



## **CONSUMER CONFIDENCE REPORT**

### **Public Water Supply**

### **For the Monitoring Year 2017**

#### **Water Supply:**

The Village of Brookfield purchased 710,135,000 gallons of water from the Brookfield-North Riverside Water Commission, which they purchase from the City of Chicago. The City of Chicago utilizes Lake Michigan as its source water via two water treatment plants. The Jardine Water Purification Plant serves the northern areas of the City and suburbs, while the South Water Purification Plant serves the southern areas of the City and suburbs. Lake Michigan is the only Great Lake that is entirely contained within the United States. It borders Illinois, Indiana, Michigan, and Wisconsin, and is the second largest Great lake by volume with 1,180 cubic miles of water and third largest by area.

#### **Water Quality:**

The water treatment facilities of the City of Chicago control the water quality supplied to the Water Commission. The Commission provides additional chlorine to the water to maintain the quality as delivered. The reports generated by the City are included in this Customer Confidence Report.

#### **Testing:**

The Village of Brookfield tests its water supply for chlorine content on a daily basis. Bacteriological Sampling is performed on a bi-monthly basis to insure the quality of the water. Trihalomethane (TTHM) and Lead are sampled and tested each year on a schedule set by the Illinois EPA.

#### **Violations:**

The Village of Brookfield water supply received one violation in the calendar year of 2017.



# Annual Drinking Water Quality Report for Calendar Year 2017 VILLAGE OF BROOKFIELD

**BROOKFIELD**

**IL0310330**

**Annual Water Quality Report for the period of January  
1 to December 31, 2017**

**The source of drinking water used by BROOKFIELD is  
Purchased Surface Water.**

**This report is intended to provide you with important  
information about your drinking water and the efforts  
made by the water system to provide safe drinking  
water.**

**Contact Name: Andy Zontos  
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E-mail: azontos@brookfieldil.gov**

*Este informe contiene información muy importante sobre  
el agua que usted bebe. Tradúzcalo ó hable con alguien  
que lo entienda bien.*

## Source of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and underground 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 may 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 may also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants, which may be naturally occurring or be the result of oil and gas production and mining activities.

## Other Facts about Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water system. 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/CD 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 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>.

# 2017 Regulated Contaminants Detected

## Lead and Copper

**Definitions:**

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.  
 Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Lead	2017	0	15	5.55	1	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

## Water Quality Test Results

- Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.
- Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.
- Level 1 Assessment:** A study of the water systems to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water systems.
- Level 2 Assessment:** A very detailed study of the water systems 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 systems on multiple occasions.
- Maximum Contaminant Level or 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 or 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 or MRDL:** The highest level of a disinfectant 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 or MRDLG:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- na:** not applicable.
- mrem:** millirems per year (a measure of radiation absorbed by the body)
- ppb:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
- ppm:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
- Treatment Technique of TT:** A required process intended to reduce the level of a contaminant in drinking water.

## Regulated Contaminants

Disinfectants and disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2017	0.9	0.7 - 1	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2017	16	10.1 - 23.7	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2017	37	13.64 - 49.7	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

## Violations Table

Consumer Confidence Rule			
The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports on the quality of the water delivered by the systems.			
Violation Type	Violation Begin	Violation End	Violation Explanation
CCR ADEQUACY/ AVAILABILITY/CONTENT	07/01/2017	2017	We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water.

Corrective action on one violation was resolved on the next CCR period.

## Brookfield-North Riverside Water Commission Regulated Contaminants Detected in 2017 (collected in 2017 unless noted)

### Lead and Copper

Definitions:

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

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Regulated Disinfectants and disinfection By-Products	Highest Level	Range of Levels	Units	MCLG	MCL	Violation	Likely Source of Contamination
Chlorine	1.0	0.90 - 1.06	ppm	MRDLG = 4	MRDL = 4	No	Water additive used to control microbes. Collection Date: 12/31/2017
Haloacetic Acids (HAA5)	20	18.73 - 20.2	ppb	No goal for the total	60	No	By-product of drinking water disinfection. Collection Date: 12/31/2017
Total Trihalomethanes (TTHM)	36	35.1 - 35.9	ppb	No goal for the total	80	No	By-product of drinking water disinfection. Collection Date: 12/31/2017

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

### 2017 Violation Summary Table

Rule or Contaminant	Violation Type	Violation Duration
Brookfield-NorthRiverside Water Commission	No Violations	Monitoring Year 2017

# 2017 Water Quality Data

DATA TABULATED BY CHICAGO DEPARTMENT OF WATER MANAGEMENT (0316000 Chicago)

## 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.

**Highest Level Detected:** This column represents the highest single sample reading of a contaminant of all the samples collected in 2016.

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

**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 Consumer Confidence Report calendar year.

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

**N/A:** Not applicable

**Turbidity:** 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.

**Fluoride:** Is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride level of 0.7 mg/L with a range of 0.6 mg/L to 0.8 mg/L.

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

## DETECTED CONTAMINANTS

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
<b>Turbidity Data</b>						
Turbidity (NTU/Lowest Monthly % $\leq$ 0.3 NTU) Soil runoff	N/A	TT (Limit 0.3 NTU)	Lowest Monthly %: 100%	100% - 100%		
Turbidity (NTU/Highest Single Measurement) Soil runoff	N/A	TT (Limit 1 NTU)	0.26	N/A		
<b>Inorganic Contaminants</b>						
Barium (ppm) Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	2	2	0.0193	0.0191 - 0.0193		
Nitrate (as Nitrogen) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	10	10	0.36	0.32 - 0.36		
Total Nitrate & Nitrite (as Nitrogen) (ppm) Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits	10	10	0.36	0.32 - 0.36		
<b>Total Organic Carbon (TOC)</b>						
The percentage of TOC removal was measured each month and the system met all TOC removal requirements set by IEPA.						
<b>Unregulated Contaminants</b>						
Sulfate (ppm) Erosion of naturally occurring deposits	N/A	N/A	26.3	26.2 - 26.3		
Sodium (ppm) Erosion of naturally occurring deposits; Used as water softener	N/A	N/A	8.06	7.81 - 8.06		
<b>State Regulated Contaminants</b>						
Fluoride (ppm) Water additive which promotes strong teeth	4	4	0.75	0.59 - 0.75		
<b>Radioactive Contaminants</b>						
Combined Radium (226/228) (pCi/L) Decay of natural and man-made deposits.	0	5	0.84	0.50 - 0.84		02/11/2014
Gross Alpha excluding radon and uranium (pCi/L) Decay of natural and man-made deposits.	0	15	6.6	6.1 - 6.6		02/11/2014

## UNITS OF MEASUREMENT

**ppm:** Parts per million, or milligrams per liter

**ppb:** Parts per billion, or micrograms per liter

**NTU:** Nephelometric Turbidity Unit, used to measure cloudiness in drinking water

**% $\leq$ 0.3 NTU:** Percent of samples less than or equal to 0.3 NTU

**pCi/L:** Picocuries per liter, used to measure radioactivity

# SOURCE WATER ASSESSMENT SUMMARY

## Source Water Location

The City of Chicago utilizes Lake Michigan as its source water via two water treatment plants. The Jardine Water Purification Plant serves the northern areas of the City and suburbs, while the South Water Purification Plant serves the southern areas of the City and suburbs. Lake Michigan is the only Great Lake that is entirely contained within the United States. It borders Illinois, Indiana, Michigan, and Wisconsin, and is the second largest Great lake by volume with 1,180 cubic miles of water and third largest by area.

## Source Water Assessment Summary

The Illinois EPA implemented a Source Water Assessment Program (SW AP) to assist with watershed protection of public drinking water supplies. The SW AP inventories potential sources of contamination and determined the susceptibility of the source water to contamination. The Illinois EPA has completed the Source Water Assessment Program for our supply. Further information on our community water supply's Source Water Assessment Program is available by calling the City of Chicago, Department of Water Management at 312-744-6635.

## Susceptibility to Contamination

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 of all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance that shoreline 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.

Further information on our community water supply's Source Water Assessment Program is available by calling the City of Chicago, Department of Water Management at 312-744-6635.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by:  
The City of Chicago  
Department of Water Management  
Water System ID# IL0316000

## 2017 VOLUNTARY MONITORING

The City of Chicago has continued monitoring for Cryptosporidium, Giardia and E. coli in its source water as part of its water quality program. To date, Cryptosporidium has not been detected in these samples, but Giardia was detected in 2010 in one raw lake water sample collected in September 2010. Treatment processes have been optimized to provide effective barriers for removal of Cryptosporidium oocysts and Giardia cysts in the source water, effectively removing these organisms in the treatment process. By maintaining low turbidity through the removal of particles from the water, the possibility of Cryptosporidium and Giardia organisms-getting into the drinking water system is greatly reduced. Also, in compliance with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Round 2, the City of Chicago has continued the 24 months long monitoring program (April 2015 through April 2017), collecting samples from its source water once per month to monitor for Cryptosporidium, Giardia, E.coli and turbidity, with no detections for Cryptosporidium and Giardia reported so far.

In 2017, CDWM has also continued monitoring for hexavalent chromium, also known as chromium-6. USEPA has not yet established a standard for chromium-6, a contaminant of concern which has both natural and industrial sources. Please address any questions or concerns to DWM's Water Quality Division at 312-742-7499. Data reports on the monitoring program for chromium-6 are posted on the City's website which can be accessed at the following address below:

[http://www.cityofchicago.org/city/en/depts/water/supp\\_info/water\\_quality\\_resultsandreports/city\\_of\\_chicago\\_emergincontaminantstudy.html](http://www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/city_of_chicago_emergincontaminantstudy.html)

For more information, please contact  
Alan Stark, Deputy Commissioner for the Bureau of  
Water Supply  
At 312-742-7499

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