

EASTHAMPTON WATER WORKS

Water Quality Report

2013

No. 16

Spring 2014

Easthampton Water Wins Taste Test!

The Easthampton Water Works came home with the first place trophy from the Massachusetts Rural Water Association's 8th annual Drinking Water Taste Test. On September 12, 2013. The Water Department went on to compete against winners from the other 49 states at the Rural Water Rally held in Washington DC in February 2014.

Welcome to the Easthampton Water Works 2013 Water Quality Report. This is our 16th annual report. Inside you will find important information regarding the water supplied to Easthampton homes and businesses.

Over 100 years ago, Easthampton, a growing mill town realized the need for a high quality and plentiful source of drinking water. They found such a supply literally under their feet. Today this source is still supplying water of excellent quality.

The staff here would like you to know we remain hard at work ensuring the water you use today is of the same quality that they found in 1908. However we cannot do this alone, protecting this water supply begins with those that live and work on top of it. We encourage you, the customer, to learn about your water supply and the ways you can help preserve it and protect it. By becoming an active partner with the Easthampton Water Works you can help assure an abundant and safe water supply for many years to come. Please read this report and call, write, or email us with any questions or comments. We'd love to hear from you.

*This report was designed by
Mike Czerwiec of the Easthampton Water Works.*



IMPORTANT INFORMATION ON: Cross Connection Control and Backflow Prevention

The Easthampton Water Works makes every effort to ensure that the water delivered to your tap is clean, safe and free of contamination. When the water reaches your home or business there is still the need to protect it from contamination caused by a cross-connection.

What is a cross-connection?

A cross-connection is any actual or potential connection between the drinking water lines and a potential source 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 the event of a backflow.

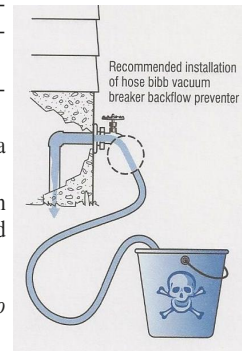
What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backwards flow 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 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 line 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 bib vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to 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.



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Where Does Easthampton Get Its Water?

THE SOURCE

Easthampton is one of many communities across the state that relies on groundwater for its source of drinking water. Our drinking water comes from the Barnes Aquifer system, a complex of several productive aquifers extending about twelve miles beneath portions of four communities: Westfield, Holyoke, Southampton, and Easthampton. Over 60,000 area people depend on this aquifer for their drinking water. In acknowledgement of the importance of this source, the EPA designated the Barnes Aquifer in Easthampton, a sole source aquifer on May 12, 1995. To earn this designation, an aquifer must supply more than 50% of the drinking water for the service area, and the communities must have no viable economical source alternative. (To read more about the formation of the Barnes Aquifer please visit the Barnes Aquifer page at www.pvpc.org/bapac/about.html)

WELLS

Currently, there are five active wells that draw water from the aquifer in Easthampton; these are the Nonotuck Park well, the Brook Street well, the Hendrick wellfield and Pines well off Hendrick Street, and the Maloney well off Lovefield Street. The Nonotuck Park well and Brook Street wells are high quality sources that are pure enough to enter the distribution system without any treatment or chemical additions. These sources account for about 50% of the total daily supply. In the early 1980s the Hendrick Street wellfield and the Pines well were found to contain the volatile organic compound, Trichloroethylene, or TCE, in amounts that exceeded the maximum contaminant level (MCL) set by the USEPA, therefore that water must undergo treatment. The Maloney well is used primarily as a back-up source during times of high demand.



Easthampton waterworks supervisor Tom Newton, right, and Water Works employee Scott McCarthy, left, stand with the first-place trophy won in the eighth annual Massachusetts Rural Water Association Water Taste Test Competition.

TREATMENT

Easthampton treats its water using packed tower aeration technology. Water from the Pines well and the Hendrick wellfield is pumped to the top of an 11-foot diameter, 36-foot high tower, which is filled with a specially designed packing material. As the water drops down the tower, air is blown in from the bottom. This process breaks the water into tiny particles and allows the air to strip away the volatile contaminants. TCE, which is detected in amounts up to 6 parts per billion in the raw water, is not detected in the treated water.

After aeration the treated water collects in a clearwell. This water requires disinfecting prior to entering the distribution system. This is done by the addition of chlorine gas as the water is being pumped into the system. Enough chlorine is added to maintain a residual of 100 ppb as the finished water enters the distribution system. The Easthampton Water Works does not add fluoride or any other chemicals, besides chlorine, to the finished water.

DISTRIBUTION

From the well or the treatment plant, depending on the source, the water enters the distribution system to be delivered to the customers tap. This system consists of three 75 horsepower high head pumps at the Hendrick Street plant, the Brook Street, Nonotuck Park, and Maloney wells each have a 125 horsepower pumps. Depending on demand one or more of these pumps will be drawing water from the ground and into the mains. These pumps also provide system pressure. Approximately 130 miles of underground water main delivers water to all points around town. Over 700 hydrants provide fire protection and access for maintenance activities such as flushing. Service connections, to over 5,400 homes and businesses, bring the water to the tap.

STORAGE

Three storage tanks hold a combined 7.67 million gallons. These help maintain an adequate supply and system pressure when the pumps are off, demand exceeds pumping capacity, or in an emergency such as a large fire. The oldest tank, built in 1910, holds 1.67 million gallons and is located on the slope of Mt. Tom. At the time of this writing this tank is off line due to structural problems and is being evaluated for repair or replacement. A 4-million-gallon tank, built in 1989, is located in the Loudville section of Easthampton off Drury Lane. Our newest tank, built in 2000 is located off Burt Street on land donated by the Kuzeja family. This tank has a capacity of 2.0 million gallons

SWAP REPORT AVAILABLE

A source water assessment was conducted of the Easthampton water supply. A susceptibility ranking of HIGH was assigned to this system using the information collected during the assessment by the Mass DEP. The complete SWAP report is available at the water department or DPW office and online at <http://www.mass.gov/dep/water/drinking/swapreps.htm>



The 4.0 Million Gallon Drury Lane Tank

CROSS CONNECTION SURVEY PROGRAM

The Massachusetts Drinking Water Regulations, 310 CMR 22.00, requires all public water systems to have an approved and fully implemented Cross-Connection Control Program (CCCP) The Easthampton Water Works is working diligently to protect the public health of its drinking water customers from the hazards caused by unprotected cross-connection through the implementation of its cross-connection survey program, elimination or proper protection of all identified cross-connections, the registration of all cross-connections protected by a reduced pressure backflow preventer (RPBPs) or a double check valve assemblies (DCVAs), and the implementation of a testing program for all RPBPs and DCVAs.

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-connections by your water purveyor. If your property has **NOT** been surveyed for cross-connections contact the water department to schedule a cross-connection survey. If you have any questions, please contact:

Michael Czerwec at 529-1422

Vulnerability

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791)

Easthampton Water Works

109 Hendrick Street
Easthampton, MA 01027
Phone (413) 529-1422
Fax (413) 529-1431

PWS ID # MA1087000

Primary Water Source Barnes Aquifer

100% Groundwater

Approved Daily Pumping Volume

6.295 Million Gallons

Gallons Pumped 2012

590 Million Gallons

Daily Average Pumped

1.61 Million Gallons

Population Served

16,000

Number of Services

5725

Supervisor

Tom Newton

dpwtom@easthamptonwater.com

Foreman

Kurt Affhauser

Craftsmen

Tom Korona

Ken Bluemer

Equipment Operator

Scott McCarthy

Water Quality Programs

Mike Czerwiec

mczerwiec@easthamptonwater.com

Customer Billing

Lori Reynolds

Phone (413) 529-1410

Fax (413) 529-1490



DEFINITIONS:

1. MAXIMUM CONTAMINANT LEVEL (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.

2. MAXIMUM CONTAMINANT LEVEL GOAL (MCLG): THE LEVEL OF A CONTAMINANT IN DRINKING WATER BELOW WHICH THERE IS NO KNOWN OR EXPECTED RISK TO HEALTH. MCLGS ALLOW FOR A MARGIN OF SAFETY.

3. PARTS PER MILLION (PPM): ONE PART PER MILLION (OR MILLIGRAMS PER LITER) CORRESPONDS TO ONE PENNY IN \$10,000.

4. PARTS PER BILLION (PPB): ONE PART PER BILLION (OR MICROGRAMS PER LITER) CORRESPONDS TO ONE PENNY IN \$10,000,000.

5. BDL: BELOW DETECTION LIMIT

6. ND: NOT DETECTED.

7. ACTION LEVEL (AL): THE CONCENTRATION OF A CONTAMINANT WHICH, IF EXCEEDED, TRIGGERS TREATMENT OR OTHER REQUIREMENTS WHICH A WATER SYSTEM MUST FOLLOW.

8. 90TH PERCENTILE: A STATISTICAL MEASURE USED IN THE LEAD AND COPPER RULE. A TEST RESULT AT THE 90TH PERCENTILE LEVEL MEANS THAT 90 PERCENT OF ALL THE TEST RESULTS FALL BELOW THAT LEVEL.

WATER RESOURCES

CONTACTS

Easthampton Water Works	1(413) 529-1422
Easthampton City Planner	1(413) 529-1406
Mass DEP Western Office	1(413) 784-1100

PUBLIC PARTICIPATION

Easthampton Aquifer Protection Committee:

Call the City Clerk @ 529-1460 for meeting times

Barnes Aquifer Protection Advisory Committee:

Call the City Clerk @ 529-1460 for meeting times

Easthampton Board of Public Works:

Call the DPW office @ 529-1410 for meeting times.

WEBSITES

American Water Works Association - www.awwa.org
Barnes Aquifer - www.pvpc.org/bapac/index.html
Mass DEP - www.mass.gov/dep/
Waterwiser - www.waterwiser.org
Groundwater Foundation - www.groundwater.org
National Drinking Water Clearing House - www.ndwc.wvu.edu
U.S. Environmental Protection Agency - www.epa.gov/OGWDW/

Find us on Facebook: <https://www.facebook.com/Ewaterworks?ref=hl>

Substances Expected to Be In Drinking Water

The 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, and 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, and farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, 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.

In order to ensure that tap water is safe to drink, the MassDEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health..

EASTHAMPTON'S WATER QUALITY

Below is a summary of the contaminants detected in your drinking water during 2013. For contaminants marked with an asterisk sampling was not required or a monitoring waiver was granted for 2013, therefore the most recent detection of the contaminant was included in the chart. The most recent detections occurred in 2011.

Regulated Substances (units)	MCL ¹	MCLG ²	Highest Level	Range	Typical Sources
Nitrates (ppm) ³	10	10	4.6	1.9-4.6	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Volatile Organic Compounds (units)	MCL ¹	MCLG ²	Highest Level	Range	Typical Sources
Trichloroethylene (TCE) (ppb)	5	0	1.4	ND ⁶ -1.4	Discharge from metal degreasing sites and other factories.

Inorganic Substances (units)	MCL ¹	MCLG ²	Highest Level	Range	Typical Sources
Barium (ppm)*	2	2	0.39	0.222-0.390	Discharge of drilling wastes. Discharge from metal refineries Erosion of Natural Deposits
Chromium (ppb)	100	100	1.0	0.63-1.0	Discharge from steel and pulp mills. Erosion of natural deposits.

Lead & Copper* (units)	Action Level ⁷	MCLG	90th Percentile ⁸	Number of Sites found above the action level	Typical Sources
Lead (ppb) ⁴	15	0	4.3	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppb)	1.3	1.3	0.067	0	

Non-Regulated Substances (units)	Recommended Level	Highest Level	Range	Typical Sources
Sulfate (ppm)	250	20	14-20	Naturally Occurring
Sodium (ppm)*	28	16	12 - 16	Naturally Occurring

UCMR3 (units)	Highest Level	Range	More information on UCMR3
Strontium (ppb)	137	105-137	Unregulated contaminants are those that don't yet have a drinking water standard set by the US Environmental Protection Agency. The purpose of monitoring for these contaminants is to help US EPA decide whether the contaminants should have a standard. For more information you may refer to the UCMR3 Data Summary at http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/data.cfm#ucmr2013 . The American Water Works Association (AWWA) also has fact sheets available at http://www.drinktap.org/home/water-information/water-quality/ucmr3.aspx
Vanadium (ppb)	0.76	0.44-0.76	
Hexavalent Chromium (ppb)	0.87	0.42-0.87	
Chlorate (ppb)	32.2	14.8-32.2	
1,4 Dioxane (ppb)	0.038	ND-0.038	

Did you know...

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 (1-800-426-4791).

Want More Information? Call U.S.EPA's Safe Drinking Water Hotline at 1-800-426-4791 OR VISIT THEM ON THE WORLD WIDE WEB @ www.epa.gov