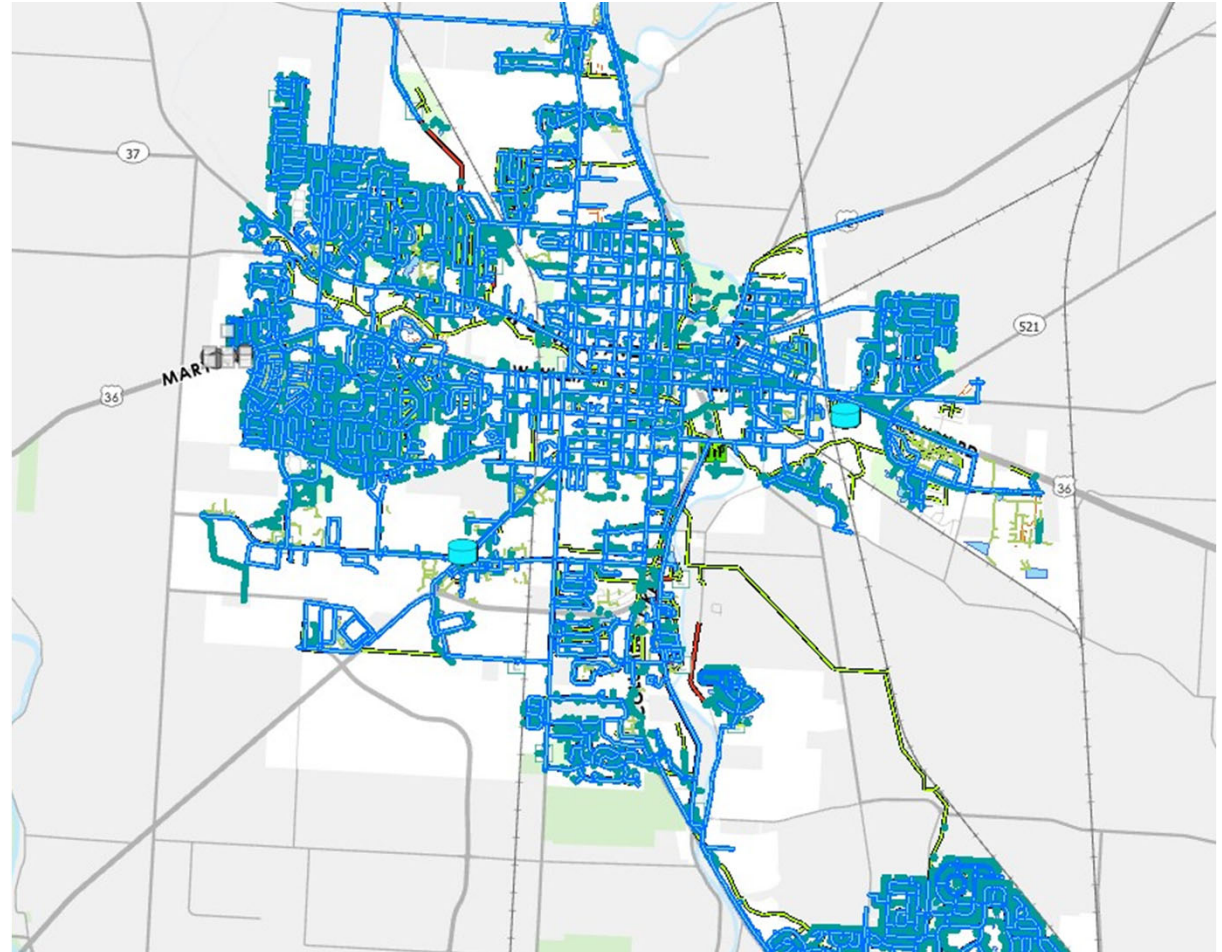
- Water Treatment
- Water Distribution

Wastewater

- Wastewater Treatment
- Wastewater Collections

Stormwater

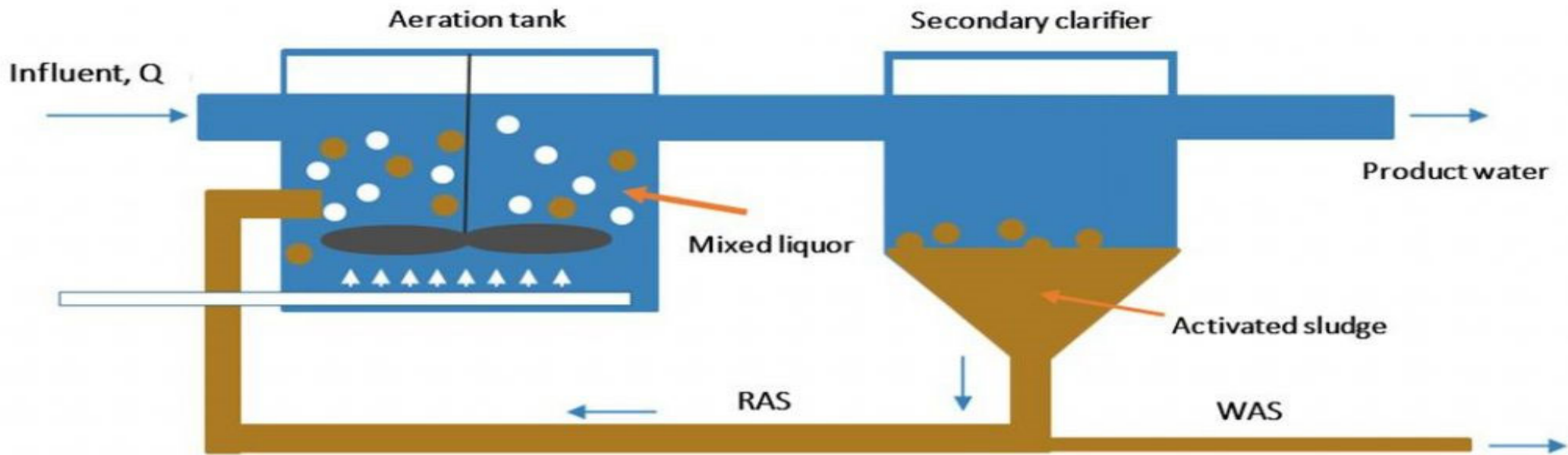
- Storm sewer system
- Sustainability/MS4



Wastewater Treatment - Activated Sludge

WWTP Flows

Avg. - 4.5MGD Rated - 10MGD Continuous/20MGD Daily/30MGD Hourly



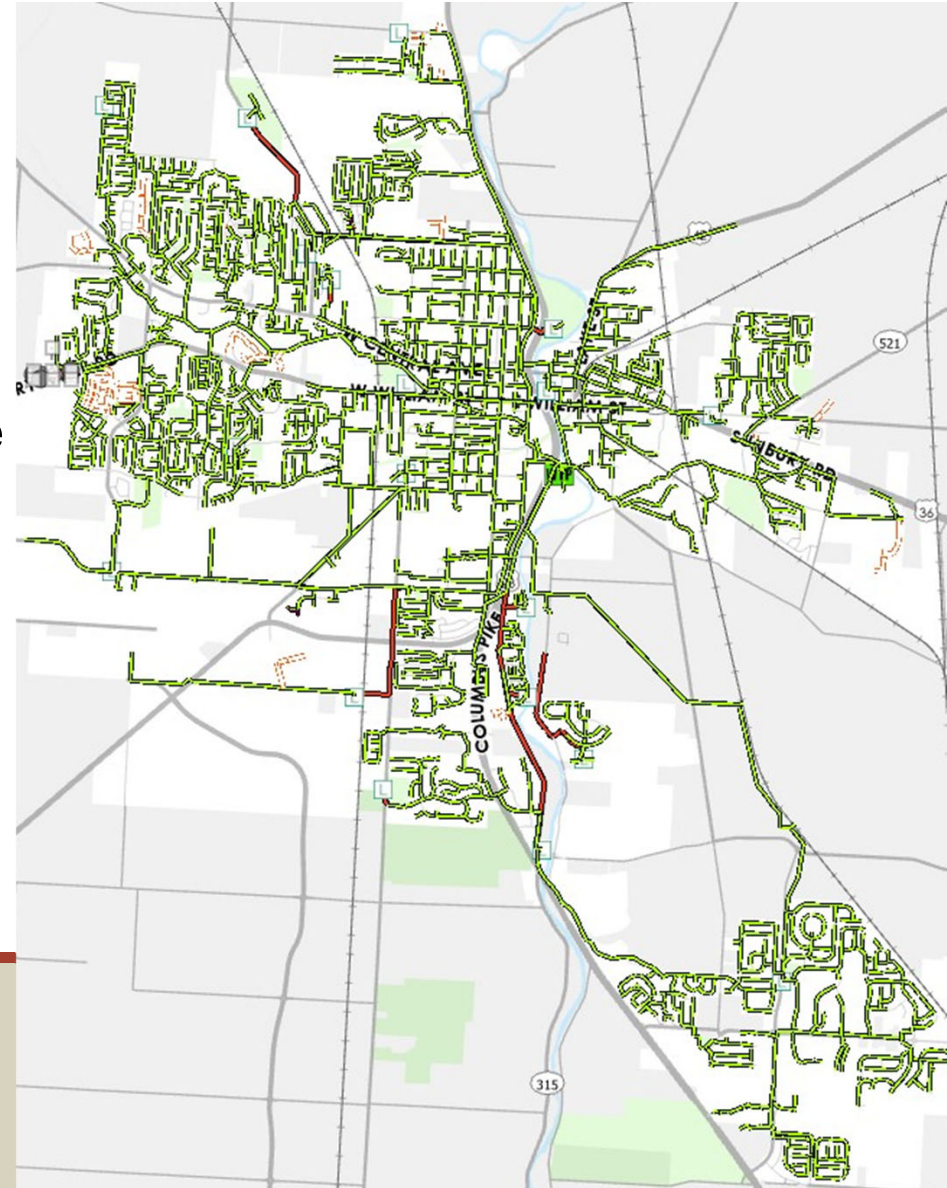


Wastewater Collections

Sewer systems operate via gravity flow
182 miles of sewer

Lift stations used when sewer depth not possible

Sewer line inspection done with a mobile cctv
camera inspection van



Stormwater Utility

Delaware is a MS4 community
Municipal Separate Storm Sewer System

Educational Outreach
River Cleanup Activities
Dry Weather Screening
Tree Plantings
Pet Waste Collection Stations





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Water Treatment

WHERE DOES OUR WATER COME FROM?

- Olentangy River (Avg. 2+/- MGD)
- Well (1.5-2 MGD)



Milestones in the history of Delaware Water Treatment

- 1889** - Delaware Water Company is founded; population about 8,000 people.
- 1896** - First underground wells are drilled to provide additional water supply.
- 1923** - Filtration system for **surface water** upgraded; **ground water** treated for the first time.
- 1936** - City of Delaware purchases the Delaware Water Company for \$560,000 and begins operating it as a city utility; Delaware population about 9,000.
- 1950s** - Additions and improvements made to the treatment plant, including converting steam-powered water pumps to electric.
- 1972** - Congress approves the Clean Water Act and, two years later, the Safe Drinking Water Act to protect the nation's public drinking water supply. The US Environmental Protection Agency (EPA) is given responsibility for making sure that public water supplies within the United States are safe.
- 1974** - Treatment plant expanded and capacity increased from 3 million gallons per day to 6 million.
- 1980s** - Filtration and treatment upgrades undertaken to keep pace with a growing city of about 19,000 people.
- 2015** - \$32 million investment completed on the mechanical and electrical equipment, and related facilities.



Water Distribution

Water leaves treatment plant via pump into the system

The pumping rate is in response to system usage, which is measured by the drop in water level in the City's three water towers.

Water pressure

Pressure is a function of gravity:

$$1,100 - \text{site elevation} \times 0.433 = \text{PSI}$$

225 miles of waterline





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