



The first step in completing a Preliminary Engineering Report was developing a computer model of the Town of Peterborough, NH's water system from base GIS data. Hydrant flow tests were conducted with the assistance of Peterborough Water Department personnel to obtain pressure and flow information necessary to calibrate the model to actual conditions.

The model was used to evaluate potential improvements to the distribution and transmission systems. A list of potential capital improvements was developed which included water main replacement, cleaning and lining and new construction projects. These projects are recommended to strengthen the transmission system, increase tank turnover and replace undersized or poorly constructed water mains.

The water model was also used to site two PRV locations to allow flow from one zone to another to increase fire flow protection.

The Preliminary Engineering Report was used to support a Rural Development funding application that was successful in obtaining a \$1,383,000 grant and \$1,567,000 loan.

KEY FEATURES

- GIS computer model, calibrated to actual conditions, interfaces with the Town's comprehensive GIS program.
- Model results identify system deficiencies including undersized main. The hydraulic simulation results were used to develop the water system Capital Improvements Plan.
- The study included an evaluation of alternative storage tank locations, materials of construction and configuration to improve system gradeline stability.