



Dufresne Group (DG) updated an existing computer water model after reviewing City maps, record information, and GIS data. Fire flow and C-value tests were performed to calibrate the model, which was verified by recording pressure over a multiple-day period at several locations throughout the water system.

The completed water model was used to evaluate alternatives in multiple areas of the water system that have less than the recommended 35 psi pressure during average day demand. DG identified solutions to resolve these issues including reconfiguring an existing high pressure zone, developing a new boosted zone with the construction of a water booster pump station, and implementing individual customer booster pumps.

The computer model has also been used to simulate system conditions during a water main replacement project and evaluate available fire flow and system pressure effects of the project.

KEY FEATURES

- Modeled over 950 water main pipes along with pump stations and water storage tanks.
- Calibrated the model using field data (including C-value and fire flow testing completed by DG) and information available through the City's SCADA system.
- Utilized the calibrated model to:
 - * Evaluated system pressure and available fire flow during a water main replacement project.
 - * Identify pressure deficiencies and recommend solutions based on water modeling results.
 - * Identify alternatives to resolve water quality issues and determine fire flow implications of the alternatives.