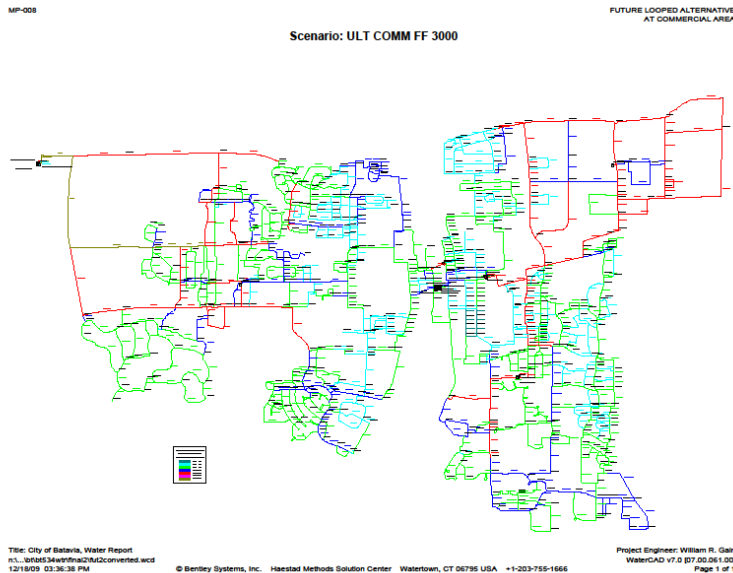


SHUMWAY BOOSTER STATION—BATAVIA



City Watermain Network Challenges



Addressed with Pumping Station to Create Uniform Pressure

Client: City of Batavia

The City of Batavia was under a compliance order to provide Radium free water to its customers in a distribution system that was a hybrid of central treatment for the West Side customers and individual deep well cells located on the City's East Side. The existing system was unable to provide central treatment throughout the distribution system without additional transmission main and booster pumping facilities

Rempe-Sharpe:

- ◆ Developed a computer model of the distribution system:
- ◆ Prepared model of water distribution system consisting of pipe lengths, diameter, and nodes (junctions of pipes), friction factors of pipes, elevations of nodes, and known inflows into system.
- ◆ Determined current minimum, average, and maximum daily water demands and calculated demand outflow at nodes.
- ◆ Determined normal operating water levels in the tanks (start/stop elevations of existing pumps).
- ◆ Ran model and compared results with known fire flow data and calibrated model.
- ◆ Ran model under various inflow and outflow conditions.
- ◆ Determined suction and discharge side pressure of pumping equipment at various pumping rates and demand conditions.
- ◆ Prepared distribution system head curves and pump curves (with individual piping losses) for the various pumping rates and demand conditions.
- ◆ Determined the expected extreme conditions and selected the pumping equipment and "rpm" range required to meet conditions.
- ◆ Prepared design drawings and specifications reflecting the most appropriate piping and equipment layout.
- ◆ Provided shop drawing review and construction related services.

The Shumway Booster Pumping Station was designed and constructed utilizing the computer model in the development of the basis of design. Variable speed water booster pumps were provided as well as additional transmission main to more uniformly distribute the station discharge into the eastern water distribution system. All work was completed on schedule and within the budget.

Construction Cost: \$6,000,000 (Entire Project)

REFERENCE:

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