

# *2016 Annual Drinking Water Quality Report*

## **Willington Oaks, LLC.**

Willington, CT  
PWSID #CT1600021



We're pleased to present to you our Annual Drinking Water Quality Report, also known as the Consumer Confidence Report. This report, a requirement of the 1996 amendments to the Safe Drinking Water Act, is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

### **Water Source**

Our water source consists of two bedrock groundwater wells located on premises. The capacity of our storage tank is 5,000 gallons. We maintain less than one mile of water main and our system serves a population of 400 residents through 128 service connections. Our certified lab is Phoenix Environmental Laboratories, Inc.

Our water treatment technique consists of chlorine. In 2016, we had a total of approximately 435, 000 gallons of supplemental water delivered to our system throughout the year. In April we suffered a power issue that caused equipment failure which failed to signal the well pumps to refill the water tank. The water was used as supplemental supply. In September, Well #1 was taken offline due to an E. coli issue and the water was used as supplemental supply. In October and November, due to the high usage of water and the low water production from our wells, we ordered additional water for consumption. Over the past year, our system underwent routine maintenance. We currently do not have any regularly scheduled meetings, however, if you have any questions about this report or concerning your water system, please contact Andrew Donnelly of White Water, Inc. at 253 B Worcester Road, Charlton, MA 01507 or at 774-633-1223. We want our valued customers to be informed about their water system.

White Water, Inc. provides the Willington Oaks with contract operation services. The contract operation includes the services of a state certified operator who monitors the water system for compliance with all state and federal drinking water regulations. The operating contract also includes services such as making emergency repairs when needed, making recommendations for improving water quality and increasing system reliability.

### **Source Water Protection**

Source water is untreated water from streams, rivers, lakes, or underground aquifers that is used to supply public drinking water. Preventing drinking water contamination at the source makes good public health sense, good economic sense, and good environmental sense. You can be aware of the challenges of keeping drinking water safe and take an active role in protecting drinking water. There are lots of ways that you can get involved in drinking water protection activities to prevent the contamination of the ground water source. Dispose properly of household chemicals, help clean up the watershed that is the source of your community's water, attend public meetings to ensure that the community's need for safe drinking water is considered in making decisions about land use. Contact our office for more information on source water protection, or contact the Environmental Protection Agency (EPA) at 1.800.426.4791. You may also find information on EPA's website at <http://cfpub.epa.gov/safewater/sourcewater/>.

A source water assessment report was recently completed by the Connecticut Department of Public Health, Drinking Water Division. The completed Assessment report is available for access on the Drinking Water Division's web site: [http://www.ct.gov/dph/cwp/view.asp?a=3139&q=398262&dphNav\\_GID=1824](http://www.ct.gov/dph/cwp/view.asp?a=3139&q=398262&dphNav_GID=1824). The assessment found that this public drinking water source has a **low** susceptibility to potential sources of

contamination. Additional source water assessment information can be found at the Environmental Protection Agency's website: <http://cfpub.epa.gov/safewater/sourcewater/>.

### Water Quality

Willington Oaks, LLC routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table shows any detection resulting from our monitoring for the period of January 1 to December 31, 2016. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

The sources of drinking water include rivers, lakes, ponds 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 human or animal activity. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. Contaminants that may be present in source water include:

**Microbial contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic contaminants**, such as salts and metals, 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** 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, 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** can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The table below lists all of the drinking water contaminants that were detected through out water quality monitoring and testing. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.

<b>TEST RESULTS</b>						
Unless otherwise noted, testing was done in 2016.						
<b>Contaminant</b>	<b>Violation Y/N</b>	<b>Level Detected</b>	<b>Unit Measurement</b>	<b>MCLG</b>	<b>MCL</b>	<b>Likely Source of Contamination</b>
<b>Microbiological Contaminants</b>						
Total Coliform Bacteria (July 2016)	N	<b>Present</b> <i>(1 Positive)</i>	Highest monthly # of positive samples	Absent	1 positive	Naturally present in the environment
Total Coliform Bacteria (August 2016)	Y	<b>Present</b> <i>(8 Positive)</i>	Highest monthly # of positive samples	Absent	1 positive	Naturally present in the environment
Total Coliform Bacteria (September 2016)	Y	<b>Present</b> <i>(2 Positive)</i>	Highest monthly # of positive samples	Absent	1 positive	Naturally present in the environment
Total Coliform Bacteria (October 2016)	N	<b>Present</b> <i>(1 Positive)</i>	Highest monthly # of positive samples	Absent	1 positive	Naturally present in the environment

Fecal Coliform and/or <i>E.coli</i> (August 2016)	Y	<b>Present</b> (6 Positive)	n/a	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	Human and animal fecal waste
Fecal Coliform and/or <i>E.coli</i> (September 2016)	N	<b>Present</b> (1 Positive)	n/a	0		Human and animal fecal waste
Turbidity (9/2/16)	N	<b>1.84</b>	ntu	n/a	TT	Soil runoff
<b>Radioactive Contaminants</b>						
Radium 228 (8/13/13)	N	<b>0.75</b>	pCi/L	0	5	Naturally occurring radioactivity in bedrock.
<b>Inorganic Contaminants</b>						
Barium (2/10/16)	N	<b>0.006</b>	ppm	2	2	Erosion of natural deposits
Copper* (2016)	N	<b>0.0474</b>	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead* (2016)	N	<b>3.6</b>	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nickel (2/10/16)	N	<b>3.0</b>	ppb	100	100	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate [as Nitrogen] (2/10/16)	N	<b>2.23</b>	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
* = Reported results are the 90 <sup>th</sup> percentile value (the value that 90% of all samples are less than).						
<b>Disinfection By-Products</b>						
Chlorine (2016)	N	<b>RAA: 0.745</b> (ND-2.50)	ppm	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Total Trihalomethanes [TTHM] (8/19/16)	N	<b>RAA: 2.81</b> (single sample)	ppb	0	80	By-product of drinking water chlorination
<b>Unregulated Contaminants (contaminants with a health advisory)</b>						
<b>Contaminant</b>	<b>Level Detected</b>	<b>Unit Measurement</b>	<b>DWEL</b>	<b>Likely Source of Contamination</b>		
Chloride (2/10/16)	<b>30.5</b>	ppm	250	Erosion of natural deposits, Storm water runoff containing road salt		
Sodium (9/23/16)	<b>19.7</b>	ppm	28	Erosion of natural deposits, urban storm runoff		
Sulfate (2/10/16)	<b>25.2</b>	ppm	250	Erosion of natural deposits, urban storm runoff		

**Note:** The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Not all contaminants are tested for every year due to monitoring waivers and therefore we must use the most recent round of sampling. Some of our data is more than one year old, however, is limited to no older than 5 years.

**Units:**

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Micrograms per Liter (µg/l)* – a measure of radioactivity in water.

*Millirems per year (mrem/year)* – a measure of radiation absorbed by the water.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Definitions:**

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

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

*Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.  
*Maximum Contaminant Level (MCL)* - The MCL is 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 (MCLG)* - The MCLG is 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.

*Drinking Water Equivalent Level (DWEL)* - A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

*Maximum Residual Disinfectant Level (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 (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.

*Running Annual Average (RAA)* - The average of all monthly or quarterly samples for the last year at all sample locations.

*Non Detect (ND)* - The contaminant was not detected.

*Not Applicable, Not Established (N/A)*

## **IMPORTANT INFORMATION:**

**Arsenic:** *The U.S. EPA adopted the new MCL standard in October 2001. Water systems must meet this new standard by January 2006.*

**Lead - Major Sources in Drinking Water:** *Corrosion of household plumbing systems; erosion of natural deposits.*

**Health Effects Statement:** *Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.*

**Copper - Major Sources in Drinking Water:** *Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives*

**Health Effects Statement:** *Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could, suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.*

**Lead/Copper:** *Action levels are measured at consumer's tap. 90% of the tests must be equal to or below the action level; therefore, the listed results above have been calculated and are listed as the 90<sup>th</sup> percentile.*

**Nitrate:** *Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.*

**Total Coliform Bacteria** - *Reported as the highest monthly number of positive samples, for water systems that take < 40 samples per month. Our water testing results showed a positive hit for the presence of coliform bacteria.*

**TTHM/HAA5:** *Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) are formed as a by-product of drinking water chlorination. This chemical reaction occurs when chlorine combines with naturally occurring organic matter in water.*

**Turbidity:** *Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.*

Since our system chlorinates its water, we are required to report our annual average for chlorine residual. **Chlorine Residual** was found to be **0.61** ppm, with a range of 0.29 ppm to 0.88 ppm.

## **Groundwater Rule (GWR) Confirmed Source Water E.coli Positive Test Results**

A sample collected in compliance with Regulations of Connecticut State Agencies (RCSA) Section 19-13-B102(e)(12)(C)(iii) from Well 1 on August 23, 2016 indicated the presence of E.coli bacteria. As a result of this positive E.coli source water sample and in compliance with RCSA Section 19-13-B102(j)(14)(A)(1), we were required to implement one or more corrective action alternatives no later than December 21, 2016: 1) correct all significant deficiencies; 2) provide an alternative source of water; 3) eliminate the source of contamination; or 4) provide treatment that reliably achieves at least 4-log treatment of viruses before or at the first customer for the ground water source. We consulted with the CT DPH on August 25, 2016 regarding appropriate corrective action. We decided to provide treatment that reliably achieves at least 4-log treatment of viruses and received approval to construct the 4-log chlorination system on September 23, 2016. Public notification was posted or distributed to all residents and the PN and following PN Certification were submitted to the CT DPH. Since fixing this issue and achieving compliance, our recent sampling has been found to be at acceptable levels. We are in compliance with this order.

### **Consent Order DWS 16-160-068**

On November 7, 2016, we received a letter from the CT Department of Public Health, Drinking Water Section regarding some outstanding issues with our water system. During the monitoring period of January 2014, our Total Coliform Bacteria water samples were found to be present and exceeded the maximum contaminant level for total coliform. Also included in this consent order was that source water samples taken from Well #1 on August 23 and 25, 2016 were found to be positive for E.coli. As noted in the previous paragraph, the issues regarding the presence of bacteria in our system were addressed by the installation of a 4-log chlorination system. Public notification was posted or distributed to all residents and the PN and following PN Certification were submitted to the CT DPH.

### **Increase in Water Quality Monitoring Requirements**

In December 2016, The Connecticut Department of Public Health's Drinking Water Section modified our monitoring schedule due to the use of the 4-log chlorination treatment system. We must collect one chlorine sample per day from the Entry Point (WSFID: 00700). A minimum residual disinfectant level of 0.85 mg/l must be maintained in order to achieve 4-log inactivation of viruses or both treatment plants. Daily chlorine residual readings must be collected from the entry point, and the results must be submitted to the CT DPH-DWS by the 9<sup>th</sup> of the month for the prior month's readings. This does not pose a threat to our water.

All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

For most people, the health benefits of drinking plenty of water outweigh any possible health risk from these contaminants. However, 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/Center of Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological 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 are responsible for providing high quality drinking water, but 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 thirty (30) seconds to two (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>.

We, at Willington Oaks, LLC, work hard to provide top quality water to every tap. Water is a limited resource so it is vital that we all work together to maintain it and use it wisely. We ask that all our customers help us protect and preserve our drinking water resources, which are the heart of our community, our way of life, and our children's future. Please contact us with any questions. Thank you for working together for safe drinking water.