

## New Water Treatment Plant is Now Operational

Although Chanhassen's water has always met all Primary Drinking Water Standards set by the Federal and State regulatory agencies, it has had problems with iron and manganese levels. These are two naturally occurring minerals that are not health concerns, but cause colored water that can stain household fixtures, clothing, and can produce undesirable tastes and odors. The City flushes all hydrants and watermains twice a year to remove the minerals from the system, but the wells continue to replace the materials that are flushed out. Chanhassen has wells that produce three times the iron, and seven times the manganese levels deemed acceptable by the Federal EPA's Secondary Drinking Water Standards, a measurement of desired water quality for municipal systems.

**How the new treatment plant works:** The process is designed to remove iron and manganese by gravity filtration. Specialized media will remove the minerals by attaching to the minerals as water passes through the sand filters. An additional benefit of the process is that other naturally occurring constituents like radium will also be removed during the filtration cycle.

Wells on the east side of the City are pumped directly to the new treatment plant for filtration and chemical injection before being pumped into the distribution system. Chlorine (for disinfection) and fluoride (for dental protection) are added at the same rates that were used before the treatment plant. These are the same chemicals that have been used in Chanhassen's water since its first well began pumping in 1965 and are required by the Minnesota Department of Health. The treatment plant will be able to produce approximately 8.6 million gallons of filtered water per day during peak demand. This would serve more than half of the city's residents.

**Does my house have treated water?** More than half of Chanhassen users are receiving treated water on an average pumping day. Residents in the high pressure zone are not receiving the treated water. The high pressure zone area is generally located west of Galpin Blvd., east of TH 41 and north of West 78th Street. The Pheasant Hills

neighborhoods are also in the high zone. A map showing the different pressure zones can be found on the City of Chanhassen website at [www.ci.chanhassen.mn.us/serv/maps.html](http://www.ci.chanhassen.mn.us/serv/maps.html).

City officials are planning on building a second treatment facility on the west side of town in 2012 to treat the other half of the users, in addition to meeting the projected ultimate needs of the community. The facilities will be financed and paid for through user and connection fees incorporated into the city's water rates. To find out more about the west water treatment plant, please reference the following website: [www.ci.chanhassen.mn.us/serv/projects.html](http://www.ci.chanhassen.mn.us/serv/projects.html).

**Will the treatment plant soften the water?** The treatment plant is not designed to soften the water. Most communities in the metro area do not soften the water since it is a very expensive and the degree of softened water is a personal preference. **However, the treatment plant has slightly lowered the hardness of the water. Some residents may experience a blue/green buildup on water fixtures. This may be an indication your water softener is now set too high for the treated water. When most softeners were installed, they were set at 26 grains of hardness or higher. Without the presence of the heavy loading of iron and manganese, the treated water is now calculated at 23 grains of hardness which is what your softeners should be adjusted to remove. The City is recommending you contact your softener service center or manufacturer to guide you through adjusting the settings, or hire them to perform this service. Changing the setting of your softener could substantially reduce the amount of salt and water used and save you money.**



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To: Chanhassen Resident

### Conservation



**Fix leaky faucets and fixtures**

**By conserving water, residents help improve overall water quality.**

It is imperative that the city balance our growing community's need for more water with the requirement that we protect our water resources from overuse. Lawn watering is the single biggest residential use of water in the U.S. and Minnesota. You can have a green lawn and conserve by using water efficiently:

- If your grass springs back when you step on it, it doesn't need watering.
- If it rains an inch or more, wait at least five days to water again.
- Use a sprinkler setting that delivers large drops, rather than a fine mist.
- Mow your grass to a length of 2 to 3", and let the clippings lie on the ground.



**Sprinkling is recommended before 8:00 AM or after 5:00 PM**

## Drinking Water Questions

### City Hotline

For up-to-date information on water outages or watermain repairs, call the Utility Hotline at 952-227-1317.

# Chanhassen Drinking Water Annual Report

This annual report outlines how Chanhassen drinking water compares to regulations set by the Environmental Protection Agency (EPA). The regulations are enforced by the Minnesota Department of Health. This report is part of the city's obligation to provide residents with timely and accurate information about the city's drinking water and water system. In this report, you will find information about Chanhassen's water system, drinking water information from the EPA, and lab test results for the city's drinking water during 2006.



## Water Supply & Contact Info



The City of Chanhassen operates ten wells that draw water from underground aquifers. The wells range in depth from 210 to 500 feet and are drilled into two different aquifers: the Quaternary Buried Artesian Aquifer and the Prairie Du Chien-Jordan Aquifer. Buried artesian aquifers are composed of water-saturated sand and gravel deposited by glaciers, with a confining layer of clay on top. The water in a confined aquifer is under pressure. When a well is installed, the water level in the well casing rises above the top of the aquifer. These shallow aquifers are found throughout Minnesota.

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. The water can also pick up substances resulting from the presence of animals or humans. Before a water source is used for a supply, it is tested for contaminants and other water quality parameters, which include:

- Micro-organisms, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural operations, and wildlife.**
- Inorganic contaminants, such as salts and metals, which can occur naturally or come from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.**
- Pesticides and herbicides, which may come from agriculture, urban stormwater runoff, and residential uses.**
- Organic chemicals, 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 occur naturally or result from oil and gas production and mining activities.**

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.

### Are Contaminants a Concern for Me?

Some people may be more vulnerable to contaminants found 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/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

**Radon:** This radioactive gas naturally occurs in some Minnesota groundwater. Recent monitoring revealed levels of radon between 44-287 pCi/L. Radon gas poses a lung cancer risk when released from water into air (as occurs during showering, bathing, or washing dishes or clothes) and a stomach cancer risk when it is ingested. Because radon in indoor air poses a much greater health risk than radon in drinking water, an Alternative Maximum Contaminant Level (AMCL) of 4,000 pCi/L may apply in states that have adopted an Indoor Air Program, which compels citizens, homeowners, schools and communities to reduce the radon threat from indoor air. For states without such a program, the MCL of 300 pCi/L may apply. Minnesota plans to adopt an Indoor Air Program once the Radon Rule is finalized.

**Arsenic:** While your drinking water meets the EPA standard for arsenic, it does contain low levels of arsenic. The new 10 ppb standard has been established to protect people who drink water containing arsenic in excess of the standard over many years from skin damage, possible circulatory problems and an elevated cancer risk.

**Sources of information:** If you have questions about the Chanhassen water supply system, please contact Kelley Janes at [kjanes@ci.chanhassen.mn.us](mailto:kjanes@ci.chanhassen.mn.us) or 952-227-1300. Other good sources of drinking water information are:

- [www.ci.chanhassen.mn.us](http://www.ci.chanhassen.mn.us)
- [www.epa.gov/safewater](http://www.epa.gov/safewater)
- [www.health.state.mn.us/divs/eh/water/](http://www.health.state.mn.us/divs/eh/water/)
- [www.dnr.state.mn.us/groundwater](http://www.dnr.state.mn.us/groundwater)

**Public participation:** If you would like opportunities for public participation in decisions that may affect the quality of the water, please attend City Council meetings held the second and fourth Mondays of the month at 7 p.m. at City Hall.

# 2006 Drinking Water Test Results

Laboratory test results for Chanhassen drinking water during 2006 are shown below. Data for some substances listed was obtained prior to 2006. Annual testing for these substances is not required and the test date of the last analysis is listed.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that 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 that must provide the same protection for public health.

### Minnesota Department of Health Information

The Minnesota Department of Health has determined that one or more sources of your drinking water are susceptible to contamination. If you wish to obtain the entire drinking water source assessment please call 651-201-4670 during normal business hours.

#### Explanations and Definitions for the Test Data:

The **Amount Found** is sometimes the highest amount found and sometimes the average of all samples analyzed, depending on the regulation.

**Regulated substances** have Maximum Contaminant Levels (**MCLs**) set by the Safe Drinking Water Act. This is the highest level allowed in drinking water. Some contaminants also have MCL goals (**MCLGs**). This is the level of a substance where there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible using the best available water treatment processes.

**MRDL:** Maximum Residual Disinfectant Level.

**MRDLG:** Maximum Residual Disinfectant Level Goal.

**Unregulated substances** do not have MCLs. They are assessed by comparing the detected amount to state standards known as health risk limits. If an unacceptable amount of any substance is ever found in our

water, the City of Chanhassen will notify residents immediately and take corrective action to eliminate the problem.

The MCL for lead and copper is known as the **Action Level**. This is the concentration which, if exceeded, triggers treatment or other requirement a water system must follow. Ninety percent of all samples tested must be below this concentration.

**Lead and copper** get into tap water via corrosion of home plumbing systems. Minnesota Department of Health lab tests show Chanhassen is in compliance for lead and copper. You should know that infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds

to two minutes before using tap water. Additional information is available from the EPA's Safe Drinking Water Hotline at 800-426-4791.

#### Units of Measurement:

**ppb** is parts per billion or micrograms per liter.

**ppm** is parts per million or milligrams per liter.

**pCi/L** is picocuries per liter, a measure of radioactivity.

**nd** is no detection.

**90th percentile** is the value obtained after disregarding 10 percent of the samples taken that had the highest levels.

**Special note:** Arsenic compliance is based on the average of four quarterly samples. Only two samples were taken at the end of 2006 and therefore, a violation was not issued. As a precaution, the city will only use the well with the highest arsenic levels as an emergency back-up well.

**The following chart contains all required monitoring results. This data was collected during 2006 (before the new treatment plant was operating).**

Detected Substance	Units of Measure	LIMITS		Amount Found	Range of Detections	Typical Source in Drinking Water
		MCL	MCLG			
Alpha Emitters	pCi/L	15.4	0	3.0	nd-8.6	Erosion of natural deposits.
Fluoride	ppm	4.0	4.0	1.17	1.1-1.3	Additive for dental health, aluminum and fertilizer factory discharge.
Total Trihalomethanes	ppb	80	0	1.1	--	By-product of drinking water disinfection.
Barium	ppm	2.0	2.0	0.1	0.031-0.096	Erosion of natural deposits; metal refinery and drilling waste discharge.
Lead (6/16/04)	ppb	90% of samples must be < 15 ppb	--	90% of samples < 5.0	1 out of 30 homes > 15 ppb	Corrosion of home plumbing systems, erosion of natural deposits.
Copper (6/16/04)	ppm	90% of samples must be < 1.3 ppm	--	90% of samples < 0.53	0 out of 30 homes > 1.3 ppm	Corrosion of home plumbing systems, erosion of natural deposits.
Sodium (5/27/03)	ppm	No established EPA limits		9.3	4.7-9.3	Erosion of natural deposits.
Sulfate (5/27/03)	ppm	No established EPA limits		71.8	1.83-71.8	Erosion of natural deposits.
Arsenic	ppb	10	0	11.5*	nd-12	Erosion of natural deposits; runoff from orchards; runoff from glass and production wastes.
Combined Radium	pCi/L	5.4	0	1.68	1.1-2.9	Erosion of natural deposits.
Chlorine	ppm	MRDL 4	MRDLG 4	.48 monthly avg.	0.1-0.8 quart. avg.	Water additive used to control microbes.

\* Quarterly samples are required to determine an average compliance value for this contaminant. At the end of 2006, only two samples had been taken at one well. The well with elevated arsenic levels is used as a back-up and only used in emergency situations. Therefore no violation was issued.

## Inflow & Infiltration

**What is inflow and infiltration?** The City of Chanhassen is working on a "clear water" reduction program for the sanitary sewer system. The goal of this program is to reduce the amount of clear water (which includes storm water, ground water and surface runoff), also known as inflow and infiltration (I/I), that enters the sanitary sewer collection system. Clear water entering the sanitary sewer system is a problem for two reasons:

First, it consumes system capacity. For example, during a heavy rainstorm, it is not uncommon for flows to triple or more. Inflow during major rainfalls may also exceed current capacity, causing system backups into homes and over-flows into local lakes and rivers. These occurrences put public health at risk and violate state and federal regulations.

Second, Chanhassen's sewage is treated by the Metropolitan Council Environmental Services (MCES). MCES plans to incorporate surcharges in 2007 for communities that exceed peak flow limits. Chanhassen falls somewhere in the top ten percent of communities identified by MCES that appear to have high peak flows. The result is that Chanhassen residents will pay higher costs for use of the sanitary sewer collection system. The City has been working on reducing inflow and infiltration into the sewer system by lining pipes and fixing broken joints that have allowed groundwater to enter the system.

**Residents are the solution:** A major way that I/I can be reduced is through the elimination of sump pumps that may be connected to the sanitary sewer system. Sump pump systems are designed to capture surface or ground water that enters basements or crawl spaces and pump it away from the house. Any drain in your house that leads to the sanitary sewer system eventually ends up at a wastewater treatment plant, where it is treated. Sump pump water should NOT be discharged into the sanitary sewer system as this will result in higher sewer charges.

**The failure of our community to reduce clear water from entering the sanitary sewer system will result in future surcharges and penalties from MCES. With the City and its residents working together, future penalties can be avoided. Remember, this is a direct cost to you. For information, please refer to the following websites: [www.ci.chanhassen.mn.us](http://www.ci.chanhassen.mn.us) or [www.metrocouncil.org](http://www.metrocouncil.org).**