



# **SUDBURY WATER DISTRICT**

## **20th Annual Water Quality Report**

# **2017**

**[sudburywater.com](http://sudburywater.com)**

**PWS ID NO 3288000**

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## WHY AM I RECEIVING THIS REPORT?

In 1996 the Federal Safe Drinking Water Act mandated all community drinking water systems to prepare and distribute annually to their customers Consumer Confidence Reports (CCRs). In compliance with these regulations the Sudbury Water District is pleased to present our twentieth annual Water Quality Report; a snapshot of the drinking water quality provided to you last year.

Included are important details about where your water comes from, what it contains and how it compares to state and federal standards. We are committed to providing you with this information because informed customers are our best allies.



## WHO DO I CONTACT IF I HAVE CONCERNS ABOUT MY LOCAL DRINKING WATER?



Sudbury Water District is staffed by seven field personnel and three office staff, all of whom are dedicated to bringing into your home the highest quality of drinking water. Office and field personnel are available weekdays between 9 a.m. and 4 p.m., to meet and address public supply needs. Questions or concerns about your drinking water? Contact (978) 443-6602 during regular business hours or visit our website [www.sudburywater.com](http://www.sudburywater.com) – a useful and informative tool updated regularly to include our most recent water quality tests, answers to frequently asked questions, explanations of rates, fees

and links to pay your water bill online or register as an email subscriber. Vincent Roy, our Director of Operations/Superintendent is also available during regular business hours. Arrangements to discuss matters in person with Mr. Roy may be made by contacting our business office or emailing him directly at [vroy@sudburywater.com](mailto:vroy@sudburywater.com). Although office hours are limited the District always has an experienced field technician on call, 365 days a year, for emergency and after-hour matters. Should you experience or observe a water emergency after business hours, simply contact the Department of Public Safety at (978) 443-1042 who will dispatch an on call water technician to address the matter.

## ARE THERE OPPORTUNITIES FOR PUBLIC PARTICIPATION?

The Board of Water Commissioners meets bi-weekly at 5 p.m. at the District business office at 199 Raymond Road to discuss and vote on issues concerning your drinking water supply. Superintendent Roy keeps the Commissioners up to date on current projects and developing situations. You are invited to participate in this public forum and become more knowledgeable about your drinking water as well as bringing your concerns to the attention of the Commissioners and the Superintendent. Contact the office of the Water District at (978) 443-6602 to obtain the scheduled meeting dates.

# WHERE DOES MY WATER COME FROM?

Sudbury’s water is obtained from nine gravel packed ground wells located in three separate aquifers; these aquifers are known as Raymond Road, Hop Brook and Great Meadow. We also have four storage tanks located throughout Town with a storage capacity ranging from 0.35 to 3.0 million gallons and totaling 6.35 million gallons. Your water is provided by the following sources:

Source Name	Mass DEP Source ID #	Source Type	Location of Source
GP Well No 2A	3288000-02G	Groundwater	Raymond Road
GP Well No 3A	3288000-11G	Groundwater	Pratt’s Mill Road
GP Well No 4	3288000-04G	Groundwater	Warren Road
GP Well No 5	3288000-05G	Groundwater	North Road
GP Well No 6	3288000-06G	Groundwater	Raymond Road
GP Well No 7	3288000-07G	Groundwater	Nobscot Road
GP Well No 8A	3288000-12G	Groundwater	Pratt’s Mill Road
GP Well No 9	3288000-09G	Groundwater	Raymond Road
GP Well No 10	3288000-10G	Groundwater	Pratt’s Mill Road

# IS MY WATER TREATED?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants:

We add disinfectant to protect you against microbial contaminants; we add fluoride to the water to aid in dental health and hygiene; we aerate and filter the water to remove volatile organic contaminants; we filter the water to reduce levels of iron and manganese and we chemically neutralize the water.



As there are variations in the water quality among our nine sources, treatment systems are designed to specifically address the type and amount of contaminants present at each site. Following treatment, water is pumped to elevated storage tanks for distribution to your home. When tanks are full, the pumps at the wells shut off and water is fed to customers from the tanks. As soon as demand brings tank levels to the “start” level, the pumps restart and the cycle begins again. In order to perform scheduled and emergency maintenance operations, the specific wells selected to be in service at any time will vary. Therefore the water delivered to your home does not necessarily originate at a single point but rather is a blend of a number of our wells.

# HOW ARE THESE SOURCES PROTECTED?

In 2002 the DEP prepared a Source Water Assessment Program (SWAP) report for our water supply source(s). This report assesses the susceptibility of public water supplies: the Zone I for our wells is a 400 foot radius around the wellhead. Massachusetts Drinking Water Regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to own or control the Zone I through a conservation restriction. Only water supply activities are allowed in the Zone I. However many public water supplies were developed prior to the DEP’s regulations and contain non-water supply activities such as homes, recreation fields and public roads. All of our wells are located in aquifers with a high vulnerability to contamination due to the absence of hydrogeologic barriers (clay) that can prevent contamination migration. The Zone IIs for Sudbury are a mixture primarily of residential, forest and wetlands land uses with a small portion consisting of other uses such as recreation, agriculture, commercial, light industry. The District employs corrective actions by continuing to work with local and state offices for the promotion of good practices on land contained

within our Zone I and Zone II areas. The DEP has commended the District for taking an active role in promoting source protection measures in the water supply protection areas through: adopting land use controls that meet the DEP's Drinking Water Regulations and partnering with the Town of Sudbury to study the feasibility of sewerage the commercial section of Route 20. A complete SWAP Report is available at the District office at 199 Raymond Road, by calling (978) 443-6602 or can be viewed online at [www.sudburywater.com](http://www.sudburywater.com).

## SUBSTANCES FOUND IN DRINKING 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 that may come from sewage and treatment plants, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants, such as salts and metals can be naturally occurring or resulting from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial process and petroleum production and may also come from gas stations, urban storm water runoff and septic systems. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

## FURTHER INFORMATION CONCERNING SAFE DRINKING WATER

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and the U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) 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) contain guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline by calling (800) 426-4791.

## MINIMIZING LEAD EXPOSURE

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. Sudbury Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in residential 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



# CROSS CONNECTION CONTROL PROGRAM

## WHAT IS A CROSS CONNECTION?

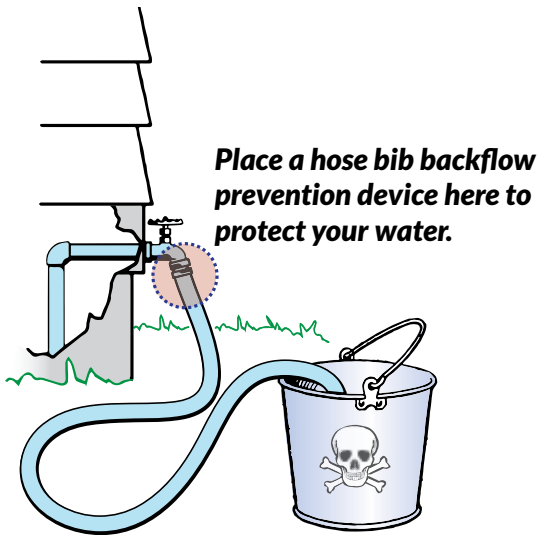
A cross-connection is an ACTUAL or POTENTIAL link between the potable water supply and a source of contamination (sewage, chemicals, gas, etc.). This has the potential of becoming a hazardous situation if the contaminant source were to enter (backflow) into the potable water. Backflow occurs when the water flow is reversed, due to a change in pressure, and water flows backwards, into and through the system. Contamination can also occur when the pressure in the drinking water system drops due to occurrences such as water main breaks and heavy water demand causing contaminants to be drawn (back-siphonage) into the potable water system.

## WHERE DO I FIND CROSS CONNECTIONS?

Garden hoses connected to an outside water tap are the most common sources of cross connections in the home. The garden hose creates a hazard when submerged in non-potable water such as a swimming pool or when attached to a chemical sprayer for weed control. The District surveys all industrial, commercial, and municipal facilities to ensure that all cross connections are eliminated or protected by a backflow prevention device. The District is also responsible for inspecting and testing each device to ensure it is providing maximum protection.

## WHAT CAN I DO TO PREVENT BACKFLOW?

You can prevent backflow in your home plumbing system by installing an inexpensive hose-bib vacuum breaker on each of your outside water spigots. These vacuum breakers will prevent water from being back-siphoned from a polluted or even contaminated water source into your home's water pipes or the public water distribution system. These devices cost about \$10 and are available at most hardware stores.



## WHO SHOULD I CONTACT FOR MORE INFORMATION?

Sudbury Water District staff will be happy to answer your questions. Call (978) 443-6602 or send us an e-mail at [customerservice@sudburywater.com](mailto:customerservice@sudburywater.com).

## WATER CONSERVATION



The Massachusetts Department of Environmental Protection Agency (MassDEP) mandated that the Sudbury Water District implement restrictions on outdoor water use. Though not popular with many residents, the restrictions are similar to what many neighboring communities, as well as throughout the country, have already implemented. The purpose of the restrictions is to ensure an adequate supply of water for drinking and fire protection, and to protect the quality and quantity of water in local aquatic habitats such as ponds, rivers and wetlands.

By using water more efficiently, you can help preserve water supplies for future generations, save money and protect the environment. By changing a few habits, you will help protect your water supply and perhaps save on water and sewer charges. Here are some outdoor water saving tips that residents can implement in their homes:

- **Water your lawn only as needed. Too frequent watering can actually weaken a lawn by encouraging shallow roots. The general rule of thumb is one inch per week including rain.**
- **Timing is critical for lawn watering. Water your lawn in the early morning or late evening to avoid evaporation.**
- **Install mulch to keep roots cool and moist. Mulch serves as a ground cover that reduces water evaporation from the soil.**
- **Keep your blades sharp and high. Raising your lawn mower blade prevents tearing of the grass. Longer grass provides shade for the roots and helps reduce water loss.**
- **Use shut-off nozzles on hoses and automatic shut-off devices on irrigation systems. Unattended hoses can use 10 gallons or more per minute.**
- **Install a soil moisture sensor complimented with a rain sensor that turns automatic sprinkler systems off when the soil contains sufficient moisture and when it is raining.**

Board of Water Commissioners,

Robert H. Sheldon

Joshua M. Fox

Robert Boyd, Jr.

## WHAT DOES THIS DATA REPRESENT?

The water quality information presented in the following table(s) is from the most recent round of testing done in accordance with the 1996 Safe Drinking Water Act Amendments. All data shown was collected during the last calendar year unless otherwise noted.

**Regulated Contaminants** are those for which the EPA has set legal limits on the levels allowed in drinking water. The limits reflect both the level that protects human health and the level that water systems can achieve using the best available technology.

Lead and Copper Contaminant	Date(s) Collected	90th Percentile	Action Level	MCLG	No of Sites Sampled	No of Sites Above Action Level	Possible Source of Contamination
<sup>(1)</sup> Lead (ppm)	06/30/17	0.0097	0.015	0	30	0	Corrosion of household plumbing systems; erosion of natural deposits.
<sup>(1)</sup> Copper (ppm)	06/30/17	0.2700	1.3	1.3	30	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Inorganic Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG, MRDLG or ORSG	Violation (Yes/No)	Possible Source of Contamination
Arsenic (ppb)	04/22/15	1.1	ND - 1.1	10	—	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium (ppm)	04/22/15	0.054	0.009 - 0.054	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (ppm)**	Monthly 2017	0.54	0.24 - 0.54	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (ppm)	04/14/17	6.1	0.43 - 6.1	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Perchlorate (ppb)	07/11/17	0.18	0.1 - 0.18	2	N/A	No	Rocket propellants, fireworks, munitions, flares and blasting agents.
Sodium (ppm)	04/22/15	68	6.7 - 68	—	20	No	Natural sources; runoff from use as salt on roadways; by-product of treatment process.

**\*\*Fluoride also has a secondary contaminant level (SMCL) of 2 ppm.**



Radioactive Contaminants (Next Sampling due in 2020)	Date Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Yes/No)	Possible Source of Contamination
<sup>226</sup> Gross Alpha emitter (pCi/L)	01/31/14	3.0	ND - 3.0	0	15	No	Erosion of natural deposits.
<sup>226</sup> Radium 226 & 228 (pCi/L) (combined values)	02/16/17	1	0.55 - 1	5	N/A	No	Erosion of natural deposits.

Disinfection By-products	Date Collected	Highest Running Annual Average	Range	***MCL or MRDL	MCLG or MRDLG	Violation (Yes/No)	Possible Source of Contamination
Total Trihalomethanes (ppb) (TTHMs)	Quarterly 2017	59.00	47.88 - 59.00	80	—	No	By-product of drinking water chlorination.
Haloacetic Acids (ppb) (HAA5)	Quarterly 2017	29.00	21.88 - 29.00	60	—	No	By-product of drinking water disinfection.
Chlorine (ppm) (free, total or combined)	Monthly 2017	0.59	0.55 - 0.59	4	4	No	Water additive used to control microbes.

\*\*\*Running Annual Average

**Unregulated Contaminants** are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminants monitoring is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated Contaminants	Date(s) Collected	Highest Result Detected	Range Detected	Possible Source of Contamination
Bromodichloromethane (ppb)	Quarterly 2017	7.3	0.54 - 7.3	Trihalomethane; by-product of drinking water chlorination.
Bromoform (ppb)	Quarterly 2017	0.73	0 - 0.73	Trihalomethane; by-product of drinking water chlorination.
Chloroform (ppb)	Quarterly 2017	8.6	0 - 8.6	A by-product of drinking water chlorination (regulated collectively with total trihalomethanes (TTHMs); in non-chlorinated sources, chloroform may be naturally occurring.
Dibromochloromethane (ppb)	Quarterly 2017	5.1	2.6 - 5.1	Trihalomethane; by-product of drinking water chlorination.

Unregulated Contaminants* (Continued)	Date(s) Collected	Average Detected	Range Detected	Possible Source of Contamination
Chromium (ppb)	05/16/2013 11/20/2013	0.3	0.3	Discharge from steel and pulp mills; erosion of natural deposits.
Strontium (ppb)	05/16/2013 11/20/2013	185	60-300	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium (ppb)	05/16/2013 11/20/2013	0.3	0.2-0.4	Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.
Chromium, Hexavalent (ppb)	05/16/2013 11/20/2013	0.10	0.05-0.25	Discharge from steel and pulp mills; erosion of natural deposits.
Chlorate (ppb)	05/16/2013 11/20/2013	198	63-360	Agricultural defoliant or desiccant; disinfection by-product; and used in production of chlorine dioxide.
1,4 Dioxane (ppb)	05/16/2013 11/20/2013	0.12	0.08-0.16	Discharge from chemical manufacturing and landfills.

\* Next sampling round as per MassDEP regulation 2020.

**Secondary Contaminants** are non-mandatory water quality standards. The EPA does not enforce “secondary maximum contamination levels” or SMCL. They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations such as taste, color and odor. These contaminants are not considered to present a risk to human health at the SMCL.

Secondary Contaminants	Date(s) Collected	Range Detected	SMCL	Indications of Contamination
Hardness (ppm)	07/11/2017	44 - 168	—	Not applicable (No SMCL)
Iron (ppm)	07/11/2017	0.09	0.3	Rusty color; sediment; metallic taste; reddish or orange staining.
Manganese (ppm)	07/11/2017	ND - .011	0.05	Black to brown color; black staining; bitter metallic taste
pH	Daily 2017	7.2 - 8.0	6.5 -8.5	Low pH: bitter metallic taste; corrosion. High pH: slippery feel; soda taste; deposits.

**ppb:** parts per billion, or micrograms per liter (ug/L)

**Lead and Copper 90th Percentile:** Out of every 10 homes sampled, 9 were at or below this level.

**ppm:** parts per million, or milligrams per liter (mg/L)

**Action Level:** The concentration of a contaminant, which if exceeded, triggers treatment or other requirements that a water system must follow.

**ND:** None Detected      — : Not Applicable

**Maximum Contamination Level Goal or (MCLG):** The level of a contamination in drinking water below, which there is no known or expected risk to health MCLGs allow for a margin of safety.

**Maximum Contamination Level or (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Residual Disinfectant (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants (ex. chlorine, chloramines, chlorine dioxide).

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not effect the benefits of the use of disinfectants to control microbial contaminants.

*(1) The data presented in this report is from the most recent testing done in accordance with federal regulations for the lead and copper rule.*

We hope you find this report informative, allowing you the opportunity to become familiar with your public water supply. Your Commissioners and District employees strive to achieve the highest quality drinking water together with outstanding customer service. We invite your comments and questions regarding the District, its operation and this Annual Quality Report. Questions, comments or concerns may be addressed by calling (978) 443-6602.

Additional copies of this report are available at our business office:

**199 Raymond Road**  
**Hours of operation (9 a.m - 4 p.m, M-F)**

For more information about how Sudbury Water District maintains the safety of your drinking water, and to view previous years' reports go to [www.sudburywater.com/my-water/water-quality](http://www.sudburywater.com/my-water/water-quality).

**VISIT OUR WEBSITE FOR THE LATEST NEWS AND INFORMATION  
ON FLUSHING, WATER RESTRICTIONS, MEETINGS, AND MORE!**



## FLUSHING

Sudbury Water District flushes hydrants every spring and fall, in an effort to clear water mains of sediment and mineral build up.



## RESTRICTIONS

See current restrictions at [www.sudburywater.com](http://www.sudburywater.com).

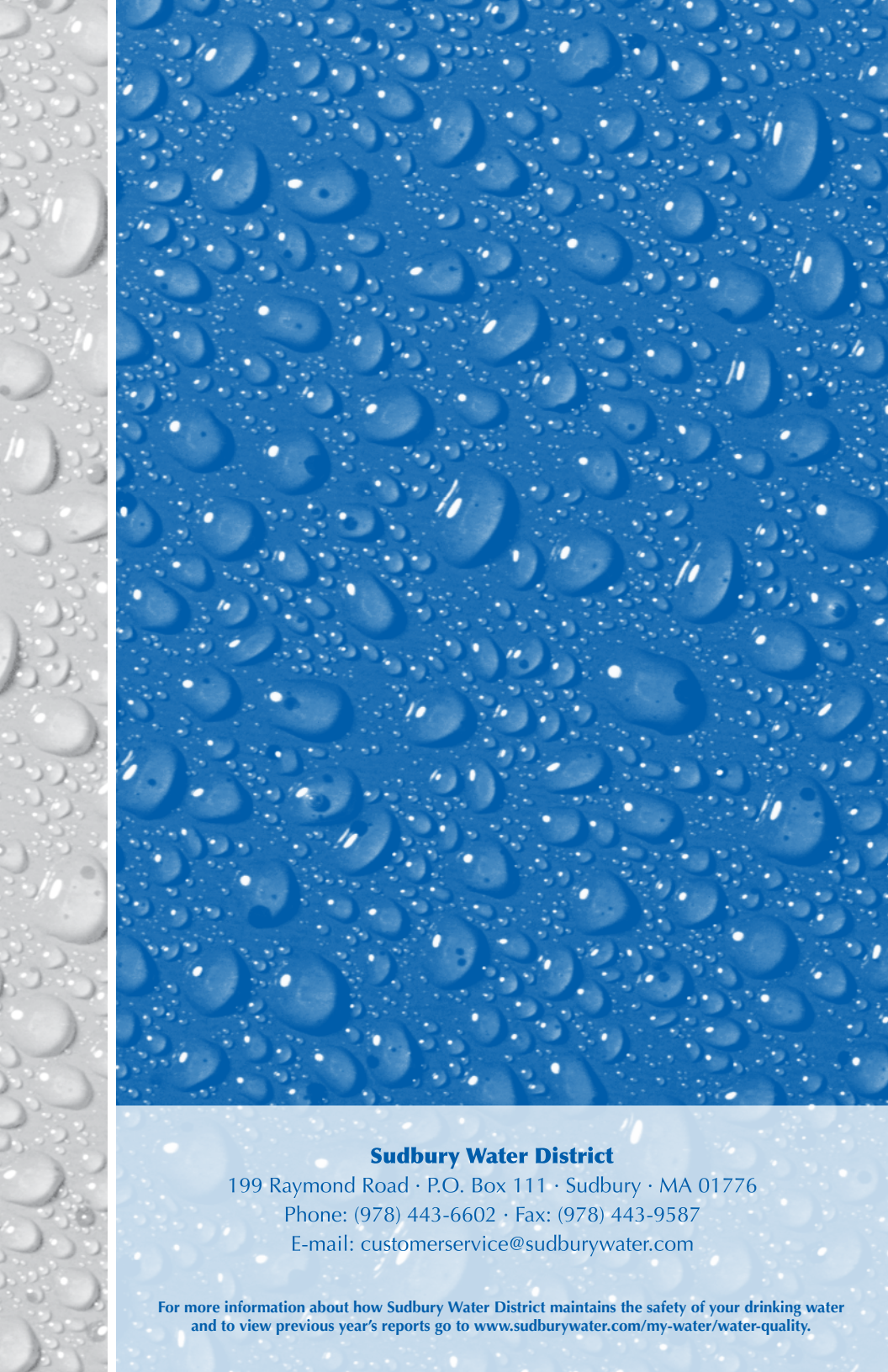


## MEETINGS

All meetings are held at 5 p.m. at the office of the Sudbury Water District, 199 Raymond Road.

**PLUS, PAY YOUR BILL ONLINE AT [WWW.SUDBURYWATER.COM](http://WWW.SUDBURYWATER.COM)!**

To view current outdoor water restrictions, standards and guidelines please visit:  
[www.sudburywater.com/outdoorwaterrestrictionstandardsandguidelines](http://www.sudburywater.com/outdoorwaterrestrictionstandardsandguidelines).



### **Sudbury Water District**

199 Raymond Road · P.O. Box 111 · Sudbury · MA 01776

Phone: (978) 443-6602 · Fax: (978) 443-9587

E-mail: [customerservice@sudburywater.com](mailto:customerservice@sudburywater.com)

For more information about how Sudbury Water District maintains the safety of your drinking water and to view previous year's reports go to [www.sudburywater.com/my-water/water-quality](http://www.sudburywater.com/my-water/water-quality).