



## THE CITY OF LAKE FOREST ANNUAL WATER QUALITY REPORT FOR CALENDAR YEAR 2016

We are pleased to present a summary of the quality of the water provided to you during the calendar year 2016 (January 1 to December 31, 2016). The Safe Drinking Water Act (SDWA) requires that utilities issue an annual “Consumer Confidence Report” (CCR) to its customers, in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. We are committed to providing the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water. The drinking water supplied by the Lake Forest Water Plant meets or surpasses all Federal and State drinking water standards. During the 2016 calendar year, the Water Plant produced 1.275 billion gallons of water and installed 3,635’ of 8” PVC water main into the distribution system. The Water Plant is supplied by surface water from Lake Michigan drawn through 42-inch and 24-inch intake pipelines.

### SOURCES 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 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:

- a) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- b) 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.
- c) Pesticides and herbicides come from sources such as agriculture, urban storm water runoff, and residential uses.
- d) 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.
- e) Radioactive contaminants can be naturally-occurring or be the result of oil and gas production and mining activities.

### REQUIRED ADDITIONAL HEALTH INFORMATION

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, EPA 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 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>.

## **SOURCE WATER ASSESSMENT**

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. 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 City Hall or call our water operator at 847-810-4650. 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>.

Susceptibility is defined as the likelihood for the source water(s) of a public water system to be contaminated at concentrations that would pose a concern. 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 intakes with no protection only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois. Lake Forest's intakes are moderately sensitive to potential pollution, and although there are no potential sources within Lake Forest's critical assessment zone, there are several within the immediate source water area. The combination of the land use, potential sources and the proximity of storm sewer outfalls adds to the susceptibility of Lake Forest's intakes. However, it should be stressed that treatment employed by Lake Forest CWS is protective of their consumers, as noted by the facility's finished water history.

## **NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE**

The City of Lake Forest welcomes your questions about the Lake Forest Water Plant and water quality. Call Dan Martin, Superintendent of Public Works, at 847-810-3561 or John Gullledge, Chief Water Plant Operator, at 847-810-4650. We encourage public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the first and third Mondays of each month at 7:30 p.m. at the Lake Forest City Hall (220 East Deerpath). Agendas for these meetings can be viewed at the bulletin boards located in the train depots, the Municipal Service Building (800 North Field Drive), City Hall, and on the web at [www.cityoflakeforest.com](http://www.cityoflakeforest.com).

**Turbidity:** Turbidity is a measurement of the cloudiness of the water caused by suspended particles. It is monitored because it is a good indicator of water quality and the effectiveness of the filtration system and disinfectants.

**Sodium:** There is not a State or Federal MCL for sodium. Monitoring is required to provide information to consumers and health officials who are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician.

**Fluoride:** Fluoride is added to the water to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of .6 mg/l to .8 mg/l.

**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 the USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

**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 (unless a TOC violation is noted in the violation section).

## WATER QUALITY TEST RESULTS

|  |  |
|--|--|
| <b>Maximum Contaminant Level Goal or MCLG</b>            | 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.   |
| <b>Maximum Contaminant Level or MCL</b>                  | 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.                                    |
| <b>Maximum residual disinfectant level goal or MRDLG</b> | 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. |
| <b>Maximum residual disinfectant level or MRDL</b>       | 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.                        |

## DEFINITIONS

|            |   |
|------------|---|
| <b>ppb</b> | Micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water      |
| <b>na</b>  | Not applicable  |
| <b>Avg</b> | Regulatory compliance with some MCLs are based on running annual average of monthly samples |
| <b>ppm</b> | Milligrams per liter or parts per million - or one ounce in 7,350 gallons of water          |

## WATER QUALITY TABLE—LEAD AND COPPER

**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 & Copper | Date Sampled | MCLG | Action Level (AL) | 90th Percentile | # Sites Over AL | Units | Violation | Likely Source of Contamination   |
|---------------|--------------|------|-------------------|-----------------|-----------------|-------|-----------|--|
| Copper        | 9/25/2014    | 1.3  | 1.3               | 0.2             | 0               | ppm   | N         | Erosion of natural deposits, leaching from wood preservatives; corrosion of household plumbing systems |
| Lead          | 9/25/2014    | 0    | 15                | 5.17            | 0               | ppb   | N         | Corrosion of household plumbing systems; erosion of natural deposits                                   |

## REGULATED CONTAMINANTS

| Disinfectants & Disinfection By-Products | Collection Date | Highest Level Detected | Range of Levels Detected | MCLG                  | MCL      | Units | Violation | Likely Source of Contamination            |
|--|-----------------|------------------------|--------------------------|-----------------------|----------|-------|-----------|---|
| Chlorine                                 | 12/31/16        | 1                      | 0.8 - 1.2                | MRDLG = 4             | MRDL = 4 | ppm   | N         | Water additive used to control microbes   |
| Haloacetic Acids (HAA5)                  | 2016            | 22                     | 7.17 - 23.7              | No goal for the total | 60       | ppb   | N         | By-product of drinking water disinfection |
| Total Trihalomethanes (TTHM)             | 2016            | 43                     | 28.4 - 58.3              | No goal for the total | 80       | ppb   | N         | By-product of drinking water disinfection |

| Inorganic Contaminants         | Collection Date | Highest Level Detected | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination  |
|--------------------------------|-----------------|------------------------|--------------------------|------|-----|-------|-----------|---|
| Barium                         | 2016            | 0.021                  | 0.021 - 0.021            | 2    | 2   | ppm   | N         | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits                                |
| Fluoride                       | 2016            | 0.7                    | 0.694 - 0.694            | 4    | 4.0 | ppm   | N         | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Nitrate (measured as Nitrogen) | 2016            | 0.38                   | 0.38 - 0.38              | 10   | 10  | ppm   | N         | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits                               |
| Sodium                         | 2016            | 12                     | 12 - 12                  |      |     | ppm   | N         | Erosion from naturally occurring deposits: used in water softener regeneration  |

| Radioactive Contaminants | Collection Date | Highest Level Detected | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination |
|--------------------------|-----------------|------------------------|--------------------------|------|-----|-------|-----------|--------------------------------|
| Combined Radium 226/228  | 1/18/10         | 0.505                  | 0.505—0.505              | 0    | 5   | pCi/L | N         | Erosion of natural deposits    |

## TURBIDITY

|                                | Limit (Treatment Technique) | Level Detected | Violation | Likely Source of Contamination |
|--------------------------------|-----------------------------|----------------|-----------|--------------------------------|
| Highest single measurement     | 1 NTU                       | 0.04 NTU       | N         | Soil runoff                    |
| Lowest monthly % meeting limit | 0.3 NTU                     | 100%           | N         | Soil runoff                    |