



*Welcome to North Berwick, Maine*



## North Berwick Water District

## CASE STUDY

### Client Profile

North Berwick, Maine is small town of 4,700 situated 40 miles south of Portland. The town is served by the North Berwick Water District which was established in 1896. Water is drawn from a series of three gravel-packed wells located on 210 protected acres of District owned property. Water from Well #3 is filtered through a pressure filter for iron removal. After treatment, water is either pumped to a 500,000-gallon storage tank or through the distribution system to 1,343 customers.

### Challenges

The 240 gpm filter system at the plant removes iron and manganese from incoming ground water. Aesthetically, iron and manganese add a metallic taste to water and cause orange/brown stains. It can also be harmful to health in excessive amounts. Iron contaminant readings leaving the filters had been creeping up.

Filter maintenance had increased due to numerous breaks in existing PVC hub and laterals in the tanks resulting in reduced filtration ability and increased maintenance costs. Before talking to Blake Equipment, the water district had considered replacing the entire system at mid 6 figure cost.

The plant could only afford a two week window for repairs due to limited water storage.

### Solutions

The Blake Equipment team evaluated the filter system and determined that the existing tanks were sound and could be re-used saving the plant considerable money. They recommended replacing the existing MTM<sup>®</sup> media with Greensand Plus<sup>™</sup> for better iron removal, replacing the PVC hub and laterals with stainless steel hub and laterals to eliminate breakage and reduce system maintenance; and upgrading additional worn components. Additionally, the Blake Equipment team provided recommendations of engineers and contractors highly experienced in similar projects.

## Water Treatment Plant Filter System Modernization

### Goals and Objectives

1. **Modernization of filtration equipment.**
2. **Reduce Iron levels in treated.**
3. **Complete entire project in two weeks.**



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## Results

With a tight job schedule in mind, Blake Equipment coordinated with manufacturers to have all the needed equipment on hand ahead of the job start date. Blake's Sales Representative, Don Holley, came with a 'plan of attack' and stayed on the job during installation and start-up. The job was completed in five days.

Mike Gaudette of the North Berwick Water Treatment Plant, said, "Everything went great, work went well. Don steered us to a good installation contractor with a good crew. They more than met our expectations. They were done in five days instead of the two weeks we'd allotted. Blake's VP of Sales showed up when we were starting up. That told me that everyone at Blake cared about my job."

Robbie Helgesen of Penta Corporation, installing contractor said, "Blake Equipment is a great asset, they came with a plan of attack for the job. They were involved in the whole project and got answers to our questions quickly. We had great communication. Blake Equipment doesn't ignore problems."

### Refurbished Filter System

The existing tanks were re-used, saving the North Berwick Water District considerable money. Everything else was replaced, including the type of media used.



The new filter system surpasses expectations.

### Hub and Lateral Before and After

The hub and lateral, located at the bottom of the tank, evenly distributes water coming into the tank. As water rises through the media, impurities are removed. Cracks or breaks result in unbalanced water distribution, creating channels in the media and compromising the efficiency of the filter.



#### **Before**

Before the hub and laterals were replaced, the PVC laterals were cracking.



#### **After**

The new stainless steel hub and laterals will deliver years of trouble free service.

## PARTNERS IN SUCCESS

**Engineering:**  
AE Hodsdon Waterville, ME

**Contractors:**  
Penta Corporation Moultonborough, NH

**Manufacturers Representative:**  
Blake Equipment Portland, ME Branch



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