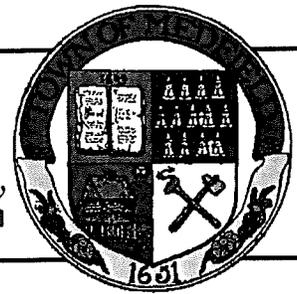


# 2004 Water Quality Report

## Town of Medfield, Massachusetts



The Medfield Water Department is a registered Public Water Supplier (PWS) with the State:

PWS ID#: 3175000

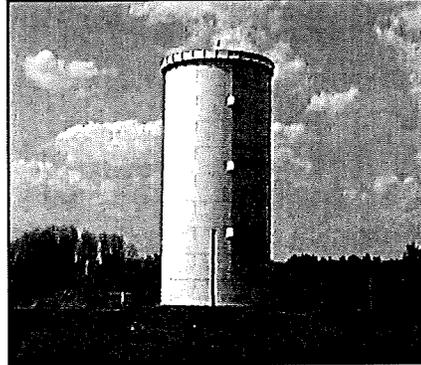
PWS NAME:

Medfield Water Department

We are located at the Medfield Town House, 459 Main Street.

The phone number for the Water and Sewer Department is 508-359-8505 x601.

The Board of Water and Sewer Meetings are held on the 1st and 3rd Thursdays of each month at 7 p.m. at the Medfield Town House.



*A view of the State Hospital Water Storage Tank.*

The Town of Medfield's Water Department is committed to providing customers with a safe and reliable supply of high-quality drinking water that exceeds state and federal standards. To ensure delivery of a quality product, we perform extensive water quality monitoring and continue to make significant improvements to our water system. Safe water is vital to our community and informed consumers are our best allies in maintaining safe drinking water. This "Water Quality Report," required by the Safe Drinking Water Act, is mailed to you annually and explains where our water comes from, what our tests show about it, and other relevant information you should know about our drinking water.

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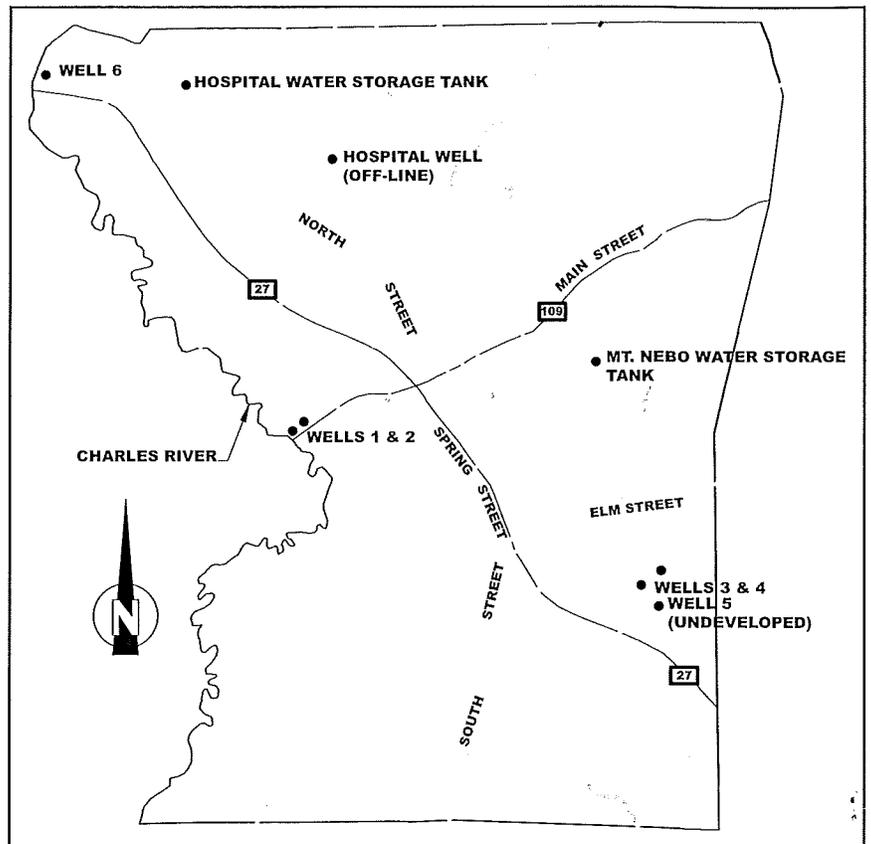
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Town of Medfield  
Board of Water and Sewerage  
Medfield, MA 02052

# The Medfield Water System

The origin of our water is from five groundwater supply wells referred to as Wells 1, 2, 3, 4 and 6 (Note: Well 5 was not fully constructed due to high levels of iron and manganese in its water). Wells 1, 2 and 6 are located in the Charles River aquifer while Wells 3 and 4 are located in the Neponset River aquifer. The water system also includes five pumping facilities for the distribution of water, two water storage tanks, and approximately 76 miles of water main.

Medfield's groundwater sources are all mildly acidic in their natural state, as is typical throughout New England. If the groundwater is not treated to remove the acidity, the water will have a tendency to corrode and dissolve the metal piping it flows through. This will eventually cause damage to the pipes and can also add harmful metals, such as lead and copper, to the water. For this reason, our source water receives treatment with sodium hydroxide to neutralize acidity at all five well sites before it enters the water system and is supplied to our customers. This treatment process is fully approved by the state. Testing throughout the system has shown that this treatment has been very effective at reducing the corrosion of water piping and preventing harmful metals, such as lead and copper, from dissolving into the water.



Medfield Water System Map

Additionally, two of Medfield's water supply wells (Wells 1 and 2) are treated for the removal of trace amounts of tetrachloroethylene (PCE). PCE is used mainly by industry for cleaning and degreasing of metals, and as a solvent for dry cleaning. PCE is not found naturally in groundwater and its presence is typically associated with past discharges from industrial sites.

The treatment of these wells has been completely successful in eliminating the PCE from the finished water. The treatment process consists of aerating the raw water, which volatilizes or "strips off" the PCE, followed by disinfection using chlorine, to prevent bacteriological contamination. This treatment process is fully approved by the state and since its implementation the finished water from these wells has been completely free of PCE.

## Source Protection Information



### What is SWAP?

The Source Water Assessment and Protection (SWAP) program was developed by DEP to assess the susceptibility of public water supplies.

### What is Medfield's Water System Ranking in the SWAP?

A susceptibility ranking of "High" was assigned to the Medfield Water System using the information collected during the water system assessment by the DEP.

### Where Can I See the Medfield SWAP Report?

The complete SWAP report is available at the Water Department in the Town Hall and online at [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/). For more information, call Mary Luciano at 508-359-8505 x601.

# Water Quality Summary

Our water is tested extensively to assure that it is safe and healthy. We test for hundreds of potential contaminants in accordance with state and federal standards. Listed below are the only contaminants detected in Medfield's drinking water in 2004. It is important to note that none of these contaminants were detected at levels higher than the state and federal standards for drinking water.

CONTAMINANT	90TH PERCENTILE	# OF SITES EXCEEDED	# OF SITES SAMPLED	ACTION LEVEL	MCLG	VIOLATION (YES/NO)	POSSIBLE SOURCE OF CONTAMINATION
Copper (mg/L)	0.17	0	30	1.3	1.3	NO	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
Lead (mg/L)	0.003	0	30	0.015	0.015	NO	Corrosion of household plumbing system; Erosion of natural deposits.
MICROBIOLOGICAL CONTAMINANTS							
Total Coliform	195 samples taken.		1 positive detection in one month		NO	Naturally present in environment.	
Fecal Coliform	1 samples taken.		1 positive detection, repeat samples taken had no detection		NO	Human and animal fecal waste.	
CONTAMINANT	Highest Level Detected	Range Detected	Average Detection	Highest Level Allowed (MCL)	Ideal Goals (EPA's MCLGs)	VIOLATION (YES/NO)	POSSIBLE SOURCE OF CONTAMINATION
Nitrate (mg/L)	3.44	0.35 - 3.44	1.24	10	10	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
INORGANIC CONTAMINANTS							
Sodium (mg/L)	28.9	28.3 - 28.9	28.53	NR	NR	NO	Erosion of natural deposits.
Sulfate (mg/L)	18.5	0 - 18.5	9.77	NR	NR	NO	Erosion of natural deposits.
ORGANIC CONTAMINANTS							
Bromoform (ug/L)	1.5	ND - 1.5	0.43	NR	NR	NO	By-product of drinking water chlorination.
Chlorodibromomethane (ug/L)	0.5	ND - 0.5	0.13	NR	NR	NO	By-product of drinking water chlorination.

## Important Definitions

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

**DEP** is the abbreviation for the Department of Environmental Protection.

**EPA** is the abbreviation for the Environmental Protection Agency

**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.

**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.

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

**ND** = Substance not detected in the sample.

**NR** = Not regulated by the EPA.

**mg/L** = Milligrams per liter or parts per million (ppm)

**ug/L** = Micrograms per liter or parts per billion (ppb)

**Measurements:** In this report, one milligram per liter (mg/L) means that one milligram of a substance can be detected in a liter of water. To put this into perspective, one milligram per liter (mg/L) is approximately one drop in ten gallons of water, one inch in sixteen miles or one penny in ten thousand dollars.

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# *Substances in Your Tap Water*

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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, or farming.

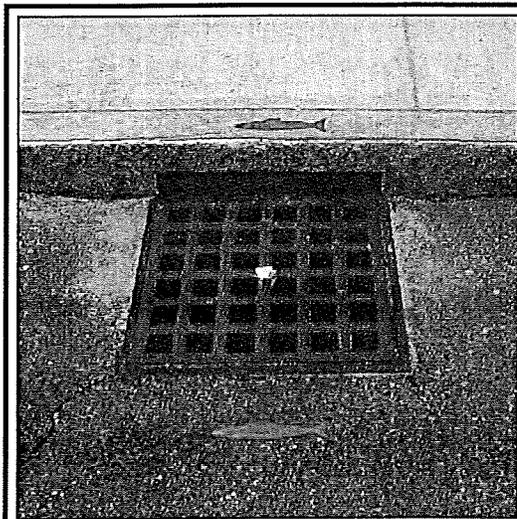
Pesticides and herbicides - which may come from a variety of sources such as agricultural, urban stormwater runoff, and residential uses.

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.

In order to ensure that tap water is safe to drink, the DEP and the 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. 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 Safe Drinking Water Hotline at **800-426-4791** or your local water supplier.

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 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).



Medfield Boy Scout Pack 113 is doing a Stormwater Drain Marking Project which is being sponsored by the Medfield Department of Public Works (DPW). The boy scouts will be placing “blue fish” markers on catchbasins throughout the Town, as shown in this picture. The purpose of the markers is to remind people not to dump trash or other harmful pollutants in catchbasins. Catchbasins are intended to transport excess rainwater to a surface water body, such as a stream, river or pond. Pollutants that enter catchbasins will also travel to that surface water body and can harm fish and the overall water quality, including the quality of our drinking water.