



The City of Montpelier has utilized the Berlin Pond as a drinking source since 1957. Water has historically been transmitted to the City by gravity, with chlorination and fluoridation serving as the only treatment methods.

Following a 1974 comprehensive water study, the City planned for a surface water treatment facility. However, the recommendations of this study were never implemented. Robert E. Dufresne, with the assistance of Naomi R. Johnson, completed a Basis of Final Design Report for the Berlin Pond treatment facility in 1991 while at the firm Dufresne-Henry, Inc. This report included the following components:

- Evaluation of current and projected water demands.
- Hydrological investigation to determine source safe yield.
- Economic and noneconomic comparison of treatment alternatives.
- Treatment facility design criteria.
- Onsite pilot comparisons for demonstrated use of coagulants and filter media.

The source water treatment project was completed in the year 2000 with the construction of a 4.0 mgd filtration plant. Dufresne Group provided consulting engineering services during the construction phase and developed a GIS based source protection plan for the Berlin Pond. The source protection plan was the Grand Award Winner for the Vermont Section of ACEC.

KEY FEATURES

- Constant pressure variable flow finished water pumping system.
- Package stainless steel insulated treatment units.
- Recycle treatment schemes and flow equalization.
- PLC based SCADA system for plant automation and reduced operational costs.
- Raw water preoxidation using KMnO₄ followed by Powdered Activated Carbon (PAC) for THM precursor removal as well as taste and odor control.
- Lightning protection using grounding loops.
- Dedicated floor space for future expansion.