

Water Quality Report 2016

Providing quality water is a Village priority

The Village of Tinley Park vigilantly safeguards your drinking water. We are proud to announce that our annual Water Quality Report for calendar year 2016 show no violation of any contaminant or of any other quality standard.

The following pages provide you with a summary of our water quality and information on where our water comes from and what it contains. Annual analyses have determined that our Lake Michigan drinking water purchased from the City of Chicago meets or exceeds all water quality standards listed in the Safe Drinking Water Act and mandated by the federal and state branches of the Environmental Protection Agency. In addition, be assured that Tinley Park has established its own internal water quality goals to maintain excellent water quality for our residents.

Providing the highest possible quality of water to our citizens is a top priority for the Village. Of equal importance is conserving this precious resource so we have enough water to drink, a safe supply to protect life and property from fire, and enough to nourish the environment around us. Please remember that every drop counts!

Additional copies of the report are available from the Public Works Department and on our web site at www.tinleypark.org.



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✂ *Clip out and save for reference*

Water is a precious natural resource. Thank you for using it wisely.

Water conservation benefits all of us and helps prevent water shortages. To maintain a safe water supply for health, fire protection and environmental purposes, the Village of Tinley Park is following crucial water conservation measures.

VILLAGE OF TINLEY PARK WATER CONSERVATION MEASURES

Between May 15 and September 15

Outdoor Water Use Allowed:

7 a.m. to 11 a.m. and 7 p.m. to 11 p.m.

On odd or even dates based on odd or even address

If changing weather conditions should warrant implementation of our next levels of water conservation measures, residents will be notified with color-coded signage placed throughout the Village. Your cooperation is appreciated.

COLOR-CODED NOTIFICATION SYSTEM

**Water on
ODD or EVEN days
based on last digit
of your address**

ONLY 7-11 am & 7-11pm

**Water on
ODD or EVEN days
based on last digit
of your address**

ONLY 7-11 PM

**Watering Allowed
One Day per week
GARBAGE DAY
ONLY**

7-11 AM / 7-11PM

**NO
OUTDOOR
WATERING
ALLOWED**

Conserve water and have a healthy lawn

Watering your lawn frequently not only wastes water, but also promotes weeds, crabgrass and shallower root systems. Here are some tips for conserving water and having a healthy lawn:

- Water deeply, not frequently. Your lawn will be healthier if it receives about one inch of water every three to four days. Providing more will over-saturate the soil, causing water to run off.
- Make sure you are watering your lawn, not the street or sidewalk. Water that falls on pavement goes into our sewer systems, increases your water bill and wastes water.
- Use a rain gauge. Rain gauges will tell you how much rain has fallen and how much more water, if any, you should add by sprinkling the lawn.
- Sprinklers are available with dials that can be set to water specific amounts at specific times. You can purchase them at your local hardware store or garden center.

- If you have an automatic system, make sure it has a rain meter installed. This will prevent the system from running during rainstorms, which are critical times for our water system to re-charge.
- Place a layer of mulch around trees and plants to retain water.
- If you are able, water your lawn in the early morning to avoid evaporation.

In addition, you can limit the need for sprinkling by:

- Setting your mower to cut the grass higher
- Avoiding excess nitrogen during warm weather
- Limiting traffic over the lawn
- Improving turf rooting
- Controlling thatch and soil compaction
- Avoiding pesticide use on stressed lawns



Know your soil when watering

When determining the most effective method for watering your lawn, it's important to know what kind of soil you have.

If your home is more than 20 years old, it's likely your lawn was grown with help from a layer of six inches or more of topsoil. For these older lawns, the advice to water deeply, not frequently, is beneficial. This is because your topsoil is able to absorb the water and put it to good use before it hits the harder clay beneath.

But if your home is less than 20 years old, your lawn's topsoil layer probably is less than six inches deep. Trolley Park is built on clay soil. Ever notice water running over a sidewalk when someone in your neighborhood waters the lawn? That's because the clay is too dense to handle the amount of water being applied. Water percolates through the thin topsoil, hits the hard clay and rolls right off.

A good strategy to counter this is to apply small amounts of water more than once. Try watering your lawn for no more than five to eight minutes. Let the landscape rest to give the water time to soak in, and then water again for another five to eight minutes.

Of course, regardless of your soil or watering strategy, please follow our conservation measures when sprinkling your lawn.

Source of 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.

Our source of water is Lake Michigan by the City of Chicago, via the Oak Lawn Regional Water System, and is considered "Purchased Surface Water".

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 storm water 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 storm water 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 storm water runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of 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.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 (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. We 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 two minutes before using water for drinking or cooking. If you are concerned about 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>.



Source water assessment

We want our valued customers to be informed about their water quality. If you would like to learn more, please attend any of our Village Board meetings at 7:30 p.m. the first and third Tuesdays of the month. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by the Public Works Department or call our water operator at 708-444-5500. To view a summary version of the completed source water assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and Documentation/Recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

The Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection only dilution. This is the reason for mandatory treatment for all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance that shore-line impacts are not usually considered a factor on water quality. At certain times of the year, however, the potential for contamination exists due to wet-weather flows and river reversals. In addition, the placement of the crib structures may serve to attract waterfowl, gulls and terns that frequent the Great Lakes area, thereby concentrating fecal deposits at the intake and thus compromising the source water quality. Conversely, the shore intakes are highly susceptible to storm water runoff, marinas and shoreline point sources due to the influx of groundwater to the lake.

Contaminant (unit of measurement) (Tested By) Typical Source of Contaminant	MCLG	MCL	Highest Level found	Range of Detections	Violation	Date of Sample
Microbial Contaminants						
TOTAL COLIFORM BACTERIA (Tinley Park) Human and animal fecal waste	0%	5%	0.0% (0 out of 768 samples)		No	weekly
TURBIDITY (%<0.3 NTU) (City of Chicago) Soil runoff. Lowest monthly percentage meeting limit	n/a	TT	100.00%	100%-100%		
TURBIDITY (NTU) (City of Chicago) Soil runoff. Highest single measurement.	n/a	TT=1 NTU max	0.16	n/a		
Inorganic Contaminants (Tested by City of Chicago)						
BARIUM (ppm) Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	2	2	0.0206	0.0196 - 0.0206		
NITRATE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	10	10	0.46	0.40-0.46		
TOTAL NITRATE & NITRITE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	10	10	0.46	0.40-0.46		
Total Organic Carbon (Tested by the City of Chicago)						
TOC [TOTAL ORGANIC CARBON] The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA						
Unregulated Contaminants (Tested by the City of Chicago)						
SULFATE (ppm) Erosion of naturally occurring deposits	n/a	n/a	25.7	25.0 - 25.7		
SODIUM (ppm) Erosion of naturally occurring deposits; Used as water softener.	n/a	n/a	8.92	8.49 - 8.92		
State Regulated Contaminants (Tested by the City of Chicago)						
Contaminant (unit of measurement) (Tested By) Typical Source of Contaminant	MCLG	Action Level	Highest Level found	Range of Detections	Violation	Date of Sample
FLUORIDE (ppm) Water additive which promotes strong teeth.	4	4	0.78	0.62 - 0.78		
Radioactive Contaminants (Tested by the City of Chicago)						
COMBINED RADIUM (226/228) (pCi/l) Decay of natural and man-made deposits.	0	5	0.84	0.50 - 0.84		2/11/2014
GROSS ALPHA excluding radon and uranium(pCi/L) Decay of natural and man-made deposits.	0	15	6.6	6.1 - 6.6		2/11/2014
Lead and Copper (Tested by Tinley Park) triennial monitoring						
LEAD (ppb) Corrosion of household plumbing systems; Erosion of natural deposits	0	15	0	1	No	7/25/2015
COPPER (ppm) Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	1.3	1.3	0.175	0	No	7/25/2015
Disinfectants & Disinfection By-Products (Tested by Tinley Park)						
TTHMs [Total Trihalomethanes] (ppb) By-product of drinking water disinfection.	No goal for Total	80	27	13.37 - 43.8	No	quarterly
Total Haloacetic Acids (HAA5) (ppb) By-product of drinking water disinfection.	No goal for Total	60	16	10.18 - 23.2	No	quarterly
Chlorine (ppm) Water additive used to control microbes	4	4	0.8	0.7 - 0.8	No	12/31/2016

UCMR3 Compliance Reporting (Tested by City of Chicago)

In compliance with the Unregulated Contaminant Monitoring Rule 3 (UCMR3) as required by the EPA, The City of Chicago has monitored for 28 contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act. The monitoring results were reported to the EPA. The list of UCMR3 contaminants that we have monitored included volatile organic chemicals, metals, perfluorinated compounds, hormones, 1,4-dioxane and chlorate. The contaminants that were detected in this monitoring program are listed below.

Contaminant (unit of measurement) (Tested By) Typical Source of Contaminant	MCLG	MCL	Highest Level found	Range of Detections	Violation	Date of Sample
CHROMIUM (total)(ppb) Naturally-occurring element;used in making steel and other alloys.	100	100	0.3	0.3 - 0.3	n/a	
MOLYBDENUM (ppb) Naturally occurring element found in ores and present in plants,animals and bacteria;commonly used form is molybdenum trioxide	n/a	n/a	1.1	1.0 - 1.1	n/a	
STRONTIUM (ppb) Naturally-occurring element; has been used in cathode-ray tube TVs.	n/a	n/a	120	110 - 120	n/a	
VANADIUM (ppb) Naturally-occurring metal;vanadium pentoxide is used as a catalyst and a chemical intermediate.	n/a	n/a	0.2	0.2 - 0.2	n/a	
CHROMIUM-6 or HEXAVALENT CHROMIUM (ppb) Naturally-occurring metal;vanadium pentoxide is used as a catalyst and a chemical intermediate.	n/a	n/a	0.19	0.18 - 0.19	n/a	

Violations Table

We are pleased to announce there were no violations recorded during 2016.

Unit of Measurement:

ppm Parts per million, or milligrams per liter
ppb Parts per billion, or micrograms per liter

% - 0.5 NTU Percent samples less than 0.5 NTU
n/a Not applicable

Water Quality Data Tables Footnotes:

TURBIDITY:

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

UNREGULATED CONTAMINANTS:

A maximum contaminant level (MCL) for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language. The purpose for monitoring this contaminant is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water, and whether future regulation is warranted.

Definition of Terms:

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 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.

Level Found:

This column represents an average of sample results collected during the Consumer Confidence Report (CCR) calendar year. In some cases, it may represent a single sample if only one sample was collected.

Range of Detections:

This column represents a range of individual sample results, from lowest to highest, that were collected during the CCR calendar year.

FLUORIDE:

Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of 0.9 mg/1 to 1.2 mg/l until November 2015. As of November 2015, the new recommendation is an optimal fluoride level of 0.7 mg/l.

SODIUM:

There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

Date of Sample:

If a date appears in this column, the Illinois EPA requires monitoring for this contaminant less than once per year because the concentrations do not frequently change. If no date appears in the column, monitoring for this contaminant was conducted during the CCR calendar year.

Action Level (AL):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT):

A required process intended to reduce the level of a contaminant in drinking water.

Understanding water quality results

Where does my water come from, and how is it purified?

The Village of Tinley Park is supplied surface water from Lake Michigan. The Environmental Protection Agency has found that the water quality of Lake Michigan has improved dramatically throughout the past 20 years. Lake Michigan, by volume, is the second-largest of the Great Lakes and the only one located entirely in the United States. At the present time, the City of Chicago and adjacent communities receive water from Lake Michigan.

The treatment process consists of a series of four steps. First, raw water is drawn from Lake Michigan and sent to an aeration tank, which allows for oxidation of the high iron levels that are present in the water. The water then goes to a mixing tank, where Poly-Aluminum Chloride and soda ash are added. The addition of these substances cause small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed.

Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again as a precaution against any bacteria that still may be present. We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.

Finally, soda ash (used to adjust the final pH and alkalinity), fluoride (used to prevent tooth decay) and a corrosion inhibitor (used to protect distribution system pipes) are added before the water is pumped to sanitized underground reservoirs, water towers and into your home or business.

FREQUENTLY ASKED QUESTIONS

Why are there restrictions on the amount of water we can use?

In addition to ensuring that the Village has enough water for health, fire protection and environmental purposes, the allocation of Lake Michigan water is regulated by the Illinois Department of Natural Resources. Under state law and upheld by the U.S. Supreme Court, citizens are not allowed to consume an unlimited supply of water from the Great Lakes. The Oak Lawn water system, from which the Village of Tinley Park purchases water, has made improvements that will increase the amount of water we are able to receive, but allocation amounts are contractually limited. Also, it is the duty of responsible citizens to adhere to reasonable water conservation measures and preserve this precious resource.

I've seen other people watering during restricted hours. Why is that?

Some individuals are not aware of the regulations, and others choose not to follow them. Those who knowingly violate the conservation measures can face fines as much as \$500 per infraction.

How does the Village choose the water conservation hours?

The hours between 7 to 11 a.m. and 7 to 11 p.m. occur during periods of the day with limited sun exposure, which

minimizes the water lost to evaporation. Limiting the number of days for sprinkling also is more healthful for your lawn, since overwatering can do more harm than good. If hot and dry weather conditions jeopardize the critical maintenance of at least a 50-percent water supply in our water storage, implementation of more limited measures will go into effect.

How will I know what conservation hours are in effect?

Updated information on the Village's current conservation measures are posted on color-coded signage throughout town and on the Village's website at www.tinleypark.org.

What if I have newly installed landscaping or sod?

You may qualify for a special permit to allow additional watering of your new landscaping.

Why does the water have a chlorine taste and smell? What can I do to remove it?

Chlorine is the disinfecting agent used by most public water systems to kill bacteria during the water treatment process. The small amount left in the water that reaches your home helps to inhibit microbial growth in the piping. This amount can vary with the time

of year and condition of raw Lake Michigan water. To remove the chlorine taste or smell, fill a clean pitcher of water or container with cold tap water and leave it uncovered overnight. The chlorine content will dissipate.

What is the material left behind after water boils or evaporates?

This material, commonly called "scale," is the natural mineral content of Chicago water. It is mainly comprised of calcium carbonate, the component of common blackboard chalk. It can most easily be removed with household vinegar.

What causes the tiny air bubbles or cloudiness in my water?

This condition occurs most often when water is very cold and then warms up while in a building's interior piping. Cold water can hold more air than warm water. Therefore, some air comes out of the solution as tiny air bubbles when the water warms up. At times, the water may be so densely filled with air that the water appears cloudy. An easy way to check the cause of cloudiness is to fill a clear glass with water, set it on a table and watch. If the cloud rises from bottom to top, it is air escaping as the water warms. If the cloud sinks from the top to the bottom, you may have a sediment problem.

To report any concerns about water issues, please contact the Public Works Department at 708-444-5500.