

DRINKING WATER

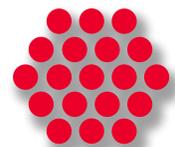
Report

essential, critical, vital

What is more essential than water?

It's a vital element of our daily lives, and the original source for refreshment and hydration.

Water is a critical natural resource delivering public health protection, support for our economy and quality of life.



**Apple
Valley**

Everyone in our community depends on a safe and reliable water supply. The City of Apple Valley is dedicated to producing drinking water that meets all state and federal drinking water standards. To assure quality, your water is routinely monitored for many potential contaminants. The results of monitoring and testing of the City's drinking water from January 1 to December 31, 2015 are shared on page 4 of this report.

We are happy to report that no contaminants were detected at levels that violated federal or state drinking water standards.



This report is provided to advance the understanding of drinking water and to heighten awareness of the need to protect precious water resources for all consumers.

As new challenges to drinking water safety emerge, we remain vigilant in meeting source water protection, water conservation and community education goals while continuing to serve the needs of all our water users.

In 2015, the Apple Valley water treatment plant processed 1,954,000,000 gallons of drinking water. Water is pumped from 16 groundwater wells, in the Jordan, Mt. Simon, and Prairie Du Chien-Jordan aquifers ranging from 487 to 1127 feet deep, to the water treatment plant. Four additional groundwater wells are used for aquifer monitoring or are designated as emergency wells.

The water treatment plant removes iron and manganese through a process called filtration. Iron and manganese are minerals found in abundant quantities in groundwater throughout the region. Although iron and manganese are not harmful to human health, these minerals can be a nuisance. Iron concentrations greater than 0.3 parts per million (ppm) can leave rust-colored stains on laundry, porcelain, and fixtures. Manganese levels greater than 0.05 ppm can tint the water, cause black spots in ice cubes, and cause the water to have a bitter, metallic taste.

Aesthetic water properties are not expected to have an impact on public health, however they may impact consumers' choices regarding use of water softeners, plumbing fixtures, home brewing, cleaning products, etc. The aesthetic water properties table on this page is provided as a handy reference.

In 2015, the City of Flint, Michigan suffered a water quality crisis that received national coverage. It brought attention to the challenges that water providers face and the practices that they implement to protect a healthy water supply. It was widely reported that the water quality in Flint suffered dramatically when concerns over cost motivated a decision to change their surface water source from Lake Huron, to the Flint River.

While it is true that many factors contributed to the water crisis, one major contributor was the lead water mains and service lines. These were common construction materials utilized early in the 20th century. As the source water changed, so did the treatment requirements and chemicals utilized in the process. As water was distributed through these pipes, lead leached into the water supply and was carried to consumers' taps. The lead was not detectable to the human eye and unfortunately it presents a health threat.

Apple Valley is a relatively new community and has no lead water main or service lines. In addition, surface water quality is more variable than the municipal groundwater wells Apple Valley utilizes.

The Minnesota Department of Health (MDH) administers the lead and copper sampling program in the state. This program has been in effect since 1992.

This event raised public interest and has prompted many residents to ask good questions. We encourage you to take the time to learn about our local water quality because informed consumers make the best allies.

The water Apple Valley provided to customers in 2015 met all drinking water standards. The Minnesota Department of Health has also made a determination as to how vulnerable our source of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, you can view it online at:

www.health.state.mn.us/divs/eh/water/swp/swa

 **Aesthetic Water Properties**

Component unit	Before Treatment	After Treatment
Iron ppm	0.385	0.058
Manganese ppm	0.091	0.035
Chlorine ppm	N/A	0.5-1.0
Fluoride ppm	0.19	0.5-0.9
Hardness grains/gallon	17	17



EPA Information

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through 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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Lead

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 City of Apple Valley 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>

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 at 1-800-426-4791.



Substances 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 agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts 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.

Substance (units) test date	MCL	MCLG	Level Detected	Range	Major Source of Contaminant	Meets Standards
Alpha Emitters (pCi/l) 5/22/2014	15.4	0	13	N/A	Erosion of natural deposits.	✓
Barium (ppm) 4/18/2013	2	2	0.25	N/A	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	✓
Chlorine (ppm)	4 (MRDL)	4 (MRDLG)	0.49*	0.3-0.7**	Water additive used to control microbes.	✓
Combined Radium (pCi/l) 5/22/2014	5.4	0	4.4	N/A	Erosion of natural deposits.	✓
Fluoride (ppm)	4	4	0.98	0.51-0.97	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.	✓
Haloacetic Acids (ppb)	60	0	5.7	4.8-5.7	By-product of drinking water disinfection.	✓
Nitrate (as Nitrogen) (ppm)	10.4	10.4	0.09	nd-0.09	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	✓
Total Trihalomethanes (ppb)	80	0	23.4	20.5-23.4	By-product of drinking water disinfection.	✓
Toluene (ppm) 12/16/2014	1	1	0.0004	N/A	Discharge from petroleum factories.	✓
Xylenes (ppm) 12/16/2014	10	10	0.0004	N/A	Discharge from petroleum factories; discharge from chemical factories.	✓
Substance (units) test date	AL	MCLG	90% Level	Sites Over AL	Major Source of Contaminant	Meets Standards
Copper (ppm) 6/27/2013	1.3	1.3	0.26	0 of 30 sites	Corrosion of household plumbing systems; Erosion of natural deposits.	✓
Lead (ppb) 6/27/2013	15	0	5.6	0 of 30 sites	Corrosion of household plumbing systems; Erosion of natural deposits.	✓

- Level Detected**-This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.
- 90% Percent Level**-90th Percentile Level. This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples.
- MCLG**-Maximum Contaminant Level Goal. 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.
- MCL**-Maximum Contaminant Level. 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.
- MRDL**-Maximum Residual Disinfectant Level.
- MRDLG**-Maximum Residual Disinfectant Level Goal.
- AL**-Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.
- ppm**-Parts per million, which can also be expressed as milligrams per liter.
- ppb**-Parts per billion, which can also be expressed as micrograms per liter.
- N/A**-Not Applicable (does not apply).
- pCi/L**-picocuries per liter (a measure of radioactivity)



*Highest quarterly average.
**Highest and lowest monthly average.

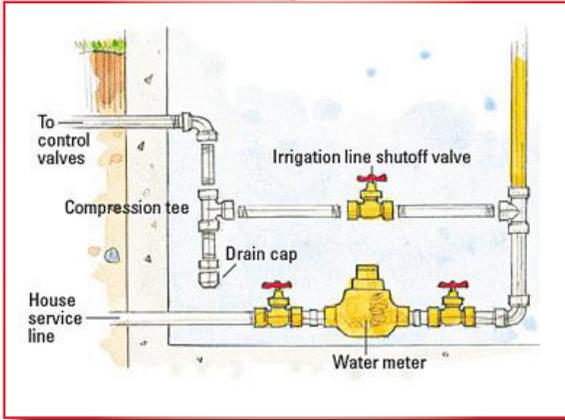
No contaminants were detected at levels that violated federal drinking water standards. However, the contaminants listed in the table above were detected in trace amounts that were within legal limits. Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2015. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.

Monitoring may have been done for additional contaminants that do not have MCLs established for them and are not required to be monitored under the Safe Drinking Water Act. Results may be available by calling 651-201-4700 or 1-800-818-9318 during normal business hours.

Water Meter Replacement Program

Residential and business meters will be replaced during the next few years with newer meter technology called Automatic Meter Reading (AMR) to allow remote access to water usage data. Water meters record the volume of water each property uses providing data for water accountability and billing accuracy. The average life expectancy of mechanical water meters is 15 to 20 years. Meters in Apple Valley range in age from 1 to 23 years old.

The City is currently evaluating numerous water meter types, data infrastructure needs, technology resources and costs. It is expected that a proposal request will be issued yet this year with program implementation anticipated for 2017.



There is no cost to the property owner to replace the water meter. The meter is typically located in the mechanical or laundry room. To replace the meter, the water will need to be shut off at the valves located on either side of the water meter. These valves and all plumbing inside the home or business are the responsibility of the property owner. In preparation for the water meter replacement program, it may be advantageous for you to be sure the valves and plumbing are operational.

The meter replacement program is expected to provide enhanced customer service with leak detection, identifying continuous flow and reverse flow events which indicate leaking faucets or toilets. In addition, the automated remote read capability will improve billing efficiency and eliminate the need for manual meter reads as the system becomes fully automated.

The City will provide additional information as the project progresses from the evaluation phase to implementation.

Water Restrictions

Lawn watering is permitted only before 11 a.m. and after 6 p.m. each day between May 1 and September 30.

Lawn watering refers to in-ground irrigation systems, mechanical sprinklers, and unattended hoses.

Residents using alternate sources for irrigation such as private wells or water from lakes and ponds are subject to the same lawn watering restrictions as users of the municipal water supply.

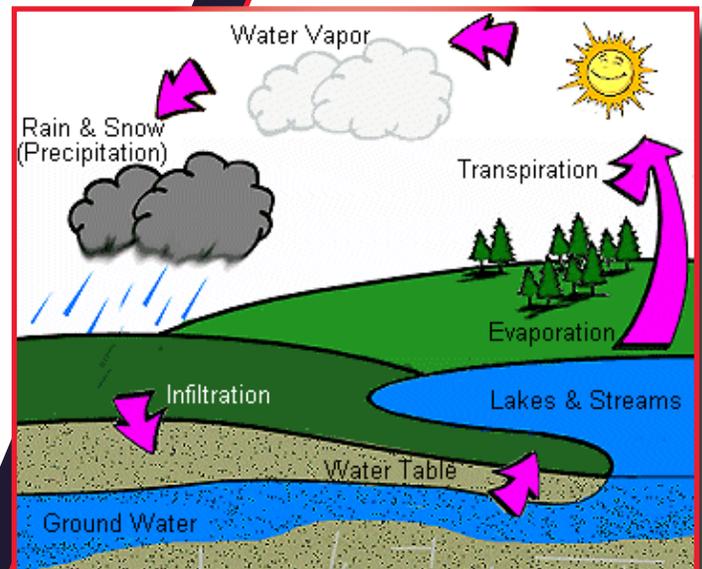
New sod laid and trees planted in the calendar year are exempt. Additional water restrictions may be implemented if necessary to maintain normal domestic and fire flow requirements.

The water use restrictions do not apply to hand watering (hose must be attended) of plants, and children's water toys when in use by children; in addition to non-irrigation water use (such as vehicle washing).

Water use restrictions were implemented to enhance water conservation, environmental stewardship, and comply with State regulations.



The Hydrologic Cycle



Protecting our Water Sources

What goes in here...



Ends up here!



Stormdrains connect directly to local lakes without receiving any treatment. Pollutants washed into the storm drain from streets wind up in your neighborhood pond.

So...

One bushel grass clippings



+

Washed into the storm drain



=

Makes 50 lbs. of algae



One quart oil



+

Dumped down the storm drain



=

Looks like this



Five bags of leaves



+

Pushed into the street



=

Makes 500 lbs. of algae



Water Conservation

Conservation involves protection, upkeep, maintenance, management, and preservation of the water supply. Be aware of the amount of water you use. Using water wisely will help protect this vital resource.

Implement these water conservation techniques in your daily routine:

- Water lawns early in the day and only when needed.
- Position sprinkler so water lands only on lawn or garden.
- Broom off driveway instead of washing.
- Repair irrigation system leaks promptly.
- Repair leaking faucets and toilets. A leak can waste thousands of gallons of water.
- Install water saving devices such as low flow shower heads or faucet aerators.
- Landscape with plants that require little water.

For water conservation information check out these websites:

www.epa.gov/water/kids.html
<http://www.drinktap.org/>

According to the EPA, the average American uses about 100 gallons of water each day. The water footprint of an individual, community, or business also includes the amount of water used to produce the goods and services utilized daily.

To find out more information on water footprints check out:

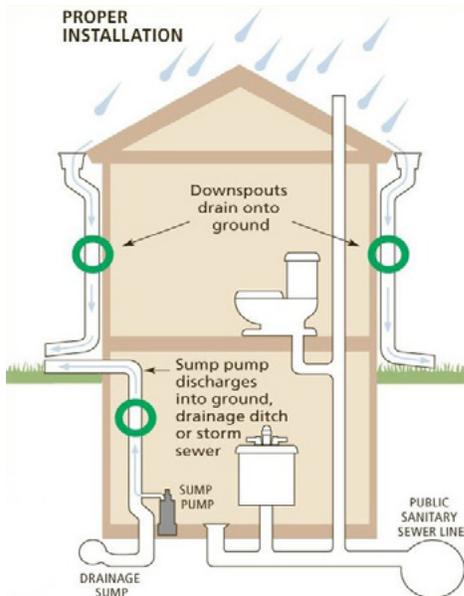
www.h2oconserve.org
www.waterfootprint.org
www.growingblue.com

Resident Information

Water system security is a high priority. We ask that residents assist with security by calling 952-953-2400 if unusual activity is observed around any water system building, fire hydrant, or reservoir. After hours, call the Police Department at 952-322-2323 or 911.

Fire hydrants should be kept clear of shrubs, landscaping, weeds, and trash. Hydrant markers are installed to aid emergency personnel in locating the hydrants. Many of the markers are constructed of fiberglass and should not be handled.

Clear water entering the sanitary sewer system is referred to as inflow and infiltration (I&I). Sump pumps discharging into the laundry tub or floor drain are a form of I&I. Discharge from sump pumps is prohibited by law from entering the sanitary sewer system. The treatment of clear water/I&I creates significant charges from the Met Council. The typical sump pump installation is rigid PVC pipe running from the sump pump to the outside of the house.



To have your water shut off for a repair, call 952-953-2400 a minimum of 48 hours in advance.

Know where the main water shut off valve is inside your home in case of an emergency.

A change in water pressure may be the result of a water softener problem. Try bypassing your water softener.

Check your homeowner's insurance policy to ensure coverage for sewer backups, water breaks and water damage. Many policies require additional riders for water and sewer coverage. The City is often not liable for damages.

Contact Gopher State One Call before you dig, plant trees, replace a driveway or landscape. Call either 651-454-0002 or 811.

The following items should *NEVER* be disposed of down the sink drain or toilet. They do not break down and are a major contributor to sewer backups.

- Food residue containing fats, oils, and grease (FOG) should be disposed of in the trash with household garbage.
- Non-biodegradable items such as diapers, baby wipes, cleaning wipes and towelettes, lint, q-tips, feminine hygiene products, paper towels, tissues, and makeup remover wipes. *Many of these products are advertised as flushable but can cause significant problems in your sewer service.*

Old medicines should not be put in the trash or down the drain. A medicine drop box is located in the Police Department lobby.



The storm drains are directly connected to neighborhood lakes, ponds and wetlands. Pollutants, contaminants and substances entering the storm drainage system can impair surface waters and drinking water supply. Remember only rain down the storm drain.

- Never dump any substance or materials, including aquatic plants and animals into the storm drains or water bodies.
- Sweep chemicals and yard wastes off driveways, sidewalks and streets when spills occur.
- Reduce stormwater runoff volume by installing a rain garden or native plant garden.

For after hour Water or Sewer Emergencies contact the Dakota Communications Center at 952-322-2323 or 911.



rethink YOUR DRINK



Wellhead Protection

Wellhead Protection is a way to protect drinking water sources from contamination through management of the capture zone (area around the well or water source). Much can be done to prevent contamination such as the proper use of chemicals, stormwater management, security, land and zoning management, prompt spill response, correct disposal of pharmaceuticals, chemicals, oils and all products.

In recent years, the Apple Valley Wellhead Protection Plan has proven its value by successfully protecting our water supply when land contamination incidents have threatened to contaminate the water supply. By diligently adhering to high standards and working in cooperation with the Minnesota Pollution Control Agency and Minnesota Department of Health, our community's source water has stayed safe and reliable.

How much sugar is in your drink?

Check the nutrition facts on your beverage label.

One teaspoon of granulated sugar equals 4 grams (g) of sugar.

Example: $40 \text{ g} \div 4 = 10$ teaspoons sugar.