ADAMS FIRE DISTRICT

ADAMS, MASSACHUSETTS

2020

ANNUAL DRINKING WATER QUALITY REPORT

MassDEP PWSID # 1004000

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This report is a snapshot of drinking water quality that we provided last year. Included are 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 information because informed customers are our best allies.

1. PUBLIC WATER SYSTEM INFORMATION

Contact Person: **John Barrett, Adams Fire District Superintendent**

Water System Improvements

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts certified operators who oversee the routine operations of our system. As part of our commitment to our valued customers, we recently expanded our leak detection and hydrant inspection programs. We have continued our meter replacement and hydrant flushing programs during normal hours of operation to mitigate costs. In addition, this year we processed 80 lead and copper samples, and tested all schools supplied by the District in an effort to evaluate the effectiveness of our current corrosion control system following our source water treatment change. On October 15, 2020 we tested for the newly regulated PFAS6 almost a year before required; unfortunately, due to lab errors, we had to resample in 2021. I am happy to say these PFAS6 results came back as “NO DETECT.”

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events. The Prudential Committee meets monthly. Meetings are posted 48 hours in advance at the District Office and Town Hall. Please call the District Office for more information at (413) 743-0179.

2. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your drinking water comes from three wells sunk about 80-100 feet into an underground source of water located in the Upper Hoosac River Valley in the Town of Cheshire. These wells are known as Cheshire Harbor Wells #2A, 3, and 4. These locations also serve as District’s Treatment Facilities. The District owns the land around them and restricts any activity that could contaminate them. The three wells are gravel-packed wells with a combined capacity of 3600 GPM. Your water is provided by the following sources listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Well 2A	1004000-02G	Groundwater	264 East View Drive, Cheshire, MA
Well 3	1004000-03G	Groundwater	264 East View Drive, Cheshire, MA
Well 4	1004000-04G	Groundwater	264 East View Drive, Cheshire, MA

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 contaminants.

- Chlorine (sodium hypochlorite), a disinfectant, is added to protect you against microbial contaminants.
- The water is treated with CalciQuest® to reduce corrosion

The water quality of our system is constantly monitored by our staff and MassDEP to determine the effectiveness of the existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?

The Adams Fire District continues to remind our water users of the importance of protecting our source water. Protecting our drinking water source is essential for maintaining and improving the quality of human health and the environment. MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies to contamination by summarizing information about the activities and land uses within the recharge area.

What is My System's Ranking?

Our drinking water source, the Cheshire Harbor Wellfield, was given a susceptibility ranking of moderate to high using the information collected during the assessment by MassDEP. A "moderate to high" susceptibility ranking is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

Where Can I See the SWAP Report?

The complete SWAP report is available at the Adams Board of Health at 8 Park Street and online at http://mass.gov/eea/docs/dep/water/drinking/swap/wero/1004000.pdf. For more information, call Water Superintendent John C. Barrett at (413) 743-0978, ext. 13.

What Are the Key Issues for Our Water Supply?

The SWAP Report notes the key issues of following best management practices related to spill prevention and implementing a wellhead protection plan for the water supply protection area of Wells #2A, 3, and 4.

What Can Be Done To Improve Protection?

The SWAP report recommends:

- That the Adams Fire District follows Best Management Practices (BMP's) focusing on spill prevention, and operational practices to reduce the use and release of hazardous materials.
- That the Adams Fire District and the Town of Cheshire work together to implement a Wellhead Protection Plan and establish wellhead protection controls for the Cheshire Harbor Wellfield.

Residents can help protect sources by:

- Practicing good septic system maintenance,
- Supporting water supply protection initiatives at District meetings,
- Taking hazardous household chemicals to hazardous materials collection days,
- Volunteering for education outreach programs at schools,
- Limiting pesticide and fertilizer use, etc.

3. 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, 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 Department of Environmental Protection (MassDEP) and 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 (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 (800-426-4791).

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 Adams Fire District 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.

4. IMPORTANT DEFINITIONS

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

Level 1 Assessment – A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment – A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

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.

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

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health.

MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Non-Detect (ND) – The laboratory did not detect the contaminant in the sample.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

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

Abbreviations

ppm	= parts per million, or milligrams per liter (mg/l)	NTU	= Nephelometric Turbidity Units
ppb	= parts per billion, or micrograms per liter (ug/l)	ND	= Not Detected
ppt	= parts per trillion, or nanograms per liter	N/A	= Not Applicable
pCi/L	= picocuries per liter (a measure of radioactivity)		

5. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

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

MassDEP has reduced the District monitoring requirements for all volatile organic compound (VOC's), all synthetic organic compounds (SOC's), and barium and fluoride, which are inorganic compounds (IOC's) because the source is not at risk of contamination. The last sample collected for these contaminants was taken in 2020. All samples were found to meet all applicable US EPA and MassDEP standards.

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	06-08-2020 07-21-2020	0	15	0	40	1	Corrosion of household plumbing systems; Erosion of natural deposits
	10-28-2020 10-29-2020	0	15	0	40	0	
Copper (ppm)	06-08-2020 07-21-2020	0.194	1.3	1.3	40	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
	10-28-2020 10-29-2020	0.350	1.3	1.3	40	0	

Lead and copper compliance is based on the 90th percentile value, which is the highest level found in 9 out of every 10 homes sampled or the average of the 2 highest levels if fewer than 10 homes are sampled. When the 90th percentile value is above the action level (AL), a public water system must implement corrosion control treatment.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	08-10-20	4.10	0.500 – 4.10	80	N/A	No	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	08-10-20	<1.00	<1.00	60	N/A	No	Byproduct of drinking water disinfection

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Antimony (ppb)	04-23-20	<1.0	-	6	6	No	Discharge from fire retardants; ceramics; electronics; solder
Arsenic (ppb)	04-23-20	<4.0	-	10	N/A	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	04-23-20	0.0131	-	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	04-23-20	<1.0	-	4	4	No	Discharge from electrical, aerospace, and defense industries; erosion of natural deposits
Cadmium (ppb)	04-23-20	<1.0	-	5	5	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	04-23-20	1.0	-	100	100	No	Discharge from pulp mills; erosion of natural deposits
Cyanide (ppb)	04-23-20	<10	-	200	200	No	Discharge from metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm) ■	04-22-20	<0.200	-	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (ppb)	04-28-20	<0.20	-	2	2	No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (ppm)	04-22-20	0.517	-	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrite (ppm)	04-22-20	<0.0100	-	1	1	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Perchlorate (ppb)	8-03-2020	ND		2	N/A	No	Rocket propellants, fireworks, munitions, flares, blasting agents
Selenium (ppb)	04-23-20	<5.1		50	50	No	Discharge from metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	04-23-20	<1.0		2	0.5	No	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

■ Fluoride also has a secondary contaminant level (SMCL) of 2 ppm

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Volatile Organic Contaminants							
Benzene (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	08-03-20	<0.50	-	100	100	No	Discharge from and agricultural chemical factories
o-Dichlorobenzene (ppb)	08-03-20	<0.50	-	600	600	No	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	08-03-20	<0.50	-	5	5	No	Discharge from industrial chemical factories
1,2-Dichloroethane (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)	08-03-20	<0.50	-	7	7	No	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	08-03-20	<0.50	-	70	70	No	Breakdown product of trichloroethylene and tetrachloroethylene
trans-1,2-Dichloroethylene (ppb)	08-03-20	<0.50	-	100	100	No	Discharge from industrial chemical factories

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Dichloromethane (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from industrial chemical factories
Ethylbenzene (ppb)	08-03-20	<0.50	-	700	700	No	Leaks and spills from gasoline and petroleum storage tanks
Styrene (ppb)	08-03-20	<0.50	-	100	100	No	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (PCE) (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from factories and dry cleaners; residual of vinyl-lined water mains
1,2,4-Triclorobenzene (ppb)	08-03-20	<0.50	-	70	70	No	Discharge from textile-finishing factories
1,1,1-Trichloroethane (ppb)	08-03-20	<0.50	-	200	200	No	Discharge from use in septic system cleaners
1,1,2-Trichloroethane (ppb)	08-03-20	<0.50	-	5	3	No	Discharge from industrial chemical factories
Trichloroethylene (TCE) (ppb)	08-03-20	<0.50	-	5	0	No	Discharge from metal degreasing sites and other factories
Toluene (ppm)	08-03-20	<0.50	-	1	1	No	Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories
Vinyl Chloride (ppb)	08-03-20	<0.50	-	2	0	No	Leaching from PVC piping; discharge from plastics factories
Xylenes (ppm)	08-03-20	<0.50	-	10	10	No	Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories; discharge from chemical factories

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Bromoform (ppb)	08-10-20	<0.500 – 0.930	-		N/A	Trihalomethane; by- product of drinking water chlorination
Bromodichloromethane (ppb)	08-10-20	<0.500 – 1.00	-		N/A	Trihalomethane; by-product of drinking water chlorination
Chloroform (ppb)	08-10-20	<0.500 – 0.660	-	N/A	70	By-product of drinking water chlorination (In non-chlorinated sources it may be naturally occurring)
Dibromodichloromethane (ppb)	08-10-20	<0.500 – 1.51	-	N/A	N/A	Trihalomethane; By-product of drinking water chlorination

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Secondary Contaminants						
Iron (ppb)	04-23-20	<0.0500 - 0.128	-	300	---	Naturally occurring, corrosion of cast iron pipes
Manganese* (ppb)	04-23-20	<0.0020	-	50	Health Advisory of 300 ppb	Erosion of natural deposits

6. COMPLIANCE WITH DRINKING WATER REGS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

Do I Need To Be Concerned About Certain Contaminants Detected In My Water?

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. Adams Fire District 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.

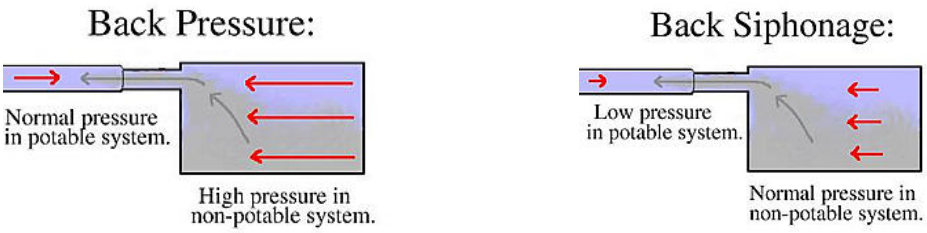
7. EDUCATIONAL INFORMATION

What is a Cross Connection and What Can I do about it?

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the area) when the hose is connected to the fertilizer, the fertilizer may be pulled back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), 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 (back siphonage). 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?

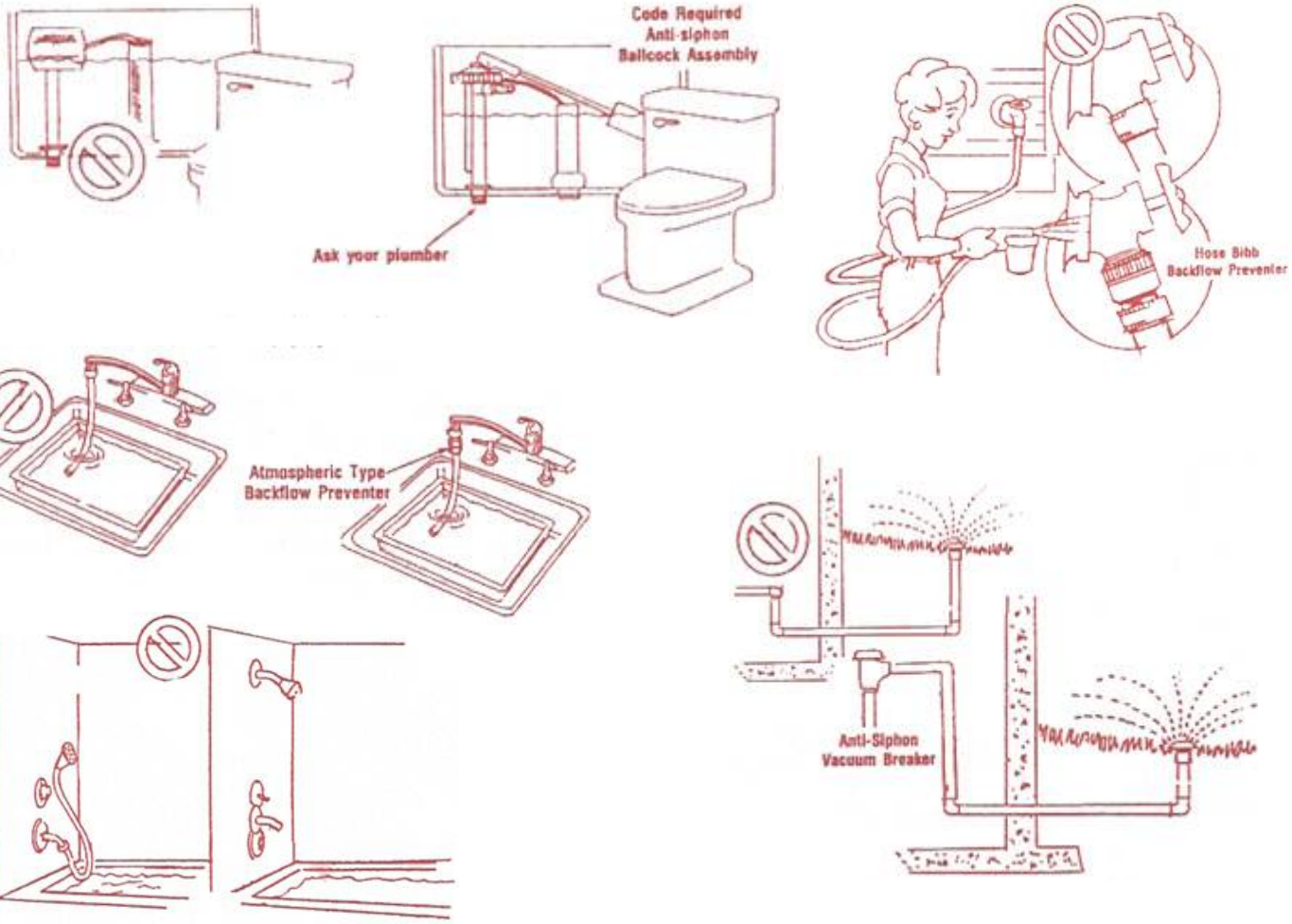
Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water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

The Adams Fire District recommends the installation of backflow prevention devices, such as a **low-cost** hose bibb vacuum breaker, for all inside and outside hose connections. You can purchase these devices at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water in the District. For additional information on cross connections and on the status of your water system's cross connection program, please call Adams Fire District Superintendent John C. Barrett at (413) 743-0978, ext. 13.

Some Examples Where Cross-connections Occur



8. ADDITIONAL INFORMATION

2020 in Review

This year, we have continued our annual water main flushing program. This program continues our efforts to provide the best quality water to our residents by scouring our distribution system to remove naturally occurring minerals and sediment that may have accumulated over the course of the year. Flushing also assists our operators with our Hydrant Replacement Program, as it allows us to evaluate the operation of hydrants. We repaired 5 hydrants and replaced 8 hydrants this year that had reached the end of their useful life. We discovered 11 hydrants with groundwater in the barrel, and during winter inspections, we discovered 4 hydrants in need of thawing that had frozen groundwater within the barrels.

This year, we managed to safely replace 298 water meters during the midst of the COVID -19 Pandemic. We repaired 7 distribution breaks/leaks and assisted with 11 water service repairs/replacements.

We have continued our now biannual Leak detection program, to aid in lowering our unaccounted water. Lost water within our distribution system is a financial burden to our rate payer's, it is also peril to the quality of our water, as an unrepaired leak can be conducive to a cross contamination risk. In addition, we also utilize this equipment to detect adjacent system issues after every repair, and hydrant use, as we strive to maintain a 100% contained system. At times this year, we witnessed daily pumping in the 0.5 million gallon range, which is substantially less than our current average of 0.765 million gallons per day. This was reflected in our annual pumping report. Our average annual pumping between 2015 and 2019 was 332.5 million gallons; average pumping in 2020 was approximately 279.2 million gallons, a reduction of 16%. Due to the drought conditions that occurred last summer, we had to implement the State mandated drought restrictions to remain in compliance with our Water Withdrawal permit. Increasingly stringent regulations are being enforced upon the District, unaccounted water has become a primary goal of compliance.

For more District information, please see our 144th Annual Report, which may be obtained at our office. Please visit our website, www.adamsfiredistrict.com or follow us on Facebook for more current information.