

WATER DISTRIBUTION SYSTEM MASTER PLAN

TOWN OF ST. JOHNSBURY, VERMONT



River Crossing



Pump Station

In March of 2007 St. Johnsbury officials contracted with Dufresne Group (DG) to develop a long range Master Plan of the water distribution system. In this document all water distribution components were inventoried and evaluated for compliance with current regulatory and design standards. The computerized water model was used for analysis of the water transmission and distribution hydraulic grid.

Water storage tanks were inspected both on the exterior and interior, and estimates of construction and rehabilitation were developed. Water booster stations and pressure reducing valve vaults were inventoried and inspected. Estimates of remaining equipment life were prepared and recommendations for sinking funds for equipment replacement were developed.

The effects of future growth were evaluated including likely areas of geographic expansion and a master plan for water main size was developed.

The estimated cost to resolve all water distribution deficiencies was developed and a phasing program was recommended to implement system improvements over the next several decades. Potential grants in aid and low interest loan programs were assessed and two programs were targeted for application. The effect of the phasing program on customer water rates was projected and several alternative water rate increases were recommended for consideration by the Board of Selectmen.

KEY FEATURES:

- 19.7 miles of undersized water main.
- 21.7 miles of unlined cast-iron main.
- Two water booster stations.
- ISO Needed Fire Flows in the system of up to 6,000 gpm.
- Four water storage tanks that total 2.7 mg.