

General Plant Information

The Wastewater Treatment Plant is an advanced secondary plant located at 965 Dayton Avenue in Springfield, Ohio. Constructed originally in 1935 as a primary treatment facility designed to treat 25 MGD average with a peak of 30 MGD, the Wastewater Plant has had several improvements in 1961, 1972, 1988, 1995 and 2000, upgrading it from primary treatment to an advanced secondary facility. The plant is designed for an average flow of 25 MGD. The plant's actual average flow is 15.5 MGD. During rain and storm water events the plant can handle a flow of 36 MGD peak and 34 MGD sustained. The design detention time for the plant is 12.8 hours in the summer and 14.8 hours in the winter. The Wastewater Treatment Plant has an average removal rate of 97% for TSS, 98% for C-BOD, and 98% for Ammonia.



The plant is manned 24 hours per day, 7 days per week with one operator per shift. The plant operator is responsible for the daily operations. The operator watches over the plant's Supervisory Control and Data Acquisition (SCADA) system and makes manual adjustments as needed. The operators collect samples and run the following tests. The results are recorded on the operator's daily log or to the plant's remarks log.

Influent :

Settleable Solids

pH

Temperature

Flow

Primary Tanks:
Sludge Core Depth

Primary Sludge:
Visibly gauge the sludge consistency

Primary effluent:
Settleable Solids

Returned Activated Sludge:
Settleable Solids

Mixed Liquor:
Settleable Solids

Waste Activated Sludge:
Settleable Solids

Chlorine Basin Effluent:
Chlorine Total Residual
Flow

Plant Effluent:
Chlorine Total Residual
pH
Temperature
D.O.

Secondary Digester:
Supernatant 100 ml cylinder test
Temperature

There are 12 Programmable Logic Controllers (PLCs) that run the plants SCADA system. They communicate to each other through a fiber optic cable that loops all 12 PLCs together. The PLCs are connected to 4 PCs that run a SCADA program called WonderWare. The operator can control 95 percent of the plant through the WonderWare. The WonderWare also records up to 245 data points to an Excel spreadsheet every hour.