



# Village Of Libertyville

## Drinking Water Quality Report

2009 Reporting Year

This is your annual water quality report for the period of January 1st through December 31, 2009 which applies to properties within the Village limits of Libertyville. Each year the Village issues this report to provide information about the quality of our drinking water, the source of our water, how it is treated, and what it contains. These reports are issued in compliance with the requirements of the Safe Drinking Water Act.

### Where does our water come from?

Our Village purchases water from the Central Lake County Joint Action Water Agency (CLCJAWA). CLCJAWA is an intergovernmental cooperative, formed by the eleven Lake County communities it serves. In the unlikely event CLCJAWA is unable to deliver water, the Village has retained several wells (formerly used as our water supply), which are operated, flushed and sampled for bacteriological quality on a monthly basis to ensure reliability. Please contact us if you would like to review our well sample results. The water system also includes a number of storage tanks, pumping stations, and valves which create four separate pressure zones in the village.

### How is our water purified?

Our water is pumped from Lake Michigan and treated at CLCJAWA's Paul M. Neal Water Treatment Facility in the Village of Lake Bluff. The enhanced water purification process used by CLCJAWA is unique. First, the water is treated with ozone to kill organisms and break down contaminants. Ozone is produced on-site from air, bubbled into the water, and then converted back into oxygen. The water is then mixed with coagulant to remove sediment and other material from the water. Once clarified, the water is further refined as it passes through filters containing activated carbon and fine sand. Next, the water is treated with ultraviolet light to inactivate any remaining organisms. Finally, the purified water is treated with fluoride for dental health, chlorine to protect it as it travels through the water main, and a small amount of an often used food additive called phosphate. Phosphate protects the water from the metals found in your home's plumbing system.

CLCJAWA is an Excellence in Water Treatment award winning facility. CLCJAWA was the third facility in the nation to achieve this distinction presented by the Partnership for Safe Water. This voluntary water quality related program, sponsored in part by the United States Environmental Protection Agency, holds its awardees to higher standards than required by current drinking water regulations.

### How is the water delivered to my tap?

The Village is continually improving and maintaining the water distribution system. These improvements include fire hydrant and valve replacements, residential water meter upgrade/repair, and the replacement of aging water mains as budget allows. These improvements further assure the continued, uninterrupted conveyance of quality drinking water to your tap.

### Quick Facts

Population served	22,000	Total Storage Capacity	4,100,000	Backup Well Capacity	1,600 gpm
Metered customers	7,469	Cook Tower Built 1957	300,000	Garfield Well Built 1935	750 gpm
Average daily usage	2,735,038	Winchester Tower Built 1965	300,000	Second Street Built 1930	350 gpm
Miles of water main	117.391	Red Top Reservoir Built 1979	1,000,000	Newberry Well Built 1951	500 gpm
Fire hydrants	1,350	Garfield Tower Built 1971	1,000,000		
Water system valves	1,350	Centrum Reservoir Built 1991	1,500,000		

### About our Water Department

Has six full time technicians, five have Illinois Class C water licenses. Our team members belong to the American Water Works Assoc. and North Suburban Water Works Assoc, and Illinois Potable Water Supply Operators Assoc. Our Public Works Department is one of 50 in North America that has achieved accreditation with the American Public Works Association. The Insurance Service Office Rating (ISO) for our water department is 1 = 90% or better rating.

Partial list of water department functions		
Check for leaks & low pressure calls	Meter changes	Water main, service & b-box repairs
Emergency water shut-offs	Meter readings	Water samples
Hydrant flushing & repair	Water taps	Valve exercising & repair
Providing locating of Village utilities		
The average customer satisfaction rating given by our water customers is 8.54 with 9 being the highest score based on service request responses.		

### How is our drinking water regulated?

To ensure tap water safety, the U.S. Environmental Protection Agency (USEPA) prescribes limits on the amount of certain contaminants in our drinking water. Water quality may be judged by comparing our water to USEPA benchmarks for water quality. One such benchmark is the Maximum Contaminant Level Goal (MCLG). The MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. This goal allows for a margin of safety. Another benchmark is the Maximum Contaminant Level (MCL). An MCL is the highest level of a contaminant that is allowed in drinking water. An MCL is set as close to an MCLG as feasible using the best available treatment technology.

### How is our water's quality assured?

Our tap water quality is consistently monitored by the Village, by the Illinois Environmental Protection Agency (IEPA), by the CLCJAWA Water Quality Lab, and by other independent labs. This aggressive water quality assurance program is thorough, bacteriological tests are conducted six times more often than required, water clarity is monitored every 10 seconds, and our water is checked for hundreds of contaminants.

### What regulated compounds are found in our drinking water?

The following tables list all of the regulated compounds detected in our water. Each compound is regulated differently. The values shown in the Level Detected column are those used by the EPA to determine compliance with drinking water standards. This value may be a running average, a 90<sup>th</sup> percentile, or a maximum single value. Italicized compounds were measured by CLCJAWA, all other compounds were measured by the Village.

Compound (Units)	Level Detected	Range of Levels	MCLG	MCL	Violation?	Sample Date	Primary Compound Sources
<i>Alpha Emitters (pCi/l)</i>	2.6	Single Sample	0	5	No	11/12/08	Decay of natural deposits
<i>Arsenic (ppb)</i>	1	Single Sample	0	10	No	07/22/09	Erosion of natural deposits, runoff
<i>Barium (ppm)</i>	0.02	Single Sample	2	2	No	7/22/09	Erosion of natural deposits, runoff, metal refinery discharge
<i>Beta/Photon Emitters (pCi/l)</i>	3.9	Single Sample	0	50	No	11/12/08	Decay of natural deposits
<i>Bromate (ppb)</i>	2	0 – 2	0	10	No	07/01/09	By-product of disinfection
Chlorine (ppm)	0.9	0.2 – .9	4	4	No	09/02/09	Added for disinfection
<i>Combined Radium 226/228 (pCi/l)</i>	1.6	Single Sample	0	5	No	11/12/08	Decay of natural deposits
<i>Fluoride (ppm)</i>	1.1	0.9 – 1.1	4	4	No	07/01/09	Added for dental health
<i>Sodium (ppm)</i>	8	Single Sample	none	none	No	07/22/09	Erosion of natural deposits, runoff
Total Haloacetic acids (ppb)	4.61	3 -4.61	none	60	No	04/28/09	By-product of chlorine disinfection
Total Trihalomethanes (ppb)	30.9	21 - 31	none	80	No	7/27/09	By-product of chlorine disinfection
<i>Turbidity (% acceptable)</i>	100%	100%	none	0.3 TT	No	12/31/09	Lake sediment, soil runoff
<i>Turbidity (NTU)</i>	0.10	0.03 - 0.10	none	1 TT	No	6/21/09	Lake sediment, soil runoff

Compound (Units)	Level Detected	# Sites Over Action Level	MCLG	Action Level	Violation?	Sample Date	Primary Compound Source
Lead (ppb)	7.17	1	0	15	No	07/08/08	Household plumbing corrosion

Abbreviation	Definition
Action Level	Action Level is the level that triggers special treatment or other required actions by a water supply.
MCL	Maximum Contaminant Level is the highest level allowed by EPA in drinking water.
MCLG	Maximum Contaminant Level Goal is the level of a contaminant below which there is no known or expected health risk.
NTU	Nephelometric Turbidity Units. Turbidity is a measure of water clarity.
pCi/l	pico Curies per liter. EPA considers 50 pCi/L to be a level of concern for beta particles.
pos/month	The maximum number of positive samples collected in a calendar month.
ppb	Parts-per-billion is also referred to as micrograms per liter (µg/L). Equivalent to one ounce in 7,350,000 gallons of water.
ppm	Parts per-million is also referred to as milligrams per liter (mg/L). Equivalent to one ounce in 7,350 gallons of water.
TT	Treatment Technique refers to a required process intended to reduce contaminant level drinking water.

### Lead and Copper,

Some homes with old lead service lines, lead plumbing, or copper plumbing with lead solder, may have lead and copper in their water. To minimize these levels, the Illinois EPA requires that CLCJAWA add phosphate to our water at a concentration of 0.3 ppm orthophosphate. This commonly used food ingredient coats the inside of your plumbing with a thin film. The film reduces lead and or copper levels that may have otherwise leached from your plumbing into your water.

### Sodium,

There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers in case you are concerned about sodium intake for dietary reasons. If the sodium level in our water was greater than 20 ppm, and you were on a sodium-restricted diet, you would be advised to consult a physician.

### Turbidity,

Turbidity is a measure of water clarity. Treatment facilities monitor turbidity because it is a good indicator of water quality and the effectiveness of their filtration and disinfection systems. At CLCJAWA, turbidity is checked every ten seconds by automatic monitoring equipment and every four hours, by hand, in the laboratory.

### Was CLCJAWA or the Village cited with any drinking water violations this year?

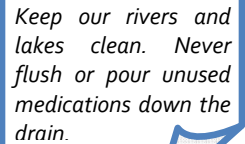
No citations or violations.

### Where do water contaminants come from?

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 may be obtained by calling the US Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

Both tap and bottled water come from rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring materials and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in untreated water include,

- Microbial contaminants such as viruses and bacteria can be naturally occurring or may come from sewage treatment plants, septic systems, and livestock operations.
- Inorganic contaminants such as salts and metals can be naturally occurring or result from urban storm water runoff, wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides come from sources such as agricultural and residential storm water runoff.
- Organic chemical contaminants including synthetic and volatile organic compounds are by-products of industrial processes and petroleum production but can also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants can be naturally occurring or be the result of oil, gas, and mining activities.



Keep our rivers and lakes clean. Never flush or pour unused medications down the drain.

### Has Lake Michigan been assessed to determine how susceptible it is to potential contamination?

The Illinois EPA, using the Great Lakes Protocol, completed an assessment in April 2003. Lake Michigan is a surface water source and like all surface waters, is susceptible to potential contaminants. The very nature of surface water allows contaminants to migrate to the intake with no protection, only dilution. CLCJAWA's intake is ranked as moderately sensitive to potential contaminants. There are no potential contamination sources within the intake's critical assessment zone. However, the combination of land use, storm sewer outfalls, and the proximity of North Shore Sanitary District pumping stations in the immediate area add to the susceptibility of CLCJAWA's intake.

We are all participants in the water cycle. Our individual activities impact the rivers and lakes in our watershed and those into which our waste water plants discharge. Please properly use, store, and dispose of all medications and household chemicals. Visit the Solid Waste Agency of Lake County website for disposal options and information at [www.swalco.org](http://www.swalco.org).

### What precautions should immune compromised persons take?

Some people may be more vulnerable to drinking water contaminants than the general population. Immune 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 from their health care providers about drinking water. The USEPA and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline at 1-800-426-4791.

### How can I get involved?

The Village Board has a monthly meeting schedule, and the public is always welcome to attend any of these meetings. The Mayor of Libertyville is also a member of the Board of Directors of CLCJAWA, which meets on the fourth Wednesday of each month. CLCJAWA provides tours of the water treatment facility, and staff members are also available for public speaking or for school visits. Please contact the Village or CLCJAWA for more information.

For specific information about our water's quality or any other water related question, contact Mike Brady, Water Supervisor 847-362-3434 or Bill Soucie at CLCJAWA at 847-295-7788. Or, visit our web page at [www.libertyville.com](http://www.libertyville.com) or the CLCJAWA web page at [www.clcjawa.com](http://www.clcjawa.com)

### What is a backflow preventer?

A **backflow prevention** device is used to protect water supplies from contamination or pollution. Backflow devices are required by the U. S. Environmental Protection Agency (EPA) to prevent the back siphonage of harmful materials into the public water supply. The EPA and Village of Libertyville ordinance 25-28 requires the proper installation and **annual inspection and repair** of backflow devices by a duly licensed plumber who is also a licensed cross connection control device inspector.

### Who needs backflow preventer?



**Homeowners**, if you have an irrigation system or fire sprinkler system please make sure you have backflow devices installed and inspected annually.

**Businesses** are required to have devices installed if they have irrigation systems, fire sprinkler systems, and/or because the nature of their business poses a greater risk of contamination (see *partial list below*).

hospitals, mortuaries, clinics, nursing homes; laboratories, dental offices, food or beverage processing plants, butcher shops, restaurants; chemical plants, metal plating industries; petroleum processing or storage plants, radioactive material processing plants or nuclear reactors, car washes, auto

repair, auto lube, auto dealers, pesticide, herbicide or extermination plants and trucks, farm service and fertilizer plants and trucks, veterinarians, kennels; photo labs; hotels, motels, beauty shops, laundry mats, dry cleaners, barber shops, schools, multiple story buildings.

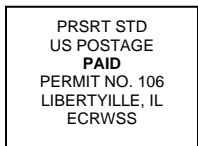
#### Libertyville Water history:

- 1878 First well drilled by Libertyville Mineral Springs Co. Water bottled and sold under "Hygienic Spring Water" and "Vital Water" brand names.
- 1904 \$5,000 bond issue for 90' tall 65,000 gal. steel tank, a 30 HP gas engine power pump, a 100, gal. reservoir, a brick pump house and an 18" water main from reservoir at Cook/First to tank on W. Cook Ave.
- 1907 Ordinance establishes minimum water rate of 44¢ a gal. for 1,000 gallons or less.
- 1920 Population 2,124, water pumpage averaged 100,000 gpd. Fourth and last "flowing" well was drilled at Cook/First.
- 1930 Population 3,791, water pumpage, 150,000 gpd. Second St. well was drilled.
- 1935 Well #2 on Garfield Ave. south of Lincoln was drilled.
- 1940 Population 3,990 water pumpage 250,000 gallons per day.
- 1950 Population 5,424 water pumpage 475,000 gpd.
- 1951 Well #5 on Newberry was drilled.
- 1957 300,000 gal. elevated tank was built on E. Cook Ave.
- 1960 Population 8,600. Water pumpage 900,000.
- 1965 300,000 gal. elevated tank built on Winchester Rd.
- 1969 Well #11, a 1,490' deep well was drilled on Garfield Ave.
- 1973 Well #12, a 1926' deep well, was drilled at the far south end of Garfield.
- 1971 1,000,000 gal. elevated tank on Garfield Ave. near Condell Hospital is built.
- 1976 Connecting mains to North Chicago and East Park Ave. pump station are completed. Libertyville begins using Lake Michigan water.
- 1979 500,000 gal. reservoir and pump station built by Red Top Farm Development.
- 1980 Population 16,520. Water pumpage 2.04 mgd. Water mains total 78 miles.
- 1981 Mayor Neal explores possibility of a Lake Michigan water supply system with surrounding communities.
- 1982 Central lake County Water Committee CLCWC was formed by intergovernmental agreement.
- 1986 State legislation adopted allowing creation of the Central Lake County Joint Action Water Agency (CLCJAWA) in December.
- 1987 Voter referendum approves \$35 million general obligation bond issue for CLCJAWA system.
- 1988 \$4.5 million bond issue for utility construction includes \$1.5 million for 500,000 gal. addition to Red Top reservoir and Peterson Rd. water main.
- 1990 Population 19,214, Water Pumpage 2.61 mgd. State amends Lake Michigan water allocations; Libertyville's allocation drops by 6% due to reduced population projections. Construction begins on CLCJAWA system.
- 1991 \$3.1 million Village bond issue for utility construction including \$2.4 million for CLCJAWA related water improvements. These include 1.5 million gal. reservoir/pump station on Peterson Rd., flow control station at Garfield and new SCADA control systems.
- 1992 Libertyville begins receiving Lake Michigan Water from CLC JAWA on May 19<sup>th</sup>. CLCJAWA water rate is \$1.65/1000 gal. Total CLCJAWA costs are \$90 million.



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