

Town of Shrewsbury Water Department

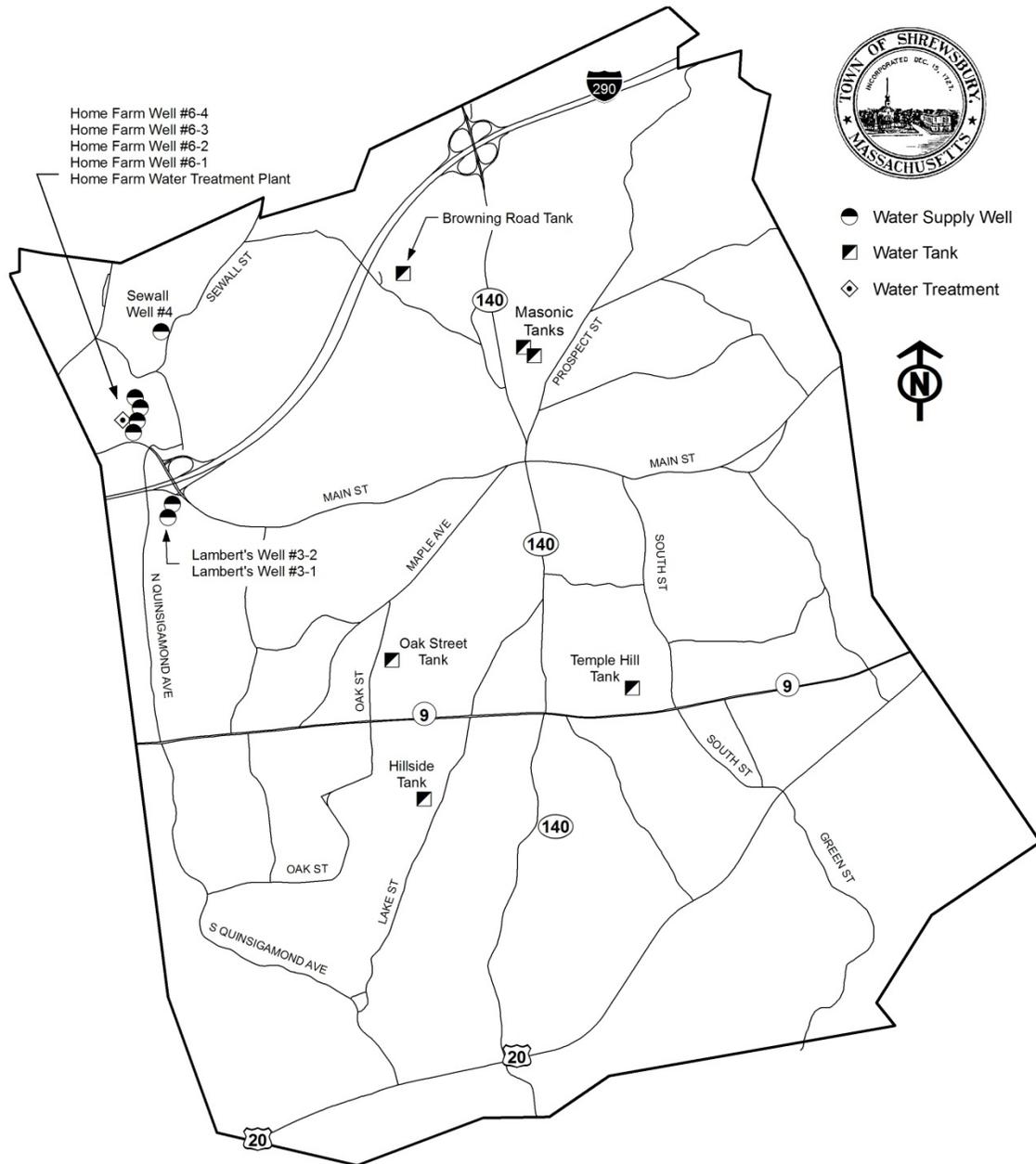
2012

Annual Drinking Water Quality Report

Public Water System Information Shrewsbury Water Department PWS#2271000

The Shrewsbury Water Department is committed to providing our customers with high quality drinking water 24 hours a day, 365 days a year. To ensure we deliver this quality product, we continue to make significant investments in water treatment facilities, water quality monitoring, water sources, and the distribution system. Today's consumers are keenly aware of environmental and health issues, so they should have information regarding their water supply. Well-informed customers are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

The Water Department is located on the second floor of the Richard D. Carney Municipal Building, at 100 Maple Ave. We hope this report answers any questions that you may have regarding the water supply. If you have any further concerns, please contact Robert Tozeski @ (508) 841-8506. Our fax number is (508) 841-8497.



Drinking Water Sources

The Town's water supply comes entirely from a series of seven (7) active gravel packed groundwater supply wells, located in the northwest quadrant of Town. The six wells are pumped to the Home Farm Water Treatment Plant facility for treatment before entering the distribution system. State and federal drinking water regulations require certain chemical treatments before groundwater enters the distribution system:

- Air stripping is performed on the waters from the Home Farm, 6-1, Home Farm 6-3 & 6-4 satellite wells and 6-2 wells to remove VOC'S (Volatile Organic Compounds). After treatment, levels have remained undetectable.
- Chlorine is added to disinfect the water to prevent waterborne diseases
- Potassium Hydroxide which adjusts the pH of the water and a phosphate based corrosion inhibitor is added to minimize lead and copper. Also, manganese is sequestered in the process to prevent problems in the distribution system
- Fluoride is added for tooth decay prevention

The three remaining wells South St., Sewall St. #5 and Oak St are presently not in use because their rated daily capacities have been transferred to the Home Farm Wells. This site has higher yield capacity and better pumping efficiency for the Town.

The Board of Selectmen often have water related issues on their agenda and we would encourage your attendance and participation in these meetings.

Substances Found in Tap Water

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material. It can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial contaminants -such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants -such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides -which may come from a variety of sources such as agricultural, urban stormwater runoff, and residential uses.

Organic chemical contaminants -including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants -which can be naturally occurring or be the result of oil and gas production and mining activities.

Lead & Copper – If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town of Shrewsbury Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800.426.4791.

Important Definitions

Maximum Contaminant Level (MCL) – the highest level of a contaminant that is allowed in drinking water.

Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected risk to health.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

ND – Not Detected

PPM –Parts per million (equivalent to one drop in ten gallons)

PPB – Parts per billion (equivalent to one drop in 10,000 gallons)

Water Quality Testing Results

The tables below list all the drinking water substances that we detected during the 2012 calendar year. The presence of the substances does not necessarily indicate that the water poses a health risk. Not listed are the approximate 80 substances for which we tested for but did not detect. The Massachusetts Department of Environmental Protection reduced the monitoring requirement for Inorganic Compounds and Synthetic Organic Compounds to less than once per year because the source is not at risk of contamination.

<u>Contaminant</u>	<u>Highest # Positive in a month</u> <u>(PWS collects < 40 samples per month)</u>	<u>Highest % positive in a month</u> <u>(PWS collects > 40 samples per month)</u>	<u>MCL</u>	<u>MCLG</u>	<u>Violation (Y/N)</u>	<u>Possible source of contamination</u>
<u>Microbial</u>						
<u>Total Coliform</u>		<u>0</u>		<u>0</u>	<u>N</u>	
<u>Fecal Coliform</u>		<u>0</u>		<u>0</u>	<u>N</u>	

Contaminant	Highest detect value	Range detected	Average detect	MCL/ MRDL	MCLG/ MRDLG	Violation (Y/N)	Possible source of contamination
Total Trihalo-Methanes (ppb)	3.8	0.0-3.8	2.6	80		N	By – product of drinking water chlorination
Nitrate (ppm)	0.78	0.78	0.78	10		N	Erosion of natural deposits. Runoff from fertilizer use.
Fluoride (ppm)	1.1	0.8-1.1	1.0	10	10	N	Water addition that promotes strong teeth
Tetrachloro-ethylene (ppb)	ND	ND	ND	5.0		N	Leaching from vinyl lined Asbestos concrete piping.
Perchlorate	ND	ND	ND	2.0		N	Rocket propellants, fireworks, munitions, flares, blasting agents.

Cross-Connection Control and Backflow Prevention

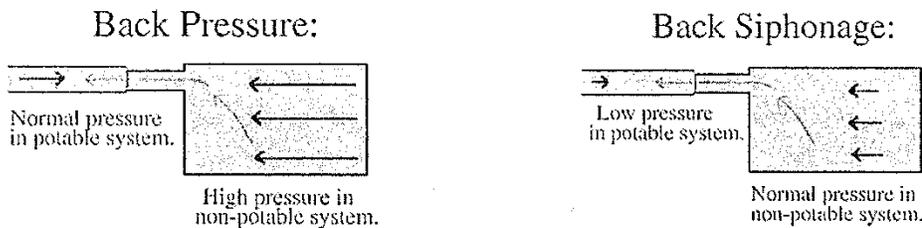
The Town of Shrewsbury makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or it is withdrawal from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection if so, how?

What is a cross-connection?

A cross-connection is any actual or potential connection between the drinking water lines and potential sources of pollution or contamination such as a piping arrangement or equipment that allows the drinking water to come in contact with non-potable liquids, solids or gases hazardous to humans in event of a backflow.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of the water can occur when the pressure created by an equipment or system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (backpressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (backsiphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



What can I do to help prevent a cross-connection?

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs sinks, drains or chemicals.
- NEVER attach a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with a backflow preventer.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection contact the Shrewsbury Water Department to schedule a cross-connection survey.

Manganese

Manganese is a naturally occurring mineral found in rocks, soil and groundwater and surface water. The USEPA and Mass DEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 0.05 mg/L (50 micrograms per liter (ug/L) or 50 parts per billion (ppb)). At levels greater than 0.05 mg/L, the water may appear brown, taste unpleasant and may leave black stains on bathroom fixtures and laundry. While Manganese is part of a healthy diet, it can be harmful if consumed in large concentrations.

EPA has also set a health guideline for lifetime exposure to manganese drinking water of 0.3 mg/L (300ppb). EPA considered this level to be protective limit for adults from potential neurological effect over a lifetime of exposure. For short-term 10-day exposures, EPA advises that levels in drinking water be below 1mg/L (100ppb). Infants and children less than 3 years of age should consume drinking water with manganese levels below 0.3 mg/L (300 ppb), or preferable as low as possible. This recommendation is based on concerns about effects to the nervous system that are more likely to occur in younger children, and because formula-fed infants/children already receive adequate manganese as an added essential nutrient in their formula. Formula fed infants or children may consume more manganese than the rest of the family if the manganese fortified formula is prepared with water that also contains manganese. In addition, young children appear to absorb more but excrete less manganese than older children. See:

http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_cc1_magnese_dwreport.pdf.

The Town of Shrewsbury did not record any distribution samples at or above 0.3 mg/L for manganese throughout 2012.

Water System 2012 Overview

Water main construction work was bid out for the Boston Turnpike, Lake St. and Oak St. areas. Work was completed on the Boston Turnpike eastbound lane approximately just east of Maple Ave to the intersection of Oak St. New 12-inch ductile iron watermain was installed this section replacing an older 10-inch main that had experienced a series of problems. Replacement work was also completed in an easement area between the Imperial Arms Apartments and Crescent St. The remaining work on Stone Ave, Lake St. and Oak St. between Judick St. and South Quinsigamond Ave is being worked on this spring. Test wells were drilled for the replacement of the existing Lambert's 3-1 well and work continues for the permanent replacement well. During the year, the Department was one of four water suppliers state wide that participated in the DEP Sustainable Water Management Initiative (SWMI) Pilot project. This project is designed to help formulate new regulations for future water withdrawal permits. The process is designed to incorporate water, wastewater and stormwater impacts into the permit process.

The annual water quality report is available upon request at the Shrewsbury Water Department, 100 Maple Ave. Please contact us at (508) 841-8506 for more information regarding this matter.

Outdoor water restrictions became effective May 1, 2013 as follows:

Even Numbered addresses – Tuesday, Thursday and Saturday.

(Hour restrictions between 9a.m.-5p.m. in place)

Odd Number addresses – Wednesday, Friday and Sunday.

(Hour restrictions between 9 a.m.-5p.m. in place)

No Outdoor Water Use on Mondays for any Address.

Town of Shrewsbury Water & Sewer Dept.
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