

# 2024

## Annual Drinking-Water Quality Report



*The City of DeLand*  
*"The Athens of Florida"*  
*PWS 3640286*

UTILITIES DIVISION  
WATER TREATMENT AND  
PRODUCTION  
386-626-7254

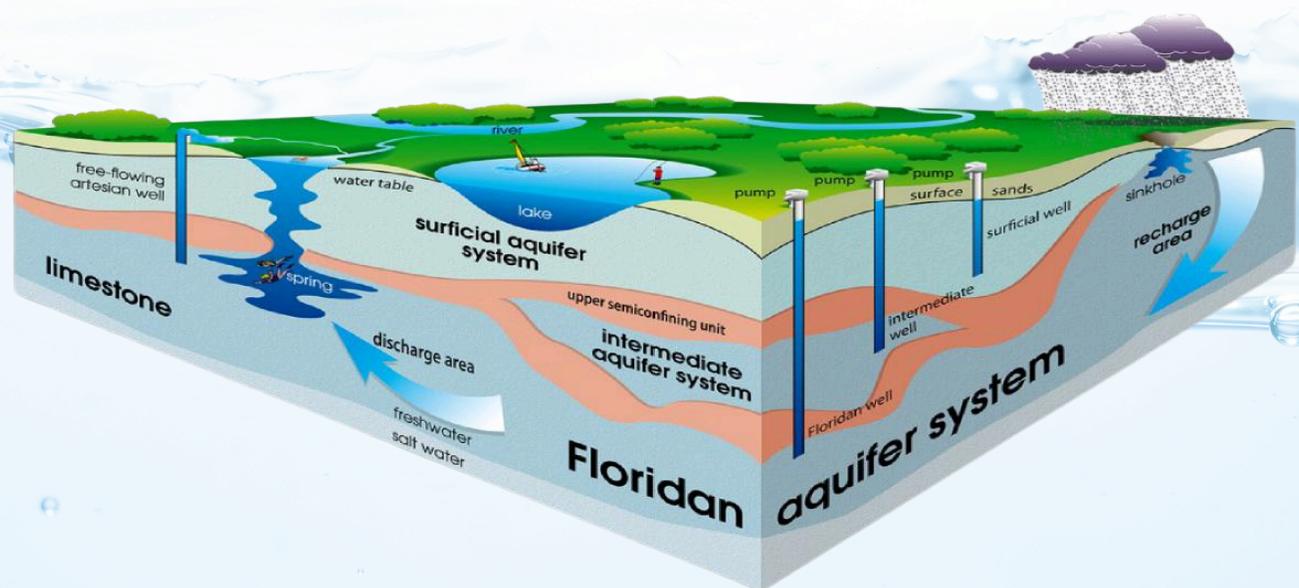
**We are pleased to report that our drinking water meets all federal and state requirements.**



We encourage public interest and communication to assist us in making decisions affecting your drinking water. In keeping with our directive of a customer-oriented utility, we are proud to provide a Water Quality Hot-line (386-626-7254) from 7:00 AM to 4:00 PM, Monday through Friday and an informational website at [www.deland.org](http://www.deland.org). City Commission meetings offer opportunities for public participation in decisions that may affect water quality. The Commission meets at 7:00 PM on the first and third Monday of each month at City Hall, 120 South Florida Avenue in DeLand.

This report will be mailed to customers only upon request and is also available at the Utility Department office.

The City of DeLand is pleased to present to you this year's Annual Drinking Water Quality Report. This report 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. Our water source is ground water from wells that draw from the Floridan Aquifer.



In 2024, your water department distributed approximately **2.0** billion gallons of water from the city's 10 water treatment plants. Water treatment processes include chlorination, fluoridation, aeration and corrosion control. DeLand's source water comes from 19 deep wells obtaining groundwater from the Floridan Aquifer. The Floridan Aquifer is a lens of water located beneath the bedrock of the southeast United States. It is one of the highest producing aquifers in the world and it is found throughout Florida.

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.



The Safe Drinking Water Act (SDWA) has been the primary regulation to ensure that public health and safety is protected in drinking water supplies throughout the nation. The Florida Department of Environmental Protection (DEP) initiated the SWAPP as part of the federal Safe Drinking Water Act.

The Source Water Assessment and Protection Program or SWAPP was created in order to protect our vital resources. SWAPP is meant to ensure that your drinking water is safe not just at the tap, but at its source.



In 2024 the Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on the City of DeLand water system. The assessment was conducted to provide information about potential sources of contamination in the vicinity of our wells. The 2024 assessment states that there are fifteen (15) unique potential sources of contamination with susceptibility levels ranging from Low to Moderate. The assessment results are available on the DEP Source Water Assessment and Protection Program website at <https://prodapps.dep.state.fl.us/swapp/> or they can be obtained from City of DeLand Utilities (386-626-7254).

The City of DeLand routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1, 2024 to December 31, 2024. Data obtained before January 1, 2024, and presented in this report is from the most recent testing performed in accordance with the laws, rules, and regulations.

*In the following tables you may find unfamiliar terms and abbreviations. To help you better understand these terms we have provided the following definitions:*

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

**LRAA - Locational Running Annual Average** - The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

**MCL - Maximum Contaminant Level** - 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.

**MCLG - Maximum Contaminant Level Goal** - 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.

**MRDL - Maximum Residual Disinfectant Level** - 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.

**MRDLG - Maximum Residual Disinfectant Level Goal** - 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.

**ND - Not Detected** - Not detected by laboratory analysis.

**ppb - Parts per billion or Micrograms per liter ( $\mu\text{g/L}$ )** - one part by weight of analyte to one billion parts by weight of the water sample.

**ppm - Parts per million or Milligrams per liter ( $\text{mg/L}$ )** - one part by weight of analyte to one million parts by weight of the water sample.

**ppt - Parts per trillion or Nanograms per liter ( $\text{ng/L}$ )** - one part by weight of analyte to one trillion parts by weight of the water sample.

Inorganic Contaminants							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	06/23	N	0.047	0.016 - 0.047	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (as Nitrogen) (ppm)	07/24	N	1.4	ND - 1.4	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	06/23	N	15.1	7.2 - 15.1	Not Applicable	160	Salt water intrusion; leaching from soil
Fluoride (ppm)	06/23	N	0.72	0.088 - 0.72	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; Water additive which promotes strong teeth when at an optimum level of 0.7ppm
Arsenic (ppb)	6/23	N	0.72	ND - 0.72	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Lead (ppb)	6/23	N	0.35	ND - 0.35	0	15	Residue from manmade pollution such as auto emissions and paint; lead pipe casing, and solder

### Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Exceeded Y/N	90 <sup>th</sup> Percentile Result	Sample sites Exceeding the AL	Range of Tap Sample Results	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	06/23-9/23	N	0.54	0	0.01-0.71	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	06/23-9/23	N	ND	0	ND-3.1	0	15	Corrosion of household plumbing systems; erosion of natural deposits

A lead service inventory for the City of DeLand has been prepared and can be accessed through the Water Service Line Survey tab in the Utilities: Water, Wastewater & Reclaim Water page at [www.deland.org](http://www.deland.org). The web address of the survey is <https://lead-service-line-inventory-delandmaps.hub.arcgis.com/>.

### Secondary Contaminants

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Highest Result	Range of Results	MCLG	MCL	Likely Source of Contamination
Color (color units)	3/24, 6/24, 11/24	Y	25	0 - 25	Not Applicable	15	Naturally occurring organics

Secondary Contaminants are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the MCL. The most notable indicators of an Iron MCL exceedance are rusty color, sediment, metallic taste and reddish or orange staining.

Disinfectants and Disinfection By-Products							
Disinfectant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
<b>Total Trihalomethanes (TTHM) (ppb)</b>	01/24, 04/24, 07/24, 10/24	N	64.0 (highest LRAA)	25.9 - 86.9	Not Applicable	80	By-product of drinking water disinfection
<b>Haloacetic Acids (HAA5) (ppb)</b>	01/24, 04/24, 07/24, 10/24	N	40.6 (highest LRAA)	12.9 - 52.0	Not Applicable	60	By-product of drinking water disinfection
<b>Chlorine (ppm)</b>	01/24-12/24	N	0.96	0.23 - 3.0	MRDLG = 4	MRDL = 4	Water additive used to control microbes

One sample during 2024 (Wisteria Lane, July) had a Total Trihalomethanes result of 86.9 parts per billion (ppb), which exceeds the Maximum Contaminant Level (MCL) of 80 ppb. However, the system did not incur an MCL violation, because all annual average results at all sites were at or below the MCL. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

### Unregulated Contaminants

The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	Level Detected (average)	Range of Results	Likely Source of Contamination
<b>Perfluorobutanesulfonic Acid (PFBS) (ppt)</b>	01/24 - 10/24	3.5	ND - 3.7	Water-resistant or stain-resistant coatings on fabrics, carpets and paper
<b>Perfluorohexanesulfonic Acid (PFHxS) (ppt)</b>	01/24 - 10/24	5.1	ND - 7.1	Firefighting foam
<b>Perfluorohexanoic Acid (PFHxA) (ppt)</b>	01/24 - 10/24	5.4	ND - 5.4	Degradation product of Perfluorohexanesulfonic Acid
<b>Perfluorooctanesulfonic Acid (PFOS) (ppt)</b>	01/24 - 10/24	5.9	ND - 7.6	Fabric protection, firefighting foam
<b>Perfluoropentanoic acid (PFPeA) (ppt)</b>	01/24 - 10/24	7.8	ND - 7.8	Stain and grease proof coatings on food packaging, couches and carpets

The City of DeLand Utility Department has been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. On April 10, 2024 EPA established maximum contaminant levels (MCLs) for only a few UCs (PFOA, PFOS, PFNA, PFHxS, GenX Chemicals (HFPO-DA) and PFBS). At present no MCLs have been established for most of the UCs. However, we are required to publish the analytical results of our UC monitoring in our annual water quality report. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline (800-426-4791).

## 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 stormwater 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 stormwater runoff and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive contaminants** can be naturally occurring or be a result of oil and gas production and mining activities.

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

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**.

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. The City of DeLand is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact the City of DeLand Utilities Department at 386-626-7254. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

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. U.S. Environmental Protection Agency/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the **Safe Drinking Water Hotline** at **800-426-4791**.

## Questions and answers about Cross-Connection control

### **What is a cross-connection?**

- A cross-connection is any temporary or permanent connection between a public water system or consumer's potable (i.e., drinking) water system and any source or system containing non-potable water or other substances. An example is the piping between a public water system or consumer's potable water system and an auxiliary water system, cooling system, or irrigation system.

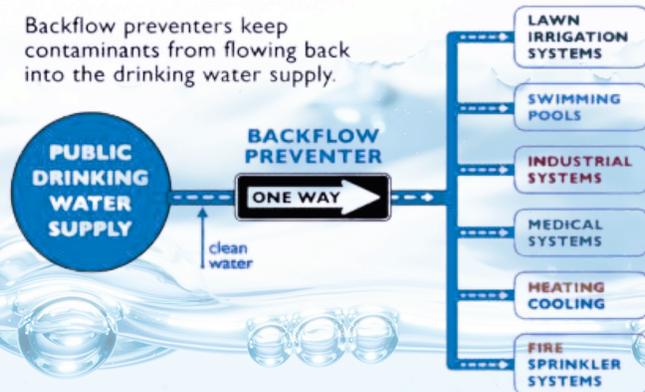
### **What is backflow?**

- Backflow is the undesirable reversal of flow of non-potable water or other substances through a cross-connection and into the piping of a public water system or consumer's potable water system. There are two types of backflows... backpressure backflow and backsiphonage.

### **What is a backflow preventer?**

- A backflow preventer is a means or mechanism to prevent backflow. The basic means of preventing backflow is an air gap, which either eliminates a cross-connection or provides a barrier to backflow. The basic mechanism for preventing backflow is a mechanical backflow preventer, which provides a physical barrier to backflow. The principal types of mechanical backflow preventer are the reduced-pressure principle assembly, the pressure vacuum breaker assembly and the double check valve assembly. A secondary type of mechanical backflow preventer is the residential dual check valve. New rules are under consideration that will require backflow devices on all auxiliary water sources. Such water sources include self-supply irrigation wells and irrigation from lakes, springs, streams, rivers, etc.

Backflow preventers keep contaminants from flowing back into the drinking water supply.



### **Do you know the dangers of backflow?**

- A resident sprays commercial weed killer on his lawn using a garden hose attachment. After finishing, he disconnects the applicator. Since it is a hot day, he takes a drink of water from the hose. A short time later, he becomes very ill from herbicide poisoning.

### **How could this happen?**

- While the man was spraying weed killer, the water pressure dropped, which resulted in the chemical being sucked back into the hose. Later, when he drank from the hose, the herbicide was in the water. He unknowingly poisoned himself.
- Some harmful substances to be wary of are chemicals used to kill weeds and insects or lawn fertilizers. The cleanser used around the kitchen sink could be hazardous if ingested, as could the bacteria in the water from a wading pool or waterbed.

**Keeping your water safe from contaminants is easy.** The following steps will help protect your drinking water:

- Never submerge hoses in buckets, pools, tubs or sinks. Keep the end of the hose clear of possible contaminants.
- Don't use spray attachments without a backflow prevention device.
- Purchase and install inexpensive backflow prevention devices for all threaded faucets around your home. They are available at hardware stores and home-improvement centers.



### What is Reclaimed Water?

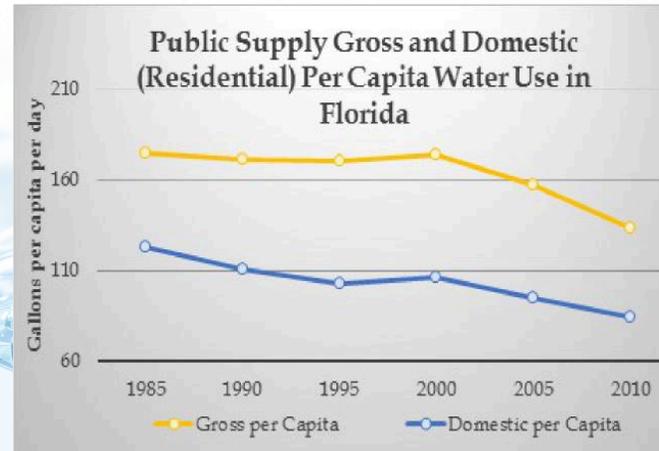
- Reclaimed water is the result of wastewater which has been highly treated, disinfected and reused. Reclaimed water is essentially free of bacteria and viruses. Reclaimed water is ideal for irrigation, but not suitable for human or animal consumption. No negative effects have been reported as a result of exposure to reclaimed water. Please remember that irrigation with reclaimed water should occur at a time when human or animal contact is least likely. As the demand for fresh water increases in Florida and around the globe, the challenge to develop alternate sources to satisfy future needs has become critical. Using reclaimed water reduces the demand on the Floridan Aquifer, our primary fresh water source.

## Water Conservation Guidance from the Florida Department of Environmental Protection



Water conservation is the most important action we can take to sustain our water supplies, meet future needs and reduce demands on Florida's water-dependent ecosystems such as springs, rivers, lakes and wetlands. Water conservation activities can be implemented by utilities, sometimes utilizing cost-share programs of the water management districts; through regulation, such as landscape irrigation restrictions; but most importantly, water conservation can be implemented by YOU!

Water conservation measures, adoption of year-round landscape irrigation restrictions, increased use of reclaimed water and the use of Florida-Friendly landscaping techniques together have resulted in significant lowering of the per capita water use rates. For example, in 1995, the U.S. Geological Survey estimated the statewide public supply gross per capita at 170.2 gallons per day (gpd) and the public supply residential per capita at 103 gpd. By 2010, the public supply gross per capita average dropped to 134 gpd, a 21 percent reduction, and the public supply residential per capita dropped to 84 gpd, an 18 percent reduction.



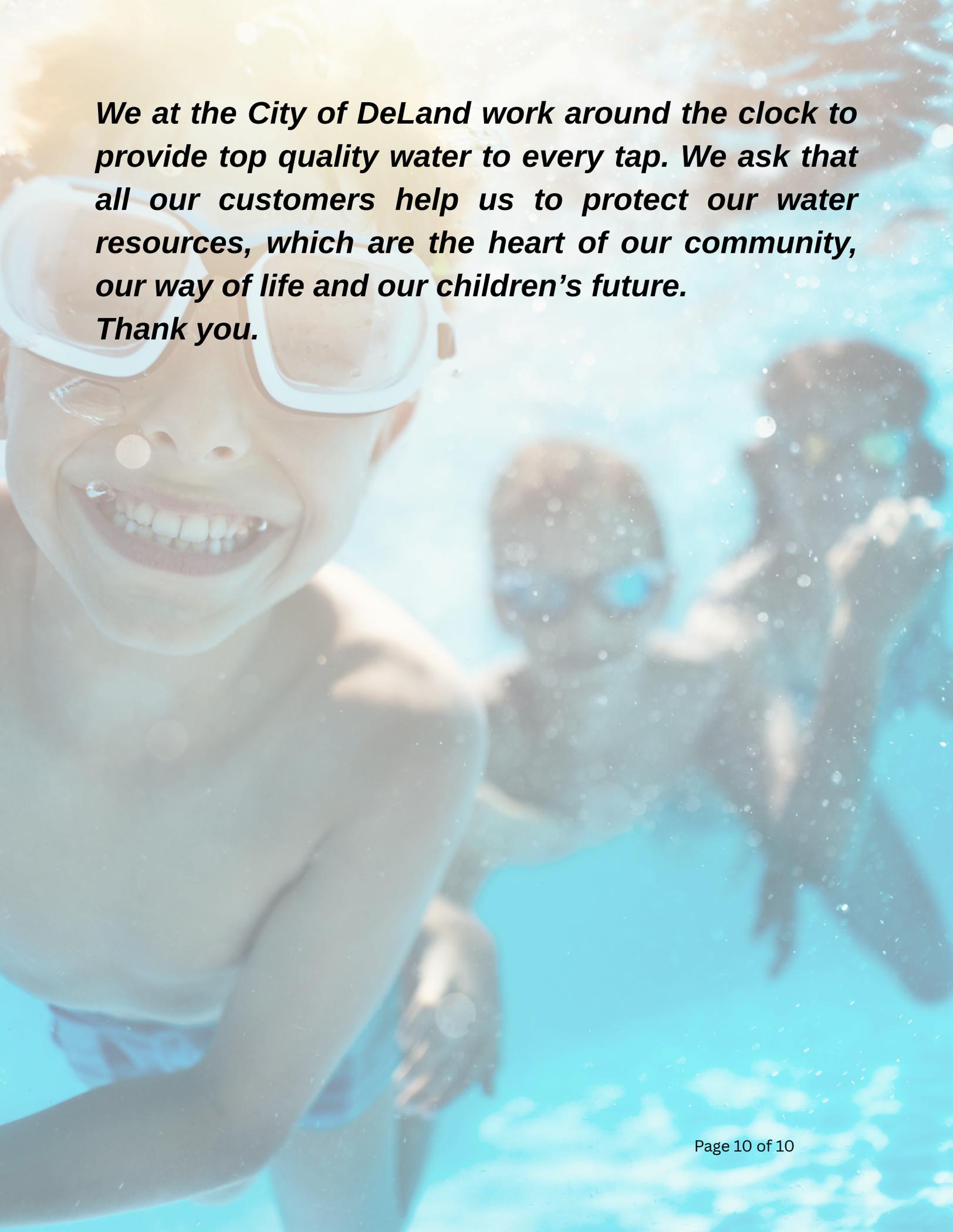
### What YOU can do!

#### Inside

- **Check faucets and pipes for leaks.** A small drip from a worn faucet washer can waste 20 gallons of water per day; larger leaks can waste hundreds of gallons.
- **Use your dishwasher and washing machine only for full loads.** When possible, avoid washing during heavy downpours.
- **Minimize use of kitchen sink garbage disposal units.** The units require a lot of water to operate properly and also add to the volume of solids in a septic tank, which can lead to maintenance problems. Instead of using a garbage disposal, compost kitchen scraps and use the nutrient-rich compost to enhance yard or garden soil.

#### Outside

- **Add mulch to reduce evaporation.** Mulching reduces water needed in a garden by as much as 50 percent. It also has the added benefit of preventing weed growth, deterring pests, stabilizing soil temperature, and, as it decomposes, providing nutrients to the soil.
- **Harvest rain** to water flower beds, herb gardens and potted plants. Rain is free, and it's beneficial for plants because rain does not contain hard minerals.
- **Choose native plants** that are adapted to the area and need less water.
- Check hose and sprinkler connections for leaks – a drop wasted each second can add up to a couple of gallons each day.
- **On slopes, plant native species** that will retain water and help reduce runoff.
- **Irrigate your lawn with reclaimed water.** To find out if reclaimed water is available in your neighborhood, contact your utility company.
- **Do not water the lawn in rainy weather.**

A young boy in the foreground is smiling broadly, wearing white swimming goggles. He is underwater in a pool. In the background, other children are also swimming and playing in the water. The scene is bright and sunny, with light filtering through the water, creating a bokeh effect.

***We at the City of DeLand work around the clock to provide top quality water to every tap. We ask that all our customers help us to protect our water resources, which are the heart of our community, our way of life and our children's future. Thank you.***

**The following charts are for residents of Century Dunes, Yardly Crossing and Canopy Terrace  
off of Dr. Martin Luther King Jr. Beltway.**

## Volusia County Utilities: VC/Southwest WTP-2 2024 Water Quality Report

### Disinfectants and Disinfection By-Products

Contaminant and Unit of Measure	Dates of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/24 - 12/24	No	1.3	0.7 - 2.1	4	MRDL = 4	Water additive used to control microbes.
Haloacetic Acids (HAA5) (ppb)	07/24 - 12/24	No	5.7	7.3 - 14.1	N/A	MCL = 60	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM) (ppb)	07/24 - 12/24	No	29.1	38.3 - 85.2	N/A	MCL = 80	By-product of drinking water disinfection.

One sample collected in 2024 had a Total Trihalomethanes result of 85.2 parts per billion (ppb), which exceeds the Maximum Contaminant Level (MCL) of 80 ppb. However, the system did not incur an MCL violation, because all annual average results at all sites were well below the MCL. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

### Inorganic Contaminants

Contaminant and Unit of Measure	Dates of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Nitrate (ppm)	01/24	No	0.67	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Barium (ppm)	03/23	No	0.016	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (ppm)	03/23	No	0.12	N/A	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth at the optimum level of 0.7 ppm
Sodium (ppm)	03/23	No	34.0	N/A	N/A	160	Salt water intrusion, leaching from soil.

### Lead & Copper (Tap Water)

Contaminant and Unit of Measure	Dates of Sampling (mo/yr)	AL Exceeded Y/N	90th Percentile	No. of Sampling Sites Exceeding AL (Action Level)	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	08/23	No	0.13	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead (tap water) (ppb)	08/23	No	1.1	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits.

# Volusia County Utilities: VC/Southwest WTP-2 2024 Water Quality Report

## Unregulated Contaminants (Nationwide EPA Study)

Contaminant and Unit of Measure	Dates of Sampling (mo/yr)	Level Detected	Range of Results	Likely Source of Contamination
PFBS (ppb)	02/24	0.0052	0.0048 - 0.0052	unavailable
PFHpA (ppb)	02/24 08/24	0.03	ND - 0.03	unavailable
PFHxA (ppb)	02/24	0.0033	0.003 - 0.0033	unavailable
PFPeA (ppb)	02/24	0.005	0.0039 - 0.005	unavailable

Volusia County Utilities has been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UCs. However, we are required to publish the detected analytical results of our UC monitoring in this annual water quality report. For the complete list of results, including the non-detected contaminants, contact [Brian Volkman](mailto:bvolkman@volusia.org) at 386-822-6465 or [bvolkman@volusia.org](mailto:bvolkman@volusia.org). If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

### Source Water Assessments:

The FDEP's Source Water Assessment & Protection Program is meant to ensure that your drinking water is safe, not just at the tap, but at its source. Initiated as part of the federal Safe Drinking Water Act, the program identifies potential threats to drinking water supplies with the goal to protect our vital resources. The most recent Source Water Assessment performed for VC/Southwest WTP-2 by the Department of Environmental Protection was in 2024. There was only one unique potential source of contamination identified for this system, which was identified as being of a low level of concern. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at: <https://prodapps.dep.state.fl.us/swapp/>



### Questions or Concerns?

If you have any questions or concerns about the information provided in this report, please feel free to contact Volusia County Utilities Operations at (386) 822-6465. You may also choose to attend a Volusia County Council meeting. These meetings are typically held on Tuesdays, usually on the first and third Tuesday of each month. Public participation is held near the beginning of each meeting. View the County Council Calendar for exact dates and times at: <https://www.volusia.org/government/county-council/county-council-meetings/county-council-calendar.stml>