



The State of New Hampshire  
**Department of Environmental Services**

**Robert R. Scott, Commissioner**



January 5, 2018

Board of Commissioners  
Wilton Water Works  
PO Box 83  
Wilton NH 03086

Subject: Wilton Water Works PWS # 2521010  
Sanitary Survey 2017

Dear Members of the Board:

On December 19, 2017, I was accompanied by Gregory Cummings and Kim Bourgoquin, both of DES, and conducted a sanitary survey on the public water system served by Wilton Water Works (WWW). The purpose of the survey was to review the capacity of the water system's sources, treatment, distribution, and management to continually produce safe drinking water. I would like to thank Mike Bergeron for his assistance in conducting this survey.

#### SUMMARY

The WWW water system is operated in a professional manner and the operators are very knowledgeable of the components and operation of the water system. Water quality monitoring records show that the water system is in compliance with all current water quality standards, including lead and copper.

This sanitary survey did not identify any significant deficiencies. The following is a list of issues that we recommend the managers of the water system consider to maintain compliance, and continue to provide an acceptable level of service to the system's customers:

1. Review recommendations for Source Water Protection in Appendix A.
2. Incorporate a maximum elevation service area into the WWW guidelines.
3. Continue the flushing program and consider increasing to twice per year.
4. Work with DES to update lead and copper sample locations scheduled for 2019.
5. Consider reapplying for an Asset Management grant to help with implementation of the WWW asset management program.

A more descriptive discussion on each issue is included below.

#### SYSTEM DESCRIPTION

##### General

The system serves about 1,730 people through approximately 692 service connections. About 25 of those service connections are located in the westerly extremity of Milford along Route 101. Average daily water demand is approximately 160,000 gallons per day (gpd), with a peak day demand of 180,000 gpd.

In general, the water system is comprised of two gravel packed wells, one pump house / chemical feed station, one atmospheric storage tank, and associated piping and appurtenances.

[www.des.nh.gov](http://www.des.nh.gov)

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095  
(603) 271-2513 • Fax: 271-3490 • TDD Access: Relay NH 1-800-735-2964

### Water Sources

The two wells are summarized as follows:

<b>Source</b>	<b>DES Data Base 2521010-</b>	<b>Construction Type</b>	<b>Well Depth (ft)</b>	<b>Capacity (gpm)</b>
Everett Well	005	Gravel packed	52	440
Abbott Well	006	Gravel packed	50	400

The Town has been active in protection of its two well sources. The sanitary protective area is reportedly totally owned by the Town and the Society for the Protection of New Hampshire Forests.

The Everett well is located within the pump house easterly from Route 31. It is a 52-foot deep gravel packed well installed in 1998 and with a withdrawal capacity of 440 gpm. The Abbott well is located about 400 feet northeasterly from the pump house on the northerly bank of the Souhegan River. The Abbott well is a 50-foot deep gravel packed well installed in 1990 and with a withdrawal capacity of 400 gpm. The Everett pump house was rehabbed in 2015 to include a new pump, motor, master meter, and associated piping. The Everett well was also cleaned and inspected in 2015.

### Treatment, Pumps, Pumping Facilities, and Controls

The station houses the Everett well pump and piping along with chemical storage, safety equipment, instrumentation, and electrical equipment. The discharge main from the Abbott well manifolds inside the Everett well station. The wells normally alternate in lead/lag mode and are metered separately inside the station. Only one pump typically operates at a time and typical pump run time is 6 to 10 hours daily. Pump operation is triggered by the storage tank level communicated via dedicated phone line.

Well water is treated by injection of calcium hypochlorite via tablets (for disinfection), sodium hydroxide (pH adjustment), and ortho-polyphosphate (corrosion inhibitor and sequestration). The chemical pumps are supplied power when the well is pumping, and automatically shut off when the well pump stops or in an alarm condition. All chemicals are flow paced and alarm conditions include low/high pH and chlorine residual. Additional SCADA alarm conditions include low/high tank level, low temperature, and fire. Backup power is provided via a generator, which can power both wells and all equipment in the pump house. An automatic transfer switch for the generator is located in the station.

Chemical emergency conditions are communicated to a central communications facility in Milford via emergency dialer.

### Distribution System and Finished Water Storage

The distribution system includes a single, 616,000-gallon capacity, welded steel tank, which was repainted in 2009. The tank is summarized as follows:

<b>Tank</b>	<b>Material</b>	<b>Capacity (mg)</b>	<b>Year Online</b>	<b>Last Inspected</b>
Abbott Hill Road	Welded Steel	0.616	1985	2013

The distribution system is mostly cast iron pipe of 4- to 8-inch diameter, with smaller quantities of 12-inch diameter cast iron and various sizes of ductile iron, PVC, and asbestos cement pipe. Each service connection is metered and equipped with a dual-check valve for backflow prevention. Water meters are of

the touch-pad type, and billing is done quarterly. The WWW has implemented a service meter replacement program. Meters are upgraded with new meters and radio read equipment at a rate of approximately 40 per year. Approximately 160 meter upgrades are completed to date. This is a continuous replacement program. All meters will be replaced after 18 years, close to the expected life of the meters, at which time the WWW can begin the replacement cycle again.

Flushing is performed once per year and valves are also exercised in a manner that every valve is operated at least once every five years, which DES recommends as the minimum. The system has 64 testable backflow devices throughout the system, 24 of which are high hazard, and all of which are tested by the operator.

#### Monitoring, Reporting, and Data Verification

Water quality monitoring records show that the system is in compliance with current standards including lead and copper.

#### Water System Management and Operation

As built maps are now in a digital mapping format including water main, hydrants, and gate valves, with curb stop mapping ongoing. The WWW developed a framework asset management plan in 2015.

#### Staffing and Operator Certification

The WWW is required to retain an operator with grade 1 treatment and grade 2 distribution certifications. The current operators are qualified for operation of this water system. The following certified operators are listed in our records for the water system:

<b>Operator</b>	<b>Certificate No.</b>	<b>Treatment Level</b>	<b>Distribution Level</b>
Michael Bergeron	1745	2	2
Carl Somero	1429	1	2

#### ACKNOWLEDGEMENTS

1. We commend the WWW for being proactive in the protection of public health by sampling for PFCs under the voluntary program. We are glad to hear that the wells reported non-detect levels.
2. The newly installed SCADA system is a great asset for the water system. We commend the board for being proactive in this regard.
3. The meter replacement program is being performed systematically. This will set up the WWW for a continuous program for meter upgrades as older meters age out. This is an Asset Management type of initiative and we again commend the board for their approach to maintain a sustainable system.

#### RECOMMENDATIONS

Below are areas where improvements or operating adjustments are recommended:

#### Water Sources

Please see the attached Appendix A Source Protection Comments from the NDHES Groundwater division.

### Distribution System

State design standards require working pressure of not less than 35 psi at all points in the distribution system and not less than 20 psi under extreme conditions such as fire. In the past, the system has provided service to customers in higher elevation areas that have low water pressure. The system has not performed any more connections in these elevated service areas, but should consider establishing a written maximum elevation that can be served from the existing water system. This will help to avoid providing service to areas that would have inadequate pressure in the future.

Flushing is an important part of maintaining the distribution system. Buildup of material inside the water mains can cause taste and odor problems, and can degrade water quality. The system flushes its mains once per year, and we encourage the operators to continue this practice although flushing twice per year is preferable. The system could also consider working with an engineer to develop a flushing plan to maximize flushing velocities and effectiveness.

### Monitoring, Reporting, and Data Verification

DES began to work with systems in late 2016 to review appropriate lead and copper sample locations. The WWW is not scheduled for the next round of sampling until 2019. The WWW should work with DES to update lead and copper sample locations prior to this next round of samples.

### Water System Management and Operation

Our Asset Management Grant program was discussed as part of this survey. WWW has an asset management plan that was developed using the DES grant program. DES recommends using the plan to get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary. The program has increased the matching grant up to \$20,000 if WWW is interested in reapplying to help with implementation. Asset management helps a system make critical decisions about how to achieve and maintain the desired level of service at the lowest appropriate cost to customers. Contact Luis Adorno at 271-2472 or [Luis.Adorno@des.nh.gov](mailto:Luis.Adorno@des.nh.gov) for more information about our Asset Management program.

### General

As a general reminder, RSA 485:8 states that no new construction, addition, or alteration involving the source, treatment, distribution, or storage of water in any public water system or privately owned redistribution system shall be commenced until the plans and specifications have been submitted to and approved in accordance with rules adopted by the department.

If you have any questions regarding this sanitary survey please contact me at [Randal.Suozzo@des.nh.gov](mailto:Randal.Suozzo@des.nh.gov) or 271-1746.

Sincerely,



Randal A. Suozzo, P.E.  
Drinking Water and Groundwater Bureau

cc: Mike Bergeron, Primary Operator